Disabled architects:

unlocking the potential for practice

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Foreword

I fully welcome this research which follows a line of proactive initiatives supported by the RIBA to promote greater diversity and equality within the architectural profession. It will undoubtedly help to broaden the knowledge base of people involved in creating and adapting the built environment.

Work promoted by the RIBA equalities forum, Architects for Change (AFC), on women and Black, Asian and Minority Ethnic (BAME) architects, has shown just how powerful initiatives can be in moving equalities' agendas along and spreading the word. The DiverseCity exhibition (global snowball) which toured major parts of the world disseminated effectively the contribution of women and BAME architects. This exhibition and 'Why do women in architecture' research sponsored by the RIBA, demonstrated that many of the issues experienced by women and BAME architects reflect common strands and concerns. It is clear that there is commonality in many of the issues also facing disabled people.

This latest report, *Disabled Architects: Unlocking the Potential for Practice*, gives voice to and highlights the often unhappy experiences of disabled people during their studies and in practice and seeks to find positive ways forward that will benefit the architectural profession as a whole. It is clear that disabled architects can succeed and make great contributions to architectural practice. I strongly believe that the findings and recommendations put forward in this report will act as a catalyst for change. In acting upon the recommendations, the architectural profession will become more open to disabled people, thereby leading to a more inclusive disciplinary ethos, which will be to everyone's benefit.

Angela Brady RIBA President

Preamble

This research aims to investigate ways of increasing the diversity of the architectural profession by identifying methods that will unlock the potential of disabled people who want to practise as architects. The research has been carried out within the spirit of the social model of disability. This model recognises that people with impairments are disabled by social, attitudinal, environmental or other external barriers. The objectives of the research are to identify barriers within architectural education and practice that might limit the participation of disabled people in the profession and suggest ways of overcoming these barriers.

The report includes many direct quotes from disabled people. This is a deliberate strategy so that the researchers remain mainly as a channel of communication to enable the voices of disabled people in the architectural profession to be heard.

In addition to the disabled respondents and interviewees, a number of disabled students and architects have participated in the research process as researchers or members of the expert group who have advised the team and contributed to its findings and recommendations.

The language used in this report is intended to convey a positive image of disabled people and avoid causing any offence. In adopting the social model of disability for this research and attempting to use social model language, there is no intention to deny the identity of disabled people or the profound and challenging situations that people experience.

The research revealed that many disabled people are unfamiliar with the social model and disability politics or the language conventions associated with the social model. This has led to some inconsistencies in language use. Throughout the report the language preferred by the individual concerned has been used and the intention is to convey a positive image of disabled people.

If it has failed to achieve this aim, the team would like to apologise in advance and hope that disabled architecture students and disabled architects will accept the spirit of the work, which is to attempt to make a contribution to the creation of a diverse and inclusive architectural profession within which all disabled participants can thrive.

Acknowledgements

The research team acknowledges the contribution of all the disabled people who completed a rather long and laborious questionnaire and those who gave up their time to be interviewed or to write their personal stories. Individuals will not normally be named. In some instances alternative names have been used to protect the identity of individuals. Comments from all contributors were thoughtful and reflective and were highly valued by the researchers. In spite of the difficulties that people experienced, the majority of respondents remained great enthusiasts for the practice of architecture. In the words of one respondent:

> *"Architecture is a marvellously stimulating field. Learning about it is a privilege" (Architecture Student, 2010).*

The help and contribution of people who attended the launch event, the expert group meeting and those who gave up their time to be interviewed about ways of supporting disabled people in both education and practice, is also acknowledged. Thanks particularly go to Ian Hill, a member of the expert group, who went on to undertake some of the interviews. Special thanks must also go to Elaine Ostroff from the Institute for Human Centered Design in Boston for providing an inspirational talk at the launch event and sharing her experiences of running a similar research project in the USA entitled "Building a World Fit for People" (Ostroff et al, 2002).

Many thanks go to Louis Hellman for enlivening the report with a selection of his cartoons.

At the University of the West of England (UWE) we are indebted to Neil Porritt, who set up the on line questionnaires and suffered our wrath when unavoidable delays occurred through pressure of work. We also acknowledge the support of the Centre for Environment and Planning at UWE, headed by Professor Katie Williams, for the additional funding needed to complete the research and Sue Brown's contribution in spotting our errors.

We acknowledge particularly David Gloster, for commissioning and supporting the research on behalf of the Royal Institute of British Architects (RIBA) and also Lucie Gibson who guided the project and led the RIBA aspect of the publicity, including the encouragement of disabled people and other interested parties to participate. Finally, special thanks must go to members of the Architects for Change (AFC) the Equalities Forum of the RIBA, who should be congratulated for their enthusiasm, support and dogged determination to secure greater diversity in the architectural profession.

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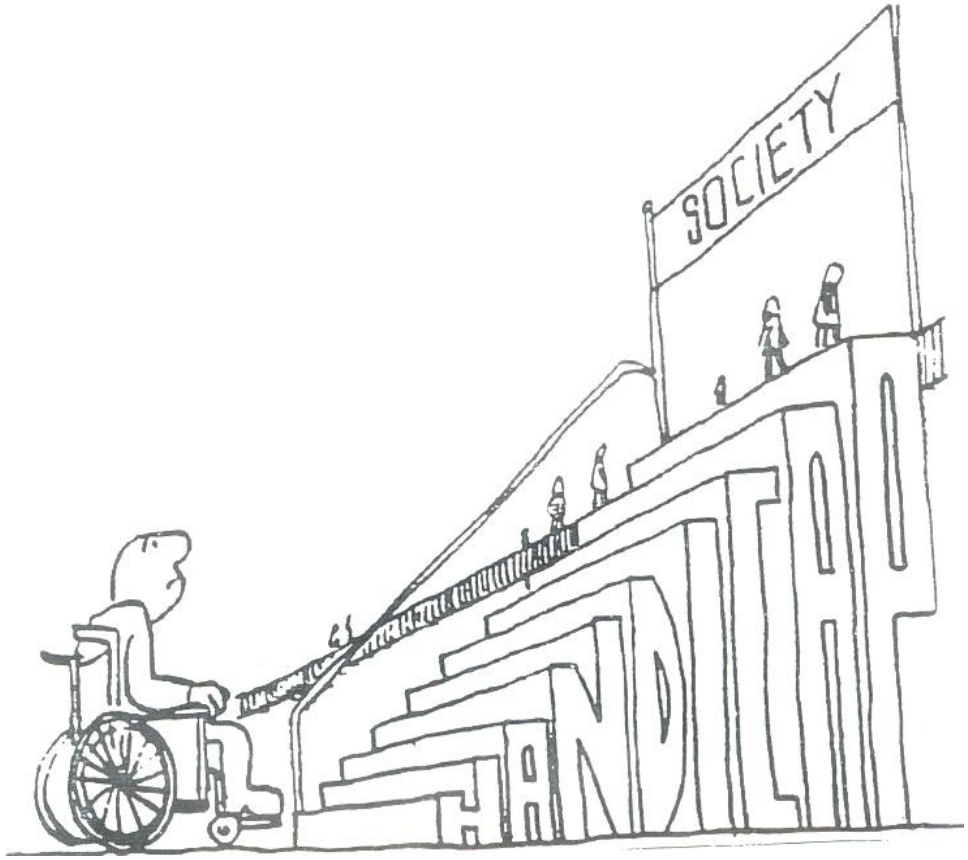


Figure 1: Cartoon by Louis Hellman

1 Introduction

This research was commissioned by the Royal Institute of British Architects (RIBA) and jointly funded by the RIBA and the University of the West of England, Bristol (UWE). The need for the research was promoted by Architects for Change (AFC), which was established in 2000 to challenge and support the RIBA in developing policies and actions to promote improved equality of opportunity and diversity in the architectural profession.

The primary purpose of the research is to contribute to the fulfilment of AFC's aims to encourage the development of a climate of success for disabled people who want to become architects or who are currently practising as architects. The research identifies factors that either inhibit or advance the likelihood of disabled individuals becoming successful and makes recommendations for improving the professional climate of architectural education and practice. There is an emphasis on education in the research. This is partly due to the responses received from students and practitioners that highlighted a wide variety of issues in architectural education. In addition it was recognised that education, including primary and secondary levels, acts as the gateway to the profession. It was considered important to explore these aspects. It is hoped that the research report will disseminate good practice, encourage and nourish a culture in the profession that will unlock the potential of disabled designers, increase the diversity of the profession and contribute to the enhancement of the quality of the built environment to the benefit of everyone.

2 Aims

The overall aims of the study are to:

- identify good practice in the architectural profession and education that facilitates equal opportunities for disabled people as entrants and practitioners in the profession;
- identify issues that mitigate against the entrance, progression and retention of disabled people in architecture;
- assess the current situation and make recommendations for improvement against which future progress can be monitored.

3 Disabled People in the UK

How many people are disabled? This question is often asked when matters that affect the interests of disabled people are discussed. The answers vary between 10 and 20 per cent of the UK population, which at 2009 stood at 61,393,000 (Office for National Statistics, 2009). The Office for Disability Issues (ODI) estimates put the number of disabled people in Britain at 10.8 million in 2008-9. These figures include people who have a longstanding illness, disability or infirmity and experience a significant difficulty with day to day activities.

Population estimates are unreliable because many disabled people do not disclose the fact that they have an impairment, probably because people have experienced discriminatory

behaviour in the past and hence do not wish to disclose unless the impairment is obvious. Indeed, disabled people often resent being counted or assessed by professionals because, as Gooding indicates, (1994) "*professional assessments of all kinds have distorted or denied their needs*"

4 Defining "disability": a social myth?

The legal definition of disability is discussed in section 5, but before addressing legal constructions of disability, it is worth considering the assumptions that people make about disability. The construction of disability as a legal term disguises the fact that the human condition is diverse and each individual, including people who would not meet the legal definition of disability, have experiences and abilities that have varying degrees of impact on their capability and life chances.

Gooding (1994) describes this idea by saying;

> *"the sharp dichotomy between able-bodied and disabled, present in popular opinion and theoretical texts alike, is a social myth."*

Recognising that the accepted construction of disability is a myth, it is nevertheless important to address legal and social constructions of disability in exploring ways of overcoming the disadvantage that people affected by various types of impairment experience on a day to day basis. These disadvantages inevitably affect life chances and contribute to the fact that many disabled people find themselves in poorly paid, low status jobs that are unrewarding and undemanding (Oliver, 1990).

Categorising people and undertaking an analysis of statistics is problematic in relation to disabled people. This is partly because of the problems in defining impairments and their implications, but also as Hanson (2008) points out, categorisation of disabled people into neat self contained groups, becomes even more meaningless in cases where individuals have more than one impairment.

A further issue in relation to categorisation is perception. There is a danger of falling into the trap of making assumptions that a person with a certain type of impairment cannot undertake particular tasks.

There is evidence to suggest that many people have a limited understanding of what needs to be done to ensure equal life chances for disabled people (Goldsmith 1963, 1997. Imrie and Hall, 2001, Omerod and Newton, 2006). The familiar symbol (figure 2), that has been accepted worldwide as a useful way of pointing out the location of facilities for disabled people, does not help understanding. It tends to reinforce the stereotype that disabled people are mainly wheelchair users who have physical impairments that affect mobility. The reality is that there are many different conditions that are carelessly grouped under the heading "disabled person".

Notwithstanding the issues relating to categorisation, it is helpful to gain some understanding of the different conditions experienced by disabled people and dispel the widely held belief that disabled people are mainly wheelchair users. It is worth recognising that people with hearing impairments or who are

profoundly deaf form the largest group of disabled people (approximately 9 million) (RNID 2010).

Figure 2: The international symbol

The experiences of disabled people occupy a broad spectrum of differences and it is important to avoid making assumptions about any individual's situation. Even within one impairment category, in this example hearing impairments, an individual's condition can range from minor to severe and will vary considerably depending on whether the hearing impairment was acquired before or after birth and whether speech is affected. Many people who were born deaf see their position in society as very different from those with an acquired hearing loss and feel that they are part of a specific community with its own language and culture (Padden and Humphries, 2006). Within one category of impairment, in this case deafness, the extent to which individuals will be affected, either positively or negatively by their experience of their impairment will be a continuum.

People with unseen impairments such as diabetes, epilepsy, asthma, heart disease, mental health problems and many other impairments, are also likely to experience extremely varying effects. It is therefore both difficult and undesirable to make judgements about how an individual's personal experience will impact on his or her ability.

Mental health conditions are particularly difficult to assess both from the point of view of impacts on the individual and also in relation to making accurate assessments of the overall number of people affected by these conditions. The Office for National Statistics (ONS) (2001) estimated that almost 9% of the population would meet the criteria for diagnosis for mixed anxiety and depression, although more serious mental health conditions, such as schizophrenia and bi-polar disorder, are much rarer. It is interesting to note that in higher education the number of students reporting mental health problems has increased more than tenfold between 1994/5 and 2006/7 (Department for Innovation, Universities and Schools (DIUS), 2009). Again, making judgements about the impacts of a particular mental health condition on a person's ability to perform certain tasks is fraught with difficulty.

Dyslexia is another condition that is difficult to pin down. According to the British Dyslexia Association it affects a

substantial proportion of the population. It is a specific learning difficulty which mainly affects the development of literacy and language related skills. A person with dyslexia may find it difficult to learn to read, write and spell even though he or she has a high IQ. People with dyslexia may also have difficulty in sequencing and organising ideas and may experience left-right confusion and poor balance. The prevalence of dyslexia in the general population is unclear, although analysis of higher education statistics (DIUS, 2009) indicates that dyslexia and unseen impairments together account for around 70% of the types of impairment reported in higher education institutions.

Although there is no concrete evidence to prove it, dyslexia is widely regarded as common amongst architects and other artistic individuals (West 1997, Dyslexic Advantage 2010). Data on students undertaking architecture courses did indicate a higher incidence of dyslexia than in the student population at large. This raises the issue that impairments of various types should not necessarily be viewed as impediments to choosing architecture as a career. Dyslexia, for example, is regarded by some commentators as "*a gift"* (Davis and Braun, 2003) that should be celebrated rather than seen as a personal disaster, particularly because it seems to co-exist for some people alongside enhanced spatial understanding or the ability to see the bigger picture when tackling problems (Stein, 2001).

Most research is on the negative impacts of impairment experienced by individuals and the emphasis of such research tends to be closely associated with the medical or charitable models of disability discussed in part 7 (Gooding 1994). This is possibly because the non-disabled population, if such a group exists, retains the belief that to be impaired in any way is always negative and a matter to be addressed by medical intervention rather than a positive contributor to the individual's sense of identity and ability. To appreciate the positive contributions that disabled people can make to society requires the so called non-disabled population to perceive the nature of impairment differently and to act accordingly to recognise the contributions that disabled people can make to society. However it is not the purpose of this research to provide a full account of the many and varied types of impairment that people experience, or to fill gaps in research that fails to recognise the positive.

5 Legislative background and disability rights

The Disability Discrimination Act (DDA), originally enacted in 1995 and amended in 2005, outlawed discriminatory behaviour against disabled people. The DDA marked a significant transition from an approach in which the equal treatment of disabled people was primarily voluntary towards the development of an effective legal framework for inclusion. The development of this framework is still continuing, as the recent legislative changes brought about by the Equality Act 2010 indicate. Achieving rights for disabled people has been a slow and rather painful process as the timeline shown in figure 7 indicates. The continuous changes to the legislation have been and continue to be a cause for confusion for employers and disabled people alike. Nevertheless, the DDA was a landmark piece of legislation which had significant implications for the architectural profession

The legal definition of disability

The legal definition of disability originally set out in the DDA, was replaced in October 2010 by the definition in the Equality Act 2010 (c 15). The definition remains substantially unchanged from that set out in the Disability Discrimination Act 2005 (as amended) although it no longer lists the impairment categories set out in the DDA. The Act defines a disabled person as:

"A person (P) has a disability if—

> *(a) P has a physical or mental impairment, and*
>
> *(b) the impairment has a substantial and long-term adverse effect on P's ability to carry out normal day-to-day activities."*

The legal responsibilities of employers

The implications of the DDA 1995 had an immediate impact on the responsibilities of architects as employers. An employer must not discriminate against a disabled person as a prospective employee. Originally the legislation exempted small businesses that employed fewer than twenty people and then fifteen people from this requirement, but this was amended in 2004 to include all employers. Previous research has shown, perhaps not surprisingly given the number of changes to the legislation, that small businesses were unsure of their responsibilities under the DDA (Roberts, et al, 2004) and were unaware that they may be acting illegally in their treatment of disabled people.

The DDA made it clear that there is an expectation that employers must make physical adjustments to enable a disabled person to access and use premises and work alongside their colleagues without disadvantage. This included the provision of appropriate technical aids, where necessary, the provision of information and the alteration of working conditions. The Equality Act 2010 retains this requirement and adds some additional safeguards for employees and prospective employees.

It is evident that physical adjustments to property may have cost implications, although these are unlikely to be substantial in most cases, according to research carried out in 2000 (Department for Education and Employment, 2000, quoted by Imrie and Hall 2001). However the "Access to Work" scheme does make provision for a large percentage of the costs involved to be borne by the state (Directgov 2011).

There do seem to be points of confusion or disregard about the legal requirements on the part of employers both in relation to recruitment of disabled people and also the treatment of disabled employees. One aspect is the legal requirement to make reasonable adjustments to the working conditions of a disabled employee where this is necessary (Equality Act 2010, c2). This often applies in the case of acquired impairments. For example, in a case where a person with depression was denied the possibility of leaving work early and was subjected to disciplinary proceedings because he did so, the ruling was that the employer had not made adequate and reasonable adjustments to take into account the impact of the medical condition of the employee (Secretary of State for the Department of Work and Pensions v Alam, 2009).

A new provision in the Equality Act will also protect an employee against harassment or victimisation (Equality Act 2010, c2). This. This could, for example, include harassment by a third party, such as a contractor, over whom the employer has no direct control. The implication of this is that the employer must act to prevent harassment once it is drawn to his or her attention.

In addition to direct discrimination, the Equality Act now includes a new provision which relates to discrimination by association. This will protect an employee against discrimination if, for example, he or she is treated unfairly because of his relationship with a disabled family member. Architects considering the employment of a disabled person or making arrangements for the retention of an employee must take these provisions into account or risk acting illegally.

The legal responsibilities of service providers

The second major aspect of the legislation that affected architects was Part III of the DDA 1995. This was introduced incrementally from 1995 to 2004 and outlawed discrimination against disabled people by service providers. It placed a duty to make "*reasonable adjustments*" to premises, policies and procedures to ensure that disabled people could gain equal access to the service offered. This provision, which has been re-enacted in the Equality Act 2010, has implications for architectural practices, as their premises should be accessible to all and reasonable adjustments should be carried out as necessary to ensure accessibility.

The vexed question about the legal expectations of what constitutes a *"reasonable adjustment"* is critical. This is summed up by the idea that the views of the *"man on the Clapham Omnibus"* should guide the judgement of decision makers about what is reasonable.

Figure 3: Cartoon by Louis Hellman

This rather outdated notion is of the hypothetical man, who is an intelligent, but non-expert individual, who reflects the views of the

ordinary person about what is fair in a given situation. To date there have not been many legal cases that have made it possible to give a clear and unequivocal statement about what is reasonable, but there is a notable trend towards higher expectations in relation to the extent to which disabled people should be able to gain access to goods and services and to employment opportunities.

A recent case in which a disabled person challenged the Royal Bank of Scotland because they had not acted to make their bank premises in Sheffield accessible to disabled people, led to the bank being ordered to undertake adjustments which were expected to cost £200,000. In addition, Mr. Allen, the complainant, was awarded £6,500 for injured feelings (Royal Bank of Scotland v Allen, 2009). Architects, in the role of service providers, therefore have a duty to make reasonable adjustments to make their premises accessible to clients. In assessing what is reasonable, architects as experts acting as employers or service providers, should be well ahead of public opinion in determining what is reasonable.

In considering their responsibilities architects working for public sector clients should be aware that public organisations are charged with specific responsibilities in relation to the elimination of discrimination and harassment of disabled people and the promotion of equality of opportunity (Equality Act 2010, c1).

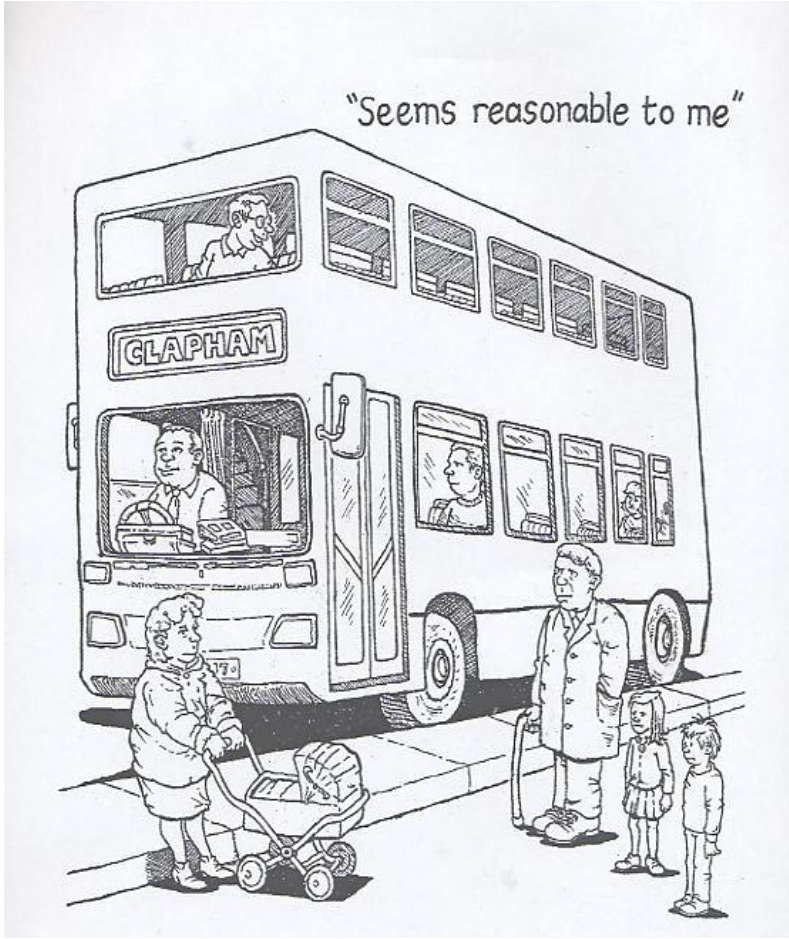


Figure 4: Cartoon by Paul Revell, UWE. The views of the "Man on the Clapham omnibus" are not static – they change to reflect public opinion.

The responsibilities of higher education institutions

When the DDA was originally passed in 1995 it excluded educational institutions from responsibility under the Act. However, the Special Educational Needs and Disability Act of 2001 and the further amendments made by the Disability Discrimination Act 2005 placed institutions, including universities, under the obligation to ensure that disabled people were not discriminated against by subjecting them to less favourable treatment than their non-disabled peers. This included the requirement to make reasonable adjustments to policies, procedures and the physical environment to enable a disabled student to take advantage of the opportunities presented by the educational opportunities of the institution.

The Quality Assurance Agency's (QAA) "Code of Practice for the Assurance of Academic Quality and Standards in Higher Education" (2010) sets out the responsibilities of higher education institutions effectively. It includes a list of 21 precepts that express the matters of principle that institutions need to take into account. Accompanying explanations assist the institutions in methods of addressing the principles, but provide scope for each institution to make its own interpretations in the light of local circumstances, cultures and traditions.

The Equality Act 2010 and changing expectations

In conclusion it is important to stress that the expectations of the legal duties with regard to disability and discriminatory practices have gradually moved towards increasing the rights of disabled people.

Figure 5: QAA Code of Practice (The Quality Assurance Agency for Higher Education)

From the original voluntary approaches to encourage behaviour change, the law has now moved to compulsion. There is also evidence that those who fail to act lawfully are likely to receive more severe penalties than hitherto. Even the concept of what is seen as reasonable in relation to both employment and the adaptation of the physical environment is open to interpretation by the courts and is likely to change as general public attitudes

and those of disabled people come to accept that inclusion is a basic human right.

The Equality Act 2010, which came into force in stages from October 2010, is a significant change to the duties and responsibilities under discrimination law, although the main duties already outlined remain in place. The most significant aspect of the change is that for the first time the legislation will bring all the equality legislation under one statute. The Act outlaws discrimination against the same groups that were previously protected by separate pieces of legislation. It covers disability, age, gender reassignment, race, religion or belief, sex, sexual orientation, marriage and civil partnership and pregnancy and maternity. The categories outlined are now referred to in the legislation as "*protected characteristics*." Although the protections provided by the legislation remain substantially unchanged, there are some additional matters, including the protection of disabled people from harassment and victimisation and what is termed "associative discrimination".

It is important for schools of architecture to be aware that the exclusion of disabled people who are capable of studying architecture is unlawful.

Removal of exclusionary practices

The move towards the removal of exclusionary practices in both education and employment for disabled people has been slow. The timeline shown in Figure 7 indicates the transition from voluntary to mandatory requirements and the move to a more proactive legislative framework. It also illustrates the parallel attitudinal shifts. A significant question that is of relevance to this research is; to what extent has the environment experienced by disabled people in architecture schools and practices kept abreast with the changes in legislation and attitudes?

Age	This applies to young and old
Disability	A person has a disability if s/he has a physical or mental impairment which has a substantial and long-term adverse effect on that person's ability to carry out normal day-to-day activities
Gender Reassignment	The process of transitioning from one gender to another
Marriage and Civil Partnership	Civil partners must be treated the same as married couples on a wide range of legal matters.
Pregnancy and maternity	Maternity refers to the period after the birth, and is linked to maternity leave in the employment context. It includes treating a woman unfavourably because she is breastfeeding
Race	It refers to a group of people defined by their race, colour, and nationality (including citizenship) ethnic or national origins.
Religion and belief	This includes religious and philosophical beliefs including lack of belief (e.g. Atheism). Generally, a belief should affect your life choices or the way you live for it to be included in the definition.
Sex	A man or a woman
Sexual orientation	It includes a person's sexual attraction whether this is towards their own sex, the opposite sex or to both sexes

Figure 6: Protected characteristics: definitions

Extracts from Equality and Human Rights Commission (EHRC 2011).

7: Timeline: change in both terminology and attitudes set out within legislative frameworks

Date	Legislation	Summary	Comment
SEGREGATION			
1913	Mental Deficiency Act	People with learning difficulties and mental health problems were categorised and institutionalised	Segregation for disabled people was at the heart of this legislation
1914	Elementary Education (Defective and Epileptic Children) Act	Established responsibility for local authorities to provide institutional care for children who were seen to be incapable of benefitting from education	Separate education for disabled children ensured separation from mainstream society from an early age.
1944	Disabled Person's Employment Act	Quota system for larger employers who were required to ensure representation in the workplace of disabled people. Designated certain types of employment (mainly low pay, low status jobs) as suitable for disabled people.	This was rarely enforced and was ignored by many employers. This duty to employ disabled people contrasts with the current view that the individual must take the initiative to find employment.
1948	National Health Service	Established universal health care	
REMOVAL OF BARRIERS / DESEGREGATION			
1970	Education (Handicapped Children) Act	Discontinued the classification of "handicapped children" as unsuitable for education at school	A step forward, but maintains segregation of disabled children
1970	Chronically Sick and Disabled Persons Act	Voluntary code for access to buildings for disabled people which required developers to provide access to buildings where *"practical and reasonable*"	Commences the consideration of the removal of physical barriers to the environment but predominantly discretionary.
1987	Building Regulations	Part M required non-domestic schemes to be accessible and the provision of facilities for disabled people.	The exclusion of domestic buildings and most minor building renovations perpetuated exclusion of disabled people.

STEP CLOSER TO SOCIAL MODEL			
1995	Disability Discrimination Act (DDA)	Landmark legislation Employment rights introduced in respect of employers who employed 20 or more people. Service providers required to make reasonable adjustments to make their premises accessible to all users.	Some movement towards the social model by the expectation that architectural barriers should be removed by service providers. Some significant mainstream activities excluded from the legislation e.g. transport, education. Definition of disability tightly defined.
1998	Building Regulations Part M	Introduced the requirement to have a ground floor WC on new build housing.	
2001	Special Educational Needs and Disability Act (SENDA)	Extended DDA to education.	The title of the Act demonstrates that the social model of disability was not at the heart of the legislation.
2004	*The Disability Discrimination Act* 1995 (Amendment) Regulations 2003 came into force in 2004	Employment exemption repealed so that all employers can no longer discriminate against a disabled person.	
2005	Disability Discrimination Act	Extended definitions and scope of the legislation to include people with HIV, cancer and multiple sclerosis from the point of diagnosis. Higher education institutions and other public bodies required to have due regard to the elimination of discrimination and harassment of disabled people and promote equality of opportunity.	Further stage in the gradual move towards the social model by accepting a wider definition of disability.
2006	Town and Country Planning (General Development Procedure) Order 1995 (Article 4C) amended	Design and Access Statement required as a compulsory submission for most planning applications.	In practice the DAS has not been taken very seriously by either applicants or local planning authorities.

CHANGE TO PROACTIVE APPROACH		
2010	Equality Act	This act was brought into effect in incremental stages from 1st October 2010. The act brings about changes to discrimination law by aiming to eliminate discrimination and harassment for women, elderly and disabled people, ethnic minorities, lesbian, gay, bisexual and transsexual people and any form of discrimination associated with religion or belief. The current separate acts such as the DDA will be replaced when the Act is fully in force. The Public Sector Equality Duty originally included in the act has been put on hold by the coalition government headed by David Cameron (March 2011).

6 Disabled people and architecture

In terms of calculating the number of disabled people in the construction profession, this has been estimated at 14% of the industry as a whole (Briscoe, 2005). Looking specifically at architecture, it is difficult to estimate numbers as the RIBA and the Architects Registration Board (ARB) do not collect this information.

Figure 9 illustrates national statistics provided by Higher Education Statistics Agency (HESA) for 2008-2009. This data showed that 8.5% of students studying Architecture were disabled people compared to 7.2% of all students in higher education (HESA (a) and (b) 2008-9, Higher Education Information Database for Institutions (heidi) 2008-9). The representation of disabled students in architecture does appear to be higher than for the overall student population. This may be accounted for by a far higher representation of students with a specific learning difficulty such as dyslexia. The higher representation of architecture students with specific learning difficulties may be concealing much lower participation of architecture students with other impairments compared to students engaged in other disciplines.

Figures 10 to 12 indicate the profile of students who were on or had completed architecture awards. There are some concerns raised by the statistics such as the low completion rate of students with mental health impairments.

It is likely given the narrower age range of students generally, that the number of disabled students studying architecture does not reflect the proportion of disabled people in the general population. However the apparent relatively low participation of disabled people in higher education may also be associated with the fact that at age 16 disabled people tend to have lower GCSE attainment than their peers who are not categorised as disabled people. In their 2006

report “Disabled Students and Higher Education” the Department for Innovation Universities and Skills (DIUS) has used the Youth Cohort Study (YCS) to estimate that at age *“18 and 19 the proportion of disabled people that have participated in HE courses is around 30%, as opposed to 45% of those without disabilities”* (DIUS 2006). Lower attainment at GCSE may have some impact on the representation of students from some groups studying architecture.

For students who enter higher education the likelihood of obtaining a first class or upper second class degree is slightly lower than for non-disabled people (DIUS 2006).

However the number of disabled students studying architecture is calculated, the number of architects with impairments currently practising appears to be quite low. Increasing representation may have beneficial effects on the extent to which inclusive environments are considered a priority (HESA 2008-9, heidi 2008-2009).

Figure 8: New residential building under construction in 2005

Comparative representation of all students in Higher Education and Architecture students 2008-9

	Architecture students	Students in HE
No known disability	19925	774840
Not known	140	96310
Known disabled	1865	67885
Total	**21930**	**939035**

Source heidi 2008-9, HESA 2008-9

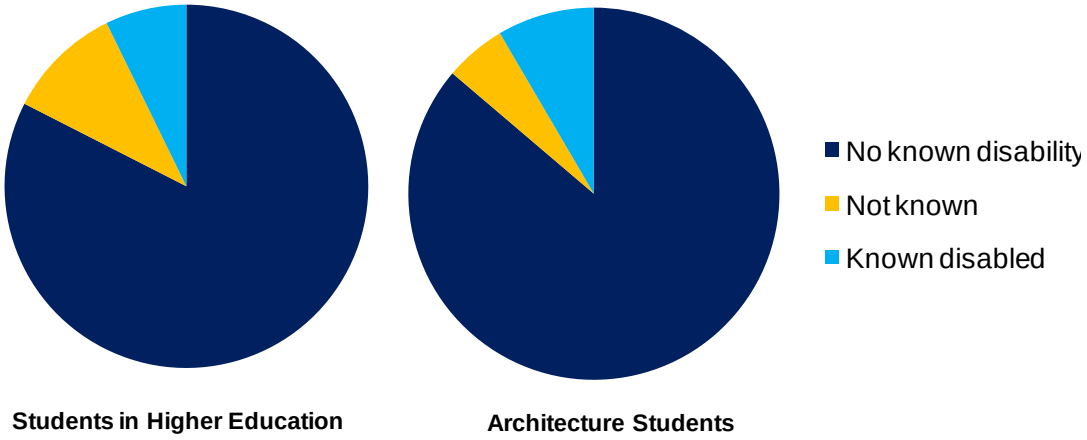


Figure 9: Comparative statistics of disabled students in education and architecture students 2008-2009

Representation of post graduate and undergraduate disabled students on higher education (HE) courses and disabled students who completed Architecture awards 2008-2009

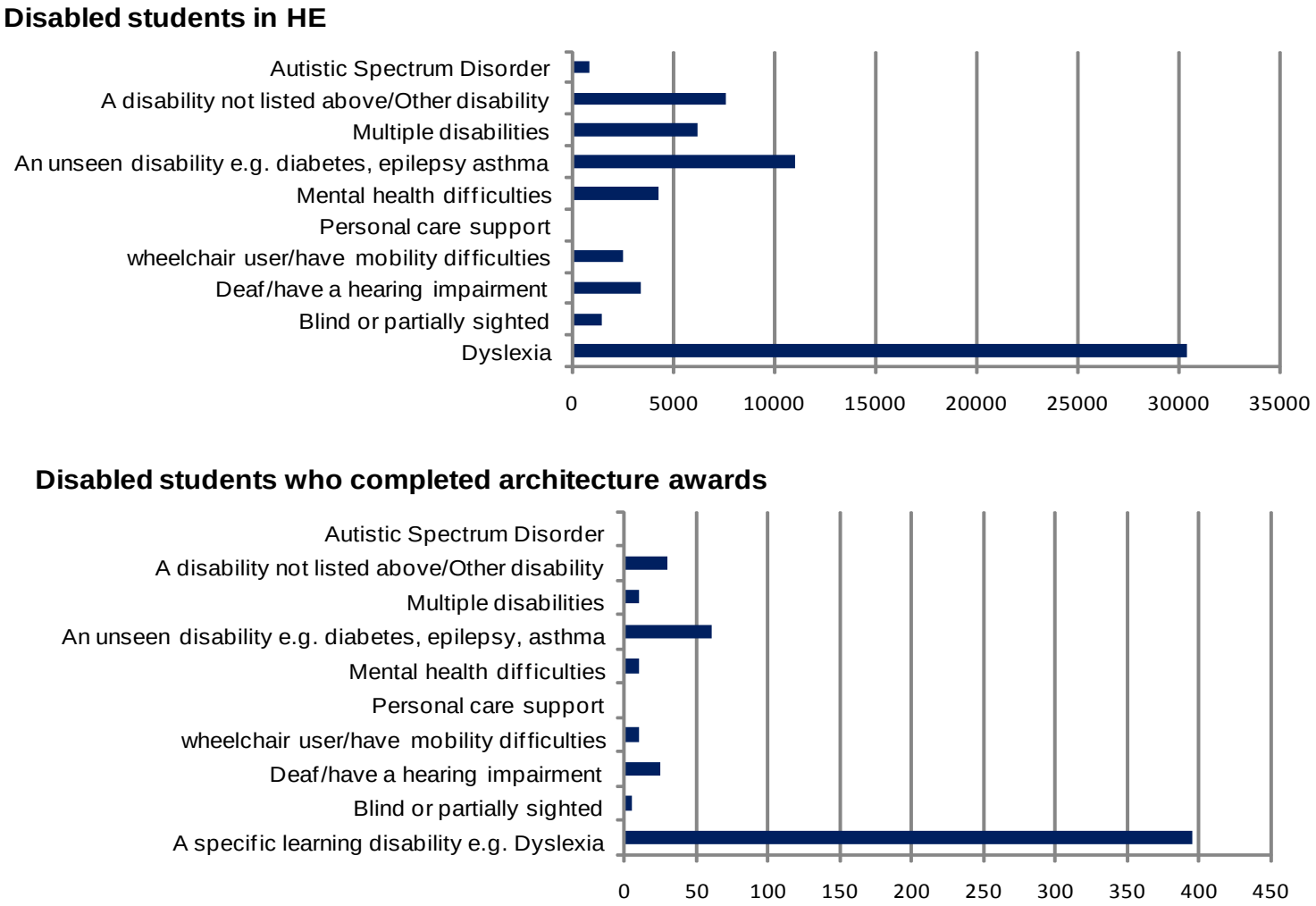


Figure 10: Comparative representation of students in education by impairment 2008-2009 (HESA 2008-2009, heidi 2008-2009)

Representation of post graduate and undergraduate disabled students on higher education (HE) courses and disabled students who completed Architecture awards 2008-2009

	Architecture students	Students in HE
No known disability	5575	774840
A specific learning disability e.g. Dyslexia	395	30415
Blind or partially sighted	5	1485
Deaf/have a hearing impairment	25	3425
Wheelchair user/have mobility difficulties	10	2520
Personal care support	0	95
Mental health difficulties	10	4270
An unseen disability e.g. diabetes, epilepsy, asthma	60	10995
Multiple disabilities	10	6225
A disability not listed above/other disability	30	7605
Autistic Spectrum Disorder	0	855
Not known	6470	96310

Figure 11: Comparative representation of students in education by impairment 2008-2009 (HESA 2008-2009, heidi 2008-2009)

No known disability	5575
Not known	345
Known disabled	545
Total	**6470**

Figure 12: Representation of disabled students who completed architecture courses 2008-2009 (HESA 2008-2009, heidi 2008-2009)

7 From medical to social model

Over the last three decades there has been a paradigm shift from the medical and charitable models of disability towards the social model (see figure 13) (Gooding 1994, Swain et al 2003). Both the charitable and medical models focus on efforts to help the disabled individual to adapt or change or be managed by professionals, perhaps through medical or charitable intervention. Actions taken under these models aimed to ensure that the disabled person fitted in as far as possible with the mores of the rest of the population. In many cases this led to complete segregation. In essence both these models of disability see impairment as a personal tragedy.

Campaigns by disabled people, almost certainly inspired by the civil rights movement in the USA, led to changing attitudes to disability (Driedger 1983). Easier communication through the use of electronic communication systems and the World Wide Web enabled the influence of the rights campaigns of the 1970s to strengthen and extend to the current day. The fact that these were grass roots campaigns is a pertinent point, as it reflects the desire of disabled people to cast off the sense that they should always be the inactive recipients of benefits dispensed by others (Gooding, 1994). Disabled people in doing this effectively rejected the ideas enshrined in the charitable or medical models of disability.

The social model locates the cause of the impairment within society rather than in the individual (The Union of Physically Impaired Against Segregation (UPIAS), 1976). It emphasises the idea that society is the disabling element. The cartoon by Hellman (figure 1) sums up the social model effectively by showing that the barriers to active participation in society have been placed there by society. In their interpretation of the definition of the social model, Omerod and Newton (2006) define impairment as an:

> *"individual's condition of mind, body or senses that results in an individual functional limitation; disability is the limitation imposed by a society that takes no account of people with impairments*".

Swain and French (2000) throw light on this aspect by advancing:

> *".a non-tragic view of disability and impairment which encompasses positive social identities, both individual and collective".*

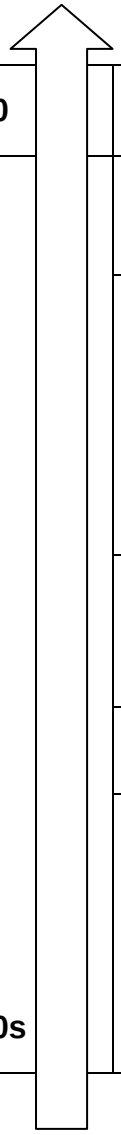
They describe this as the affirmation model of disability and explain:

> *"The affirmative model directly challenges presumptions of personal tragedy and the determination of identity through the value-laden presumptions of non-disabled people… the affirmative model is borne of disabled people's experiences as valid individuals, as determining their own lifestyles, culture and identity."*

Whilst the social model has been severely criticised, (Shakespeare and Watson, 2001) it does provide a framework that accepts the sense that disabled people should not be

prevented by barriers created by others from achieving their own lifestyle choices and participating fully in society.

Figure 13: Models of disability



2010	Model	Characteristics	Language associated
	Affirmative	Recognises the individual's impairment and identity as a disabled person but places the responsibility for the disabling characteristics on society as a whole.	E.g. use of "impairment" rather than "disability" to describe condition.
	Social	Accepts disabled people as individuals with rights and responsibilities. Society's disabling actions recognised and the responsibility to remove these impediments to participation in mainstream community life seen as a social duty. Disability in the context of the social model is the "disadvantage or restriction of activity caused by contemporary social organisation which takes no or little account of people who have physical impairments and thus excludes them from participation in mainstream social activities" UPIAS,1976. The current view would extend the definition to include mental as well as physical impairments.	The term "disabled people" is preferred description. Referring to people as "the disabled" or people with disabilities is unacceptable.
	Special needs	Closely tied to charitable model on the basis that special provision made by "non-disabled people" **for** disabled people.	Continues to be used extensively in education, but not recommended language use.
	Charitable	Disabled people to be pitied and seen as passive recipients of charitable aid.	Language use as for medical model.
1970s	**Medical**	The impairment seen as a personal tragedy for the individual that often defines a person's identity. Emphasis on fixing the problem.	Language use (now unacceptable) often related to the impairment e.g. epileptic, spastic, wheelchair bound etc. The term "people with disabilities" is not recommended.

8 How was the study carried out?

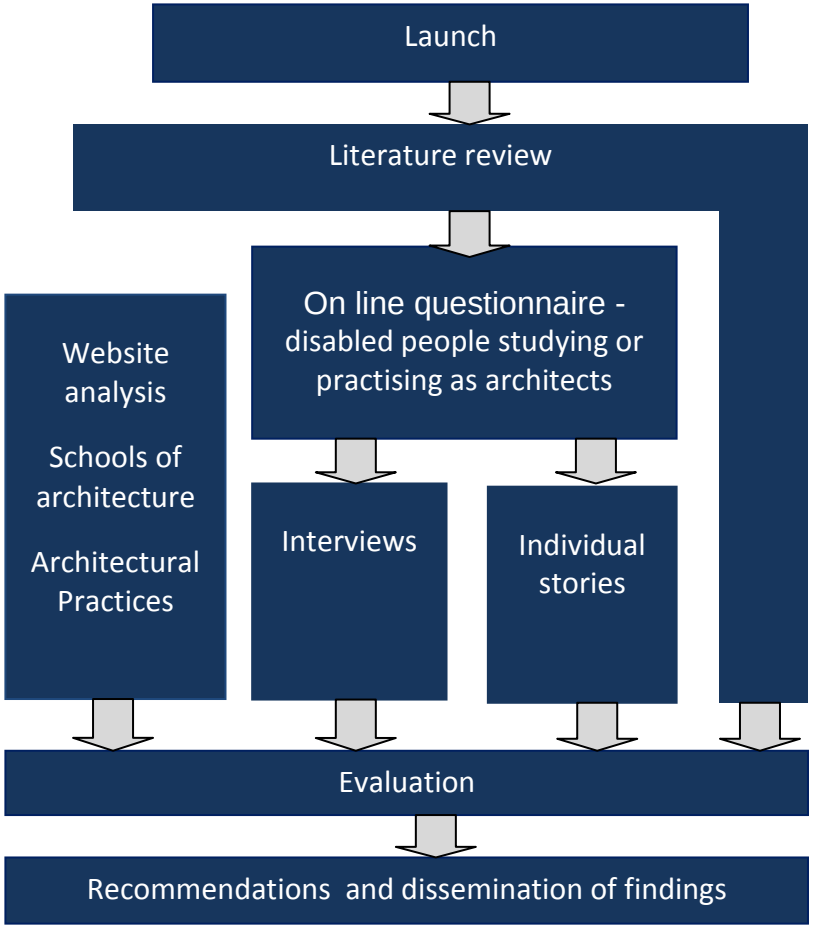


Figure 14: Research methodology diagram

The research process for this study involved a combination of methods and a number of steps as indicated in figure 14. It is primarily a qualitative study that provides indicators of the climate that exists for disabled people who either aspire to become architects or who are practising as architects.

Stage 1 Launch event

The research project was launched in November 2008 at UWE in Bristol by the research team and Elaine Ostroff of the Center for Human Centred Design in Boston, USA. A number of disabled people with personal knowledge of both the positive and negative aspects of studying or practising as architects attended the launch together with staff from disabled student support services, representatives of the RIBA and other interested parties. The launch was used as a vehicle to contribute to a wide ranging discussion about the issues that needed to be explored by the research and the best means of undertaking the project. Aspects that were discussed are indicated in figure 15. The debate informed the questionnaire design. The experts present also contributed by identifying and discussing specific areas and providing feedback on their own experiences. Elaine Ostroff shared her experiences of conducting a similar research study, entitled “Building a World fit for People”, which she carried out in 2002 in Boston, USA (Ostroff et al, 2002).

Figure 15: Aspects covered at the launch meeting

<table>
<tr>
<td rowspan="2">Education
Informed careers advice;
Validation processes; visiting boards;
Recruitment;
Attitudes and perceptions;
Websites and availability of information;
Enabling environments in education;
Teaching and learning methods;
Misleading normative in teaching materials;
Student support and mentoring;
Campus access;
Anticipatory educational frameworks;
Mainstreaming inclusive design in education;
Availability of advance information in education;
Training for lecturers, review committees school staff; visiting boards;
Monitoring and action plans.</td>
<td>Careers, employment and practice
Employment practice and legislation;
Public and private sector;
Working environment and conditions;
Networking, traditional and virtual;
Mainstreaming inclusive design in practice;
Economic climate;
Continuing Professional Development (CPD);
Mentoring;
Good Practice models;
Client and user needs;
Award Schemes;
Funding;
Availability of advance information in practice;
Reviewing practice.</td>
</tr>
<tr>
<td>Dissemination on inclusion
Ongoing events, marketing and dissemination;
Networking.</td>
</tr>
</table>

Stage 2 Literature review

A review of published literature relevant to equality and diversity formed a significant part of the research. This was primarily to gather evidence about barriers to inclusion and identify issues for further investigation in the questionnaire and interviews, but also to inform the final recommendations. Many writers have recorded the nature of disadvantage and exclusion experienced by disabled people over a number of years and it is not the intention of this current research to revisit this or provide a comprehensive account of the campaigns for equality of opportunity for disabled people. However, where necessary, in order to provide context for the study and ensure clarity, interpretations of the relevant background are given. A series of themes have been identified that are relevant to the study and the review of literature has concentrated on these themes.

Stage 3 Questionnaires

The issues identified through the literature review and the discussion at the launch formed the basis for the development of an on-line questionnaire aimed at disabled architects and disabled students studying architecture. A similar research project carried out in the USA (Ostroff at al, 2002) also provided ideas for topics to be covered. The decision to use an internet based questionnaire was taken because this allowed respondents to reply at a time convenient to them and elaborate on or qualify their responses. It was also possible to guarantee anonymity which was considered essential to enable sensitive matters to be discussed openly without fear of disclosure of identity.

Given the typical minimum study/training period of seven years from entry at first degree stage to qualification and registration as an architect, it was considered imperative to explore the journey of disabled people from entry through the three stages of formal architectural education and their experiences of the working environment. Ideally a longitudinal study over a lengthy period to track the same cohort through from entry to practitioner would have enabled a clearer picture to emerge. This was obviously impossible, given the timeframe and scope of the study. However, to counteract this weakness, the questionnaire was developed to enable each respondent to complete the questionnaire from the viewpoint of his or her current situation and also to reflect on past experiences. The main disadvantage of this approach was the length and complexity of the questionnaire. To facilitate easier completion, respondents were given a unique reference number and were able to complete the questionnaire in stages. This was done to ease the burden of answering a long questionnaire and to enable people to reflect on their answers.

Some concerns were raised by one respondent regarding acceptable language and alterations were made to the first draft of the document in response to these comments. However, experience in discussing language use with respondents and interviewees resulted in widely different preferences. It was

evident that not all respondents wished to use social model language or were au fait with what this meant. Every effort was made by the researchers to use the language preferred by the respondent throughout the study on the basis of current thinking in the UK. It is notable that wording in the legislation and by many bodies does not adopt social model language. It should also be pointed out that there are international variations and opinions on the use of language. For instance, good practice terminology in the UK may differ from that used in the USA.

The opportunity to participate in the research was disseminated by:

- issuing press releases to appropriate journals;
- informing organisations known to have an interest or expertise in this area of work and requesting their assistance with dissemination;
- requesting AFC members and members of the RIBA Inclusive Design Committee to assist with dissemination;
- contacting schools of architecture and co-coordinators of services for disabled people at the relevant universities;
- approaching professional contacts of the RIBA and the research team;
- requesting respondents to cascade the information to known colleagues and friends.

Topics under the following headings were explored through the questionnaire:

- General biographical information;
- Childhood and school;
- Post 18 education;
- Transition from education to work;
- Post qualification: working in practice;
- Additional feedback.

88 people responded to the questionnaire although not all respondents completed every section.

A second questionnaire was developed to target people who had particular knowledge of the problems faced by disabled people in both educational and practice environments. This questionnaire aimed to capture ideas for good practice that would contribute to the creation of educational and work place based climates where disabled people would be able to thrive. This would also add to the credibility of the findings and related recommendations of the Stage 1 questionnaire. A similar approach to attract participants was adopted for the second stage questionnaire. However the response rate was very disappointing, so an alternative way of contacting people was used. This involved a series of telephone and face to face interviews.

Stage 4 Interviews

According to Bryman (2008) *"the interview is probably the most widely employed method in qualitative research"*. The reasons for this are that interviews provide flexibility and enable matters to be explored in greater depth than is possible through questionnaires.

Two different types of interview took place. These were:

- A sample of respondents to the questionnaire for disabled students and practitioners;
- A sample of people who, by the nature of their post, had specific experience of supporting disabled students or employees.

Semi-structured interviews were used in both cases to enable interviewees to express personal views, but also to make comparisons between the experiences of different participants (see figure 16).

Eleven interviews were carried out with disabled students and practitioners. These interviews enabled further discussion of issues raised in the questionnaires and the exploration of career histories together with deeper discussion of matters such as motivational factors that had encouraged success. A further line of enquiry explored the extent to which the disabled architects felt that the impairment that they experienced had affected their practise as architects, either positively or negatively. It was considered preferable to use one to one interviews rather than engage in group discussion so that the individual would feel more able to speak freely and confidentially about problems they had experienced. This applied particularly in situations where their employers, tutors or others may have acted illegally or inappropriately.

The need to determine the extent to which assumptions are made in the profession about the skills and abilities of disabled people was also a matter better suited to consideration through a face to face discussion, rather than a written explanation as a response to a questionnaire or through group discussion, as this can be a rather sensitive matter to discuss openly in a larger group.

Individuals were selected for interview primarily because their response to the questionnaire raised matters of particular significance, although geographical proximity to the researchers also played some part. An attempt was made to select a sample of interviewees from different parts of the country and the spread of interviewees included people with different impairments and people at different stages of their careers. In all cases a disabled researcher acted as interviewer.

The second set of interviews with support staff at universities and offices was carried out either face to face or by telephone. It could be argued that even the existence of support staff with specific roles and responsibilities to support disabled students and employees is a perpetuation of the charitable model of disability that reinforces a professional-client relationship and

diminishes disabled people to passive recipients of the benefits conveyed by others. However, until the advent of an environment that mainstreams inclusion and makes such support workers unnecessary, these support providers have an important role to play. It is therefore appropriate to review how this support is provided and to identify good and bad practice.

An effort was made to secure regional coverage and include schools of architecture in Wales, Scotland and Northern Ireland as well as England. Contact with higher education institutions was carried out through a variety of methods. JISCmail, which is a disability forum with 783 members, provided one point of contact and further contacts were made through networking at a conference organised by the Higher Education Academy in 2010. Interest from the USA, via the Association on Higher Education and Disability (AHEAD) also led to some written communications with university support workers in the USA and elsewhere.

The interviews, which involved representatives from practice supporting employees, attracted fewer respondents. A list of architectural firms that claimed on their websites to design for disabled people were selected and asked to participate in the research. 25 practices were selected from different parts of England, Scotland and Wales. The response was disappointing with only two practices, one in Scotland and one in south west England responding to the request. Both respondents were human resource (HR) staff.

In an attempt to fill this gap in understanding, efforts were made to use personal contacts as a mechanism for contacting Human Resources sections. This yielded a further 4 interviews.

Category of interviewee	**Number**
Disabled People (students and practitioners)	11
Support staff at universities	8
HR staff in architectural practices	6

Figure 16: Table of interviews

Stage 5 Individual stories

Individual accounts and stories are being more widely used as a research method that enables the communication of personal experiences (Sparkes, 2007) which can inform the actions that can be taken to disseminate and put in place better practice. A number of people were therefore asked to write personal statements either as supplements to the questionnaire or as

alternatives to face to face interviews. People selected for this were people who had a story to tell that was of particular relevance to the research. These profiles provide a human dimension to the findings of the research and are intended to engage the reader. To convey a balanced view these personal stories aimed to reflect both negative and positive experiences and highlight key episodes.

The importance of emphasising the positive experiences was inspired by both the Skill publication, Into Architecture, Surveying and Building professions; positive experiences of disabled people, and Building a World Fit for People; Designers with Disabilities at Work, (Skill, [no date], Ostroff et al, 2002,). Ostroff quotes a respondent to the study of disabled designers as saying

> *"No one has ever asked me these questions. I've never had a chance to tell this story".*

This provided a strong motivation for providing a forum for four disabled architects and two disabled students to tell their own stories so that the wider profession can be guided by their content and disabled people can be inspired to continue in the profession even when this is challenging. The response from people who were able to make their views known and contribute to the research was similar to the experience reported by Ostroff. One researcher commented;

> *"People really seemed to enjoy the chance to talk about both the positive and negative aspects of their experiences in architecture. Interviews often lasted several hours rather than the expected one hour and the interviewees seemed to feel empowered by the opportunity to make their views known."*

Stage 6 Website analysis

An item for investigation was added to the research process as the study progressed as a product of the findings of the launch event. The website study emanated from remarks made by disabled students attending the launch who reflected on their experiences of attempting to find a suitable university place or placements for the year out period. They reported that websites were often the first stumbling block to entry to education or practice if this was inaccessible or gave no hint that a disabled person might be welcomed. One student commented that the website was the public face presented by the school or practice and as such its significance as an inclusive or exclusive factor should be explored.

An analysis of websites of schools of architecture and a selection of architectural practices was undertaken. This work was carried out to assess the extent to which a site either excluded or included disabled people from applying to study architecture or applying for employment. It seemed to be particularly critical for websites to provide sufficient information to enable a disabled prospective student to make informed judgements about the suitability of a school to meet his or her educational needs.

School websites
Criteria for the assessment of the web pages of schools of architecture were developed. These were used to formulate a series of questions to act as the basis for making judgements about the quality of websites from the perspective of a disabled person. The assessment was undertaken by a student with an impairment to make this assessment as realistic as possible. The websites of sixteen schools of architecture and their host institutions, where applicable, were assessed. The selections of websites for assessment were made to provide a balance of institutions across a range of schools nationwide. These were both new and long established schools, most of which, but not all, are universities. Some architecture schools within Russell group universities were also included. A list of the Russell group universities is included in the appendices.

Each website was assessed to determine whether there was any evidence of the institution showing an awareness of the social model of disability and the proactive duties to provide inclusive learning. In addition other aspects considered were rated under five bands; from very good to very poor.

Practice websites
26 practice websites were reviewed. The selection was made to provide samples from across the UK and to include small, medium and large practices.

As with the schools of architecture the websites were assessed in relation to evidence of the practice showing an awareness of accessibility and the proactive duties to provide inclusive employment.

Stage 7 Evaluation
After obtaining data from all the sources listed the findings were evaluated and used as a basis for the final report and recommendations. The findings of the report were discussed with a number of members of the original expert group assembled for the launch of the research.

Stage 8 Dissemination
The final stage of the project is dissemination. It is anticipated that the findings of the report will be disseminated through an event hosted by Architects for Change as well as through web links and articles.

Constraints
The principal constraint for this study was the limited budget available. This contributed to the fact that it was not possible to undertake a longitudinal study that would be able to capture a more comprehensive picture. Inevitably a cross sectional study can only provide a snapshot of the current situation. This difficulty has been addressed to some extent both by the personal histories cited in the questionnaires, the interviews and the personal profiles and stories of individuals' experiences including their career paths.

A further limitation was the absence of accurate data on representation of disabled people as architects. The statistical information available on education still raised some questions around the interpretation of the statistics. It only represents a snapshot of certain stages of students' progression. The tendency of disabled people not to disclose the nature of their impairment also means that figures have to be viewed with caution.

It is important to recognise that some aspects such as the full impact of the recession on disabled architects and students have not been explored in depth and require further research both quantitative and qualitative. However it is clear that some respondents have been affected by the prevailing economic climate.

Finally this study raised ethical issues that had to be addressed carefully by the researchers. Confidentiality has been maintained except where the express permission of an individual has been given to reveal their identity. Identities have only been revealed where there is a positive story to tell which illustrates good practice. Probing personal circumstances can cause stress and uncertainty, particularly in cases where a person's experience was negative and personally damaging to health and wellbeing. To address this, care was taken to brief the researchers effectively about their role and every effort was made to treat all participants with dignity and respect.

9 Encouraging disabled architects

There are strong arguments for encouraging disabled people to become designers and for finding mechanisms to support architects who acquire impairments during their working lives.

> "*The RIBA is here to make the best architecture flourish, because great architecture improves our lives for everyone, irrespective of who they are. Accessibility and the creation of accessible environments are absolutely central to good design and architecture; it is not something that is separate or added on. For too long, accessibility was all about ramps and handrails, but it is much more than that. It is actually about providing environments that are fit for people with a range of abilities, and it is vital that we listen to the needs of different people."*
>
> RIBA President Sunand Prasad (2007-2009*)*

Sunand Prasad, past president of RIBA, in the quote above, spells out one powerful argument. This relates to the contribution that a diverse profession can make to the creation of a built environment that meets the needs of a diverse population. Undoubtedly disabled architects, in common with any creative person, can make a significant contribution to the quality of the design of the built environment. One aspect of this contribution may be the promotion of an environment that is more inclusive and meets the needs of both client and user. Commentators over

many years have questioned the extent to which the profession has given a high priority to the creation of inclusive environments.

In Goldsmith's seminal work on designing to meet the needs of disabled people; a book that has occupied a place on numerous architects' bookshelves for many years, (Goldsmith, 1963), grave concern was expressed about the limitations on freedom of movement for disabled people

Figure 17: Cartoon by Louis Hellman

Goldman later described this in 1983 as the restriction of

> *"the right to be abroad in the land"* (Goldman, 1983).

Later works (Matrix, 1984) pointed out that inaccessible buildings and streets also disadvantaged women, carers, children and particularly elderly people. These concerns continue to be expressed, even though legislative codes have led to much stricter expectations of improved accessibility to buildings. Poor quality street environments, inadequate links between buildings and the accessibility and usability of public space and the space between buildings are particular problems (Manley, 2010). Although a number of efforts have been made to raise the profile of inclusive design, it remains a minority interest and is not mainstreamed in either architectural education or practice. Indeed, the extent to which the architectural profession has embraced or even understood inclusive design principles is debatable. Vanderberg (2008) quotes Langton Lockton as saying:

> *"Architects have on the whole been slow to appreciate the potential of inclusive design."*

De Cauwer (2009) explores the reasons why universities do not seem interested in teaching inclusive design. This is summarised as lack of time, lack of expert knowledge and the low priority given to inclusive design in competitions or commissions, which sends the message that there is no point in investing in making this change to the curriculum. De Cauwer goes on to say that there are just a handful of pioneers attempting to develop

inclusive design teaching. A further factor that may militate against the development of inclusive design teaching may be the low esteem and respect given to people interested in this field by their colleagues.

There are a number of different definitions of inclusive design and some misunderstandings. The Commission for Architecture and the Built Environment (CABE, 2006) indicate that "*Inclusive Design is about making places that everyone can use".* A definition by Omerod and Newton (2006) expands this by indicating that inclusive design is:

> *"a way of designing products and environments so that they are usable and appealing to everyone regardless of age, ability or circumstance, by working with users to remove barriers in the social, technical, political and economic processes underpinning buildings and design."*

One thing in common with the various definitions is the significance of user involvement in the process of designing buildings and environments. This point is regarded by commentators in the UK and elsewhere, (Preiser and Ostroff, 2001, 2010) as crucial to achieving a successful inclusive environment. The RIBA film, "Inclusive Design: Creating a user's world" (RIBA, 2009), produced by the Inclusive Design Committee of the RIBA as a means of raising the profile of inclusive design in schools of architecture, reinforces the importance of user engagement and provides a useful series of case studies on how it might be achieved.

There is some evidence to suggest that resistance to inclusive design may be because people think of the process as one that relates solely to functional rather than aesthetic aspects of design or one that is just about compliance with regulatory codes on a similar par to health and safety or fire regulations. However, many promoters of the principle make it clear that inclusive environments cannot be achieved solely by strict compliance with regulatory codes; the process is in fact much more cerebral and creative. Lifchez (1987) raised this as long ago as the late 1980s by pointing out that:

> *"an emphasis on technical specifications alone simply transfers disabled people into impersonal objects, wheelchairs with a given turning radius. While specifications are important they should serve as adjuncts to, not replacement for an understanding of how disabled people can live independently in a world designed by and for the able-bodied."*

Since this comment by Lifchez, there has been a worldwide movement towards the promotion of inclusive design that Ostroff describes as an evolving paradigm (Ostroff, 2010). Referred to as "universal design" in many countries, including the USA and Japan, the principles of inclusive design have gained ground internationally (Preiser and Ostroff, 2001, Preiser and Smith,

2010). Undoubtedly one strong reason for the move towards greater acceptance of the importance of raising the profile of an inclusive approach to design is associated with the ageing population in most western countries and some eastern countries such as Japan. Economic reasons alone mean that there is a strong financial imperative to develop inclusive environments where older people can stay in their own homes for as long as possible and not become benefit dependent.

Central government in the UK has indicated that planning policies should promote high quality inclusive design as part of the strategy for sustainable development (Office of Deputy Prime Minister (ODPM), 2005) and planning applications must now be supported by Design and Access Statements to demonstrate how the design meets this agenda. Nevertheless there appears to be ongoing professional resistance to the adoption of a design philosophy based on inclusive principles.

Ostroff (2010) believes that:

> *"Until universal/ inclusive design is infused in pre-professional and continuing education, the attitude of designers will limit their understanding and appreciation of diversity. They will continue to shape their designs for a mythical average norm, creating barriers that exclude participation of millions of people all over the world".*

Figure 18: New access to heart department of hospital (Manley 2011)

It could be that the professional resistance of some architects to inclusive design is associated with a belief that features needed to make a building accessible and usable by disabled people are deemed unaesthetic and thus detract from, rather than enhance, the quality and appearance of a building. Richard Weston in an article entitled "Minority Rule" (2000) expressed this view

vociferously by implying that the Disability Discrimination Act would result in;

> *"No more Spanish Steps, no more Sydney Opera House: is this the flattened out future to follow in the wake of the Disability Discrimination Act?"*

Weston went on to query whether the legislation would, in attempting to make architects behave more responsibly, merely

> *"force them to design buildings which all conform to a rigid set of rules.*

Certainly Weston's view might be given credence by an examination of some of the handbooks that advocate inclusive design. Examples portrayed reveal a tendency to put forward as good design examples of the accessible features of buildings which might be described as "add on extras" to the original design which pay little regard for aesthetics. Whilst it is important to be cautious of regarding architecture as a "high art" (Davies and Lifchez (1987) that is remote from the needs of people, it is also inappropriate for promoters of inclusive design to ignore or devalue the legitimate concerns of many architects who want to create beautiful buildings. The tendency of many supporters of inclusion to disregard aesthetics in the quest for functionality, may have led to a belief that inclusive design equates to poor design. The result is that many architects shy away from making the fullest possible contribution to the need to design inclusively, but also beautifully. In fact it could be argued that the design skills of architects are much needed in the field of inclusive design.

Figure 19: Inadequate colour contrast and confusing reflective surfaces in conference hall to modern public building

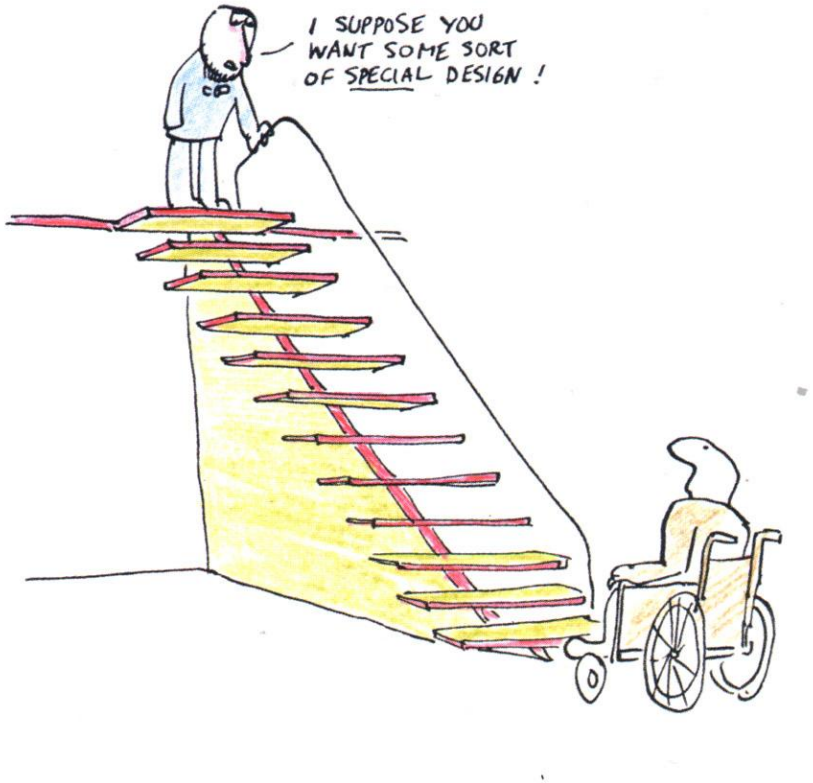


Figure 20: Cartoon by Louis Hellman

Figure 21: segregated stepped entrance to Plymouth School of Architecture (The route for wheelchair access is elsewhere. Steps are often used to *"add drama"* to the entrance experience).

Access auditors, qualified through membership of National Register of Access Consultants (NRAC) or other professional routes, are not necessarily designers and need the creativity of architects to move design for inclusion well beyond compliance with codes and regulations.

It is important to qualify this by pointing out that there is no intention here of implying that architects with impairments should automatically specialise in designing to accommodate diversity, for example by becoming experts on adaptations for disabled people or access auditors. Some may choose to take this route, but the implication is that disabled architects should be in the mainstream of design activity and that the contribution that they can make is of benefit to everyone through the effective use of their design skills and abilities in whatever field of activity they choose. Weaver's article on Piers Gough (2004), an architect who uses a walking aid, quotes Gough as saying:

> *"There are other people who are great on disabled access. I think I was put on Earth to be something else."*

However, it is almost certainly true that if more disabled people joined the architectural profession the culture of the profession would be affected. This may give greater recognition to the idea that inclusive design is much more than a simple set of solutions to ensure disabled access to buildings. Significantly for this project the likelihood is that awareness of inclusive design principles may also impact on the way in which architects who are tutors in schools of architecture or employers out in practice would be likely to develop greater awareness of the general contribution that disabled people can make to society. This could impact on the extent to which disabled people are accepted as equal partners in the design of high quality architecture.

Business and commercial: utilising diverse talent for a diverse population

It is evident that providing equality of opportunity for disabled people is a central tenet of a civilised society. However, it is also worth recognising that restricting the pool of available talent also disbenefits society if the wide range of skills and abilities and cultural preferences of disabled people are ignored (Dainty et al, 2007).There is also evidence to suggest (West, 1997) that some disabled people do have enhanced understanding of particular aspects of design and visual-spatial thinking, although insufficient research has been carried out to be able to assert this as a fact. Nevertheless anecdotal evidence implies that certain impairments do seem to be linked to enhanced abilities in some relevant areas. For example, dyslexia may be linked with higher levels of aesthetic appreciation or spatial awareness, as is witnessed by the relatively large number of people recognised as dyslexic who are successfully practising as architects. Richard Rogers is often quoted as an example of a person with dyslexia, who was regarded as stupid by his teachers and yet has reached the highest level in the profession (Bedell, 2006).

The implications of utilising the skills of disabled people in the profession and the possible effects on the environment have already been mentioned, but it is worth noting that as Bagilhole pointed out in 1997:

> *"a diverse workforce leads to a better informed and more innovative and adaptable organisation that is closer to its customers".*

The Confederation of British Industry Report, (CBI, 2008) found that companies that worked to fulfil their legal and moral responsibilities to ensure a diverse workforce noted a number of tangible business benefits which included improved employee satisfaction and reduced staff turnover, but also

> "*understanding better how the company's diverse customers think and what drives their spending habits."*
> CBI (2008)

There is a business case to be argued here that the more informed an organisation is through its representation the more likelihood there is of achieving quality and consequently business through reputation, although as the name of the CBI report, "Talent not Tokenism" implies, the recognition of the benefits of employing disabled people in architecture should not be tokenistic.

Another aspect of the business case for supporting disabled architects in the profession is that it makes sense to retain architects who acquire impairment during their working life. The length of architectural education in itself implies considerable cost to the individual (see figure 22).

It is estimated that at 2010 prices it cost a student £9,870 in fees and between £23,000 and £28,000 in living costs to complete a Part 1 course. The Browne review of university fees which is going to lead to a possible tripling of university tuition fees adds even greater weight to this argument (Independent Review of Higher Education and Student Finances in England, 2010). If the fee levels do rise to £9,000, students would be accruing a minimum of £27,000 on this element alone in completing Part 1. From the business perspective, supporting an employee through the final stages of qualification at Part 3 stage may involve considerable costs. Even if the employee pays his or her own costs for fees and subsistence, it is likely that the employer will contribute to some extent by allowing days off work for examinations or university attendance. Consequently losing a highly qualified employee because he or she has acquired an impairment does not make financial sense. This does not imply that disabled people should continue in employment if they are unable to meet the required competences of their role, but it does imply that there is a strong business case for retaining qualified people and making adjustments to their working life as necessary in order to retain the skills and experience within the practice. The Access to Work scheme provides support for people whose health or impairment affects their working lives and this is a factor in weighing up the financial arguments for the retention of an employee who acquires an impairment. Access to Work (2010) can provide financial support for adaptations to the work environment, equipment, travel costs and even support workers as a means of helping to keep disabled people in employment.

There is little doubt that the economic downturn from 2008 onwards has added to the pressures of disabled people in the workplace, but as pointed out by the Equality and Human Rights Commission (2010) it is likely that nine out of ten jobs in the next

decade will be in professional or managerial sectors and consequently it is important to ensure unimpeded access to all the professions, including architecture. It should also be recognised that a considerable percentage of students studying Part 1 architecture do not enter the profession, but use their creative skills in other professions, thus adding to the pool of people likely to be required nationally in the next decade.

Clearly the impacts of the recession and the implications of the 2010 Conservative/ Liberal Democrat Coalition Government's decision to cut public spending on projects such as Building Schools for the Future will have implications for many architects and raise concerns about the flow of work. This seems to imply that for business reasons alone architects need to be closely aware of client and user needs, such as the expectation for more inclusive environments. The result of this is the growth of access consultancy businesses which are not architect led. It could be argued that architects are missing business opportunities by not developing and marketing expertise in the area of inclusive design?

In a report produced by the RIBA Council in 2006 Helen Taylor stated:

> "*Architects are not getting involved [in access and inclusive design] and so clients are going to access consultants rather than architects. Architects do not have time, or take time to understand the needs of disabled people."*

More significantly for the design of the built environment, the implications of reaching design solutions that have been arrived at without the benefit of an architect's creativity, may result in poor design outcomes that may even be destructive to the original design concept of a building. George Ferguson commented in response to Taylor's report:

> *"I am offended everyday by the result of the work of access consultants." (CMNews 01-06)*

Ideally at the very least architects should be working co-operatively with access consultants and disabled people. In practice it could be argued that some architects feel that inclusive design is not their province. Particularly in times of economic recession, it is inadvisable for architects to distance themselves further from the needs of clients and users.

Example of student outgoings and income over architectural education at a typical School of Architecture 2010

Stage	**No of years**	**Fee per annum**	**Fee per stage**	**Living costs per annum**	**Living cost per stage**	**Salary** (Salaries vary widely)
Part 1	3	£3,290	£9,870	£7,967-£9,365	£23,901-£28,905	
Supervised Stage 1 Professional Experience/Year Out	1	£ 250	£250	£7,967-£9,365	£7,967-£9,365	£17,692
Part 2	2	£1200-£3290	£2,400-£6,580	£7,967-£9,365	£15,934-£19,270	
Supervised Stage 2 Professional Experience and Part 3 course and professional examination in architecture	1 min	£250 £1,760	£250 £1,760	£7,967-£9,365	£7,967-£9,365	£24,000
Totals			**£14,530-£18,710**		**£55,769-£67,445**	

Figure 22: Architecture student costs 2010 (information extrapolated from a number of university websites)

The image of the profession:

The argument about utilisation of talent leads on to what might be described as a business case for greater diversity in the architectural profession associated with its external image. It has been argued that the construction industry generally has become too focused on performance outcomes and meeting targets and has in consequence failed to consider human needs and people issues (Gale, 2006, Dainty et al, 2007, de Graft-Johnson et al, 2007). The

extent to which people value the contribution of architects to the process of design and development may well be linked to the perception of the ability of the professional to meet the client's needs and expectations in a cost effective way. Imrie and Hall (2001) quote an access consultant as remarking:

> *"it does seem to be that for these big boys in the architectural world that the needs of people, let alone disabled people, are not really the point, people's needs don't really come into it."*

Public perception of architects' attitudes to user needs and public engagement remain rather jaundiced with many people echoing the view that architects continue to believe the point expressed by Walter Gropius that it is undesirable to talk to building users because they are *"intellectually undeveloped*" (quoted by Imrie and Hall, 2001) and thus not capable of understanding the artistic and aesthetic ambitions of the designer. Whilst there may continue to be some truth in the view that the public understanding of design is undeveloped, there is no shortage of public interest and it could be argued that if architects do not engage with the public's desire to be more involved, they will become increasingly less influential as other professionals step in to claim the architect's territory (de Graft-Johnson et al, 2007).

The Labour Government passed legislation that extended the public sector duty to ensure that all activities took into account the need for equality. The implementation of the legislation has been delayed. However there is an increasing likelihood that public sector commissioning bodies for new development will need to look at the extent to which the architects they employ are mindful of equalities issues. The image of a particular practice could be enhanced and possibly the chances of a practice obtaining public sector work might be improved by making clear statements on websites or other publicly available materials about the commitment of the practice to the development of a diverse profession. For example, many public sector organisations use the two ticks accreditation to demonstrate that they take a fair and positive approach to disabled people (see figure 23). To achieve this, employers must make the commitment to employ and retain disabled staff and develop their abilities. The two ticks commitments are mainly a statement of what might be described as good practice in recruitment and continued employment of disabled people. Undertaking good practice may nevertheless make good business sense as well as fulfilling moral obligations.

Two Ticks Accreditation

These commitments are to:

- interview all disabled applicants who meet the minimum criteria for a job vacancy and to consider them on their abilities
- discuss with disabled employees, at any time but at least once a year, what both parties can do to make sure disabled employees can develop and use their abilities
- make every effort when employees become disabled to make sure they stay in employment
- take action to ensure that all employees develop the appropriate level of disability awareness needed to make these commitments work
- review these commitments each year and assess what has been achieved, plan ways to improve on them and let employees and Jobcentre Plus know about progress and future plans

Figure 23: The commitment required of employers under two ticks accreditation

Setting the scene: the conclusions

It is evident that there is a set of arguments that fall under the five themes set out in figure 24 that creating a climate of success for disabled people in architecture makes sense. The themes cover environmental, moral, business and commercial, image and legal aspects.

The law alone makes it clear that the architectural profession has duties and responsibilities to create an environment where disabled

people can thrive. The legal aspect is the mandatory element and may therefore be deemed to be the overriding strand. However the imperative to act within the law is reinforced by the moral obligation to uphold the profession's image through fair and ethical behaviour. A strong business case is made through all five aspects in terms of creating environments that meet the needs of clients and users, adopting an ethical stance must act to promote the image and reputation of architects and to enhance the commercial prospects of practices.

Legal	Ensuring that architects fulfil their legal responsibilities as employers and providers of architectural services
Moral	Contributing to the establishment of equal rights and opportunities for disabled people so that individuals can achieve their true potential
Environmental	Raising the profile of inclusive design to the benefit of the quality of the built environment and the needs of clients and users
Business and commercial	Ensuring that the talents and abilities of creative people who can make a contribution to the architectural profession are not wasted Ensuring that architects take responsibility and retain control over all aspects of the design process including accessibility and user needs
Image	Demonstrating to clients that the architectural profession is representative of the people it serves and in tune with client and user needs.

Figure 24: Five strands of arguments for inclusive practice

10 The findings of the questionnaire

Profile of respondents

The first stage questionnaire was directed at disabled practitioners and students. The questionnaire was broken down into sections and covered general biographical information, early experiences, experience in higher education and then through to practice. Respondents were asked not only to provide feedback on what had happened to them personally but also to comment and make recommendations on what could improve the experience and participation of disabled designers.

A total of 88 people responded to the questionnaire and of the respondents who provided information on gender 56 were male and 27 female.

It is evident from the responses that there was a reasonable geographic spread of respondents although the largest group were based in London (20 people) or the south east (4). This reflects the distribution of architectural practices. 13 respondents were based in the east of England and three in the south west. Scotland and Northern Ireland each had five respondents and two were from Wales. A small number of people from other countries outside the UK also completed the questionnaire demonstrating that the research area covers an issue of international interest and concern.

The age range of participants was spread across all age groups from 20-25 years old through to over 70 but with more responses from disabled people below the age of 31. 73% of the respondents were under 46 (see figure 25).

Age of repondents	
Age	**Number of respondents**
20-25	16
26-30	18
31-35	6
36-40	8
41-45	11
46-50	5
51-55	4
56-60	3
61-65	2
66-70	5
71+	3
Unknown	7
Total	**88**

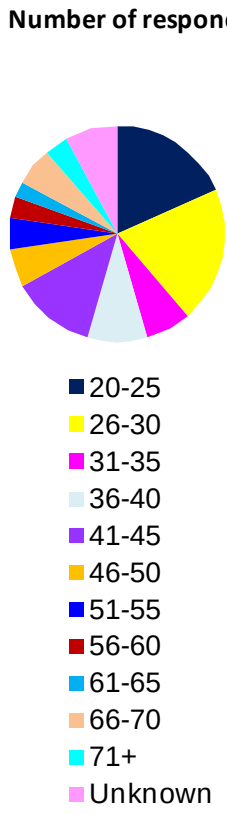


Figure 25: Age profile of respondents

Of the respondents who confirmed whether or not they were born with an impairment 37% confirmed that they were (see figure 26).

Born with an impairment

Yes	28
No	48
Unknown	12

Figure 26: Respondents who were born with an impairment

The respondents who were not born with an impairment were asked about their age at the onset of their impairment. 58% had acquired an impediment at the age of 21or over and a further 10% from the age of 16-20 (see figure 27).

People were asked to disclose the nature of their impairment if they were happy to do this. This is a sensitive question as many people feel unwilling to describe themselves by reference to the impairment. However, it was considered to be important in order to find out the range of different impairments experienced by disabled people who were studying architecture or working in practice. This was partly to challenge stereotypical assumptions about disabled people, but also to shed more light on respondents' personal experiences and career paths. 82% of respondents did disclose their impairment as indicated. A fairly wide range of impairments was represented as indicated in figure 28 below. The largest group numerically was people with hearing impairments followed by people with dyslexia. Physical impairments were reported by 13 respondents and only five people reported mobility impairments

Age of onset of impairment

Age	Number of respondents
0-1	1
1-5	7
6-10	4
11-15	3
16-20	5
21-25	3
26-30	2
31-35	4
36-40	2
41-45	2
46-50	2
51-55	0
56-60	3
61-65	1
66-70	0
71+	0
unknown	9

Figure 27: Age at onset of impairment.

Comparative range of impairments

Impairment	No. of respondents
Critical illness	9
Dyslexia	14
Epilepsy	3
Hearing impairment	17
Mental health	8
Mobility impairment	5
Multiple impairment	1
Physical impairment	13
Visual impairment	2
Unknown	16
Total	**88**

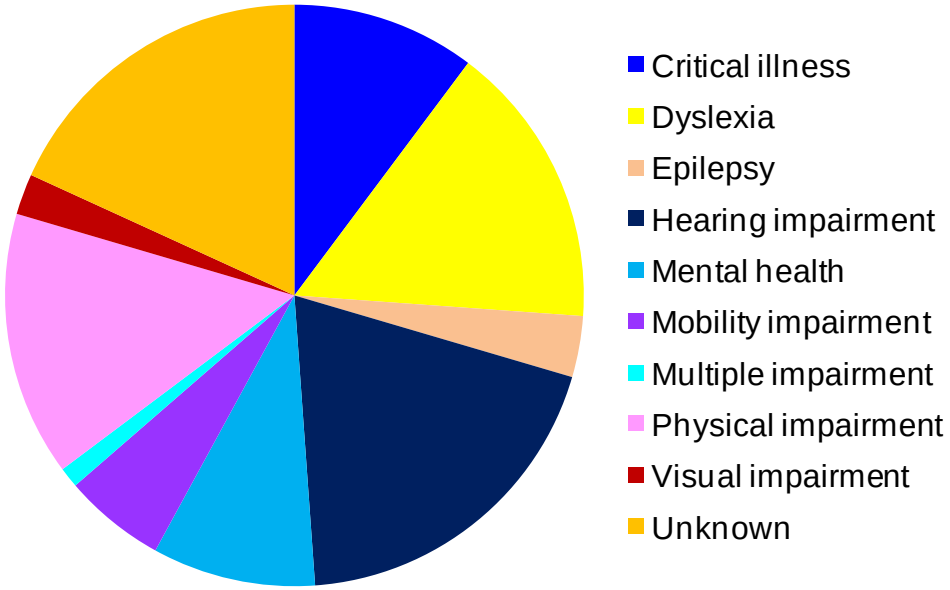


Figure 28: Impairments reported by respondents

Early experiences

Nearly all of the respondents who completed this section became interested in architecture during their school days including a few before the age of six. Many cited the fact that their interest was sparked through playing with Lego or other construction toys or through stimulating visits to historic environments. It was interesting to note that 66% of respondents to whom this question applied did not feel that they received encouragement from anyone to study architecture when they were a child. Those who were encouraged by others had mainly received this encouragement from family members, some of whom were architects or in related professions. 21% of respondents felt that they had been actively discouraged by

others from entering the profession. This included negative advice from schools. For example one respondent commented;

> *"My headmistress felt that my family had suffered enough and that I would increase their suffering if I embarked on a course which I was physically not suited to. I had also missed two years of school and in those days you weren't provided with educational support for extended periods of illness so felt that I was not clever enough. In reality I just hadn't had the same education as my peers".*

It is significant that most respondents had not received encouragement to study architecture from careers advisors. Only 28% of respondents to the question reported that they had received any careers guidance that offered encouragement. 21% felt that schools' careers guidance had actively discouraged them from entering the profession. One respondent reported a particularly extreme example of discouragement by saying;

> *"The school careers advisor said I wouldn't cope because I was dyslexic and suggested being a plumber or an electrician. Two occupations I don't look down on in any way but neither were careers I personally wanted to pursue".*

It is evident that other factors affected the advice given to some respondents and three reported that they were discouraged from entering the profession because it was not seen as an appropriate profession for women. Others were discouraged for more than one reason.

> *"On the basis that I am a woman and would be having children. On the basis that it is a profession for the upper classes and not for the likes of us".*

It is evident that some of this discouragement took place a number of years ago although it is worth recalling that the majority of respondents (73%) were under 46 and 34 people were under 31 years old. Looking positively, attitudes may have changed since the experiences of at least some of the respondents; however it is likely that judgments continue to be made by non-disabled people about the extent to which a particular impairment will prohibit the chances of an individual studying architecture successfully. Indeed during the course of this research, the team were contacted on behalf of a student with cerebral palsy who wanted to be an architect. This individual experienced wholly negative attitudes from some schools of architecture. The reported responses were mainly on the lines of:

> *"You are not a suitable candidate to study architecture".*

The judgements made in all these cases were based solely on the disclosure of the candidate's impairment and not on an assessment of his abilities.

It is not surprising that many disabled people do not disclose the nature of their impairment when applying for a university place. As one respondent said:

> *"[I] didn't want it to act against my application."*

However, it is interesting to note that a substantial number of respondents were not disabled at the time of entry to the profession

or were unaware of the impairment. This latter point mainly related to students with dyslexia or another learning difficulty or to students whose impairment became more noticeable and problematic as the course proceeded because it was a degenerative condition or a condition that was exacerbated by stress.

Respondents were asked to make suggestions for ways in which the RIBA could encourage more disabled children and young people to become architects. One respondent gave the following answer to this question:

> *"From a young age to monitor and encourage those children who show creative ability, a love for art and extraordinary practical and technical skills in art and craft and computer work. The RIBA should become involved with schools and the education of disabled children and how best to bring out these skills and improve them with structured language to make it more meaningful. ……*
>
> *I also think that children need to be more aware of the important link between buildings and the future of communities in towns and cities. The RIBA, in consultation with the education authorities and local architects, should introduce children to various types of buildings and the professionals involved at every stage ……..."*
>
> *"A new subject could be introduced into the schools curriculum – so that when options have to be decided by the children, they could choose "art, design and architecture."*
>
> *"I cannot emphasis enough that the language aspect needs to be considered as much as the design elements of architecture and taught in a gradual and progressive way."*

Experiences of Schools of Architecture

Figure 29 shows the stages that people had reached at the time of the survey.

Stage of Architectural Education	
Not answered / not applicable	37
Part 1	12
Part 2	8
Part 3	2
Stage 1 work experience	6
Stage 2 work expereince	4
Total	**69**

Figure 29: Stage of architectural education reported by respondents still studying

Years	Stage	Qualification where applicable
1-3	Part 1	BA (Hons) Architecture or equivalent
4	Stage 1 Professional Experience: (Year Out) Work Experience	
5-6	Part 2	Qualification varies. Examples are Bachelor of Architecture, Diploma, Masters or other qualification
7	Stage 2 Professional Experience: (Minimum 12 months)	
7+	Part 3	Part 3 qualification is final step towards registration as an architect. Time period varies
Qualified to apply to Architect's registration Board (mandatory to call oneself an 'architect' and RIBA for membership (not mandatory)		

Figure 30: Typical stages to education and qualification as an architect

The study of architecture involves a considerable time commitment. Figure 30 shows a typical pattern of full time study and work experience although in practice many students progress to qualification over a longer period. In responding to a question about whether the respondent was still studying architecture 45% of the 65 people who responded were currently studying with 38% at part 1, 25% at part 2 and 6% at part 3.

Pre-entry to architecture schools

The experience of disabled students prior to arrival at the university was probed in the questionnaire. The issue of disclosure was raised and elicited a varied response with 28 respondents confirming that they did not confirm their impairment versus 27 who did. Whilst some evidently did not think that declaration was relevant or would affect their studies, it is clear that some of those who did not declare were concerned about discrimination and/or stigma.

> *"I thought I may be discriminated against"*
>
> *"Didn't want it to act against my application"*

One respondent specifically raised issues faced by people with mental health problems and stated:

> *"There was more stigma around mental health problems then than there is now, and even now there is a lot. I was ashamed. I wasn't aware of my learning difficulties so couldn't disclose them."*

Further information was sought about specific actions of schools of architecture. It was considered useful to ascertain whether schools of architecture were anticipating the fact that some students may need additional assistance to enable them to benefit from their

studies. It was apparent that the experiences were very variable. Good experiences included:

> *"There was a specific meeting with a special needs liaison officer and architecture department staff members to confirm access requirements"*

Another student who received detailed information confirmed:

> *The Disability Support Advisor outlined what could be provided for my specific requirements such as interpreters, note-takers, English support and the help she and her department would give me etc. I received information from [……..] Council regarding grants etc.*

However the majority (60%) of the 55 people who responded to this question did not receive any information about learning support or access arrangements prior to enrolment. Similarly the amount of information available to students from websites was revealed to be of variable quality and usefulness. In responding to a question about how pre-enrolment information could be improved there were a number of suggestions which pointed to the general view that receiving information before enrolling was extremely useful to enable students to make informed choices about course suitability. One respondent wanted

> "[more] *information on what we are entitled to ask for, what help is available, what are our rights, what to do if we are excluded or mistreated, information that makes us feel less bad about ourselves, information on where to go if we are having difficulty."*

Information required by prospective students related not only to support available but also to the physical environment of schools of architecture.

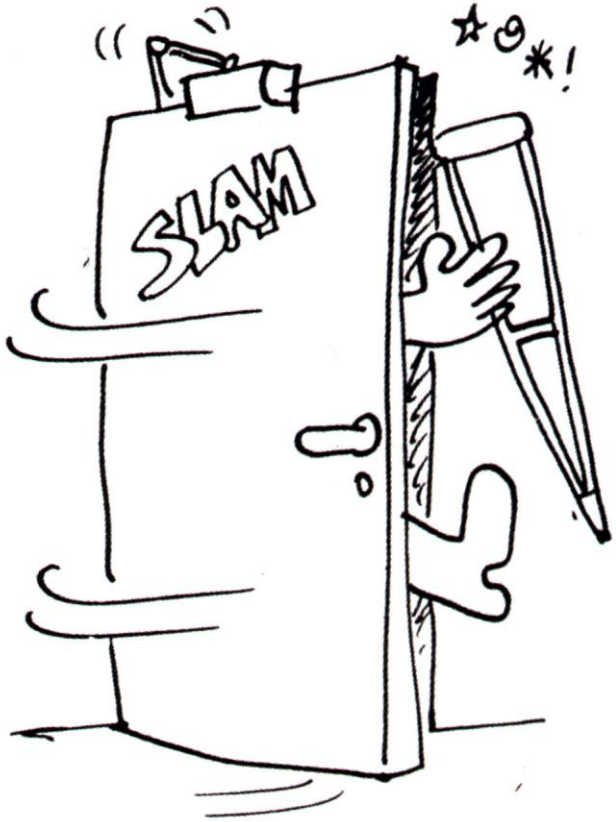


Figure 31: Cartoon by Louis Hellman

It was evident that a substantial number of students (48%) were surprised by the demands and expectations of an architecture course. This seems to reinforce the importance of providing good quality information for all students about the nature of architecture courses. Disabled students in particular need to understand the requirements of the course and thus be able to prepare themselves effectively so that they can benefit from the course from the beginning. As another respondent commented:

> *"Forewarned is forearmed".*

The strong emphasis placed on the importance of information prior to enrolment led the research team to the decision to explore the ways in which websites were fulfilling this purpose. Clearly for some respondents the web had not been the first choice of information, mainly because at the time of their entry the web was either not available or under developed in comparison to the current situation. However, the increasing use of the web by everyone including what has been described as the *"Google Generation"* does indicate the significance of the web as a source of information both prior to and during studies.

Funding and support

Obtaining funding through the Disabled Students Allowance (DSA) (or the Scottish or Northern Ireland equivalents) was a critical consideration for students who had been educated since the introduction of the allowance in 1993. The DSA application should trigger an assessment of needs to identify the specific learning aids required or to identify adjustments needed to facilitate learning. In many cases the DSA will fund computers or other technical aids for students who are unable to function effectively without this equipment. It can also fund other provisions such as interpreters or note takers for hearing impaired students. The experience of the respondents was probed in the questionnaire to identify the experiences of the students in relation to obtaining the funding in a timely manner. 67% had received some financial support. Again there was a wide variety of experiences. 61% stated that they had not encountered problems receiving financial support and commented that the funding had been essential to enable them to benefit from the educational experience. Some students received their funding promptly or the university funded learning support in anticipation of the DSA. One current student confirmed:

> *"I have an excess of support services available to me including expensive equipment, tutor time, and a mentor."*

Others had a less successful experience. One respondent commented:

> *"It took ages for the LEA [Local Education Authority] to provide my disability allowance. It took a year to obtain a simple piece of equipment. I was in constant contact with the LEA, chasing the progress because I desperately needed the support. It was a very stressful process".*

Another student encountered serious difficulties and stated

> *"It was a nightmare. And we had to have a top level meeting to iron out problems because of insufficient funds. Everything got so bad [ ] that my Mother contacted many*

charitable organisations to get funding for me without success. Then my parents agreed to help all that they could because I didn't want to leave. (NB: they gave financial assistance throughout my years of study). Eventually the university agreed to fund the overspend, which they had to do as they had accepted me on the course. Eventually I had 17 different interpreters in six months. After all, I had a lot to organise and I wanted to be able to concentrate on my course and not all the other problems. (I wanted to get off to a good start).

The variability of experience at different universities was underlined by the fact that respondents who studied at more than one higher education establishment reported different situations with regard to their experience of support at different universities. In fact some students had deliberately moved to a different institution following a poor experience during their Part 1 studies. The student who described his experience as *"a nightmare"* went on to confirm that:

"At [the next university], their approach was better about funding but the DSA Advisor was hopeless and communication broke down with the council. However, there was never enough money in the fund to get the help with English that I needed at Uni. because they tried to stretch the budget out until the end of the course. My Mother assisted with English whenever she could and this proved to be the best solution to this problem. The problems with funding affected the budget for communication support – it was impossible to achieve continuity, using only a few interpreters (experienced in architecture) on a regular basis because their fees were slightly higher."

It is evident that when the appropriate support was provided students appreciated this help and benefitted from it. The main problem identified was the time lag between the identification of need and the provision of the appropriate support. One respondent summed this up by saying:

"The support staff were very friendly. The final year of my studies provided me with the support I needed, it's a shame the process wasn't quicker so I could have benefitted during the second and third years".

Personal Profile: Female Student Age 20-25 Part 1 2004- 2008 Hearing impairment

"When I started my course I found it difficult to understand the lecturers and in the busy studio environment I had the embarrassment of constantly needing to ask my friends what was going on. I did not realise at first that I was losing my hearing. Towards the end of the year I was referred to an audiologist and arrangements were made to supply hearing aids. The process of achieving this was long and tedious and I became depressed about my medical diagnosis. I had little energy to chase people at the university to provide the necessary support to enable me to continue the course. Applying for the Disabled Students Allowance (DSA) was laborious and took over a year. The gap between my diagnosis and the receipt of the DSA grew longer and I was worried about my overall academic performance. The university did appoint a note taker before the allowance was confirmed, but this did not work out, mainly because the note taker did not understand the technical vocabulary used by tutors.

One thing I found particularly difficult was that I had to explain my hearing problem to the new tutors I encountered each year. Somehow, despite the Disability Advisor sending e-mails to the tutors explaining my situation, the channels of communication just did not work. At times I felt humiliated by the repeated need to disclose my condition and disadvantaged because I could not answer questions put to me in crits or presentations; not because I did not know the answers, but because I could not hear the question. The way in which final year crits were arranged was primarily to enable students to hear the critic's comments made on their own work and that of other students. However, I was excluded from this process, because I could not hear what was going on and no effort was made to enable me to participate.

The support I received from tutors was very variable. Some staff were helpful, but others seemed to constantly sideline me and did not offer me the tutorials that I needed to improve my final year design schemes. It was as though they had already decided that I would not be successful. During this year I was feeling particularly low and almost ready to give up. At my request the Disability Advisor organised a meeting between me and senior tutors to discuss the problems I was experiencing. This did prove useful, but what a shame that it did not happen earlier in my course. With more specific support I may have felt more confident in my ability. In fact at the end of the course, although I received a 2.1 degree, I felt drained of energy and lacking in confidence and did not apply for a year out placement. I suppose you could say that I felt scared of failing as an architect. It might have helped me if staff had given me more of a push towards obtaining a placement to show that they believed that I had a bright future as an architect."

Expectations of the course

Architecture is not a subject that is typically taught before entry to higher education. Unless students have a family relative or know someone who is working in architectural practice they have little understanding of what is entailed in studying architecture. Students were asked whether they were surprised at the expectations and demands placed on them by the course. Responses in relation to expectations at Part 1 were fairly even with 52% of respondents saying 'no' and 48% yes. At Part 2, obviously because students were more au fait with architectural education only 15% expressed surprise. Similarly at Part 3 16% raised expectations as an issue.

Of those that expressed surprise, time factors seemed important whether it was the long-hours culture or whether things took longer to accomplish.

> *"Part 1 was a far more intensive course than I'd anticipated and is not reflected in the prospectus or student loans.*
>
> *I was utterly overwhelmed and unable to keep up. I now know why I had so much difficulty reading and writing (particularly in exams), but this was never picked up (despite the fact that project work grades often far exceeded grades for written work). I was expected to stand up in front of everyone and be heavily criticised without ever getting any support for how to deal with this sort of feedback. Tutors sent out a variety of mixed messages that didn't help things.*
>
> *Part I - it was the sheer volume of work & the speed at which it had to be done to a high standard but I think this is very normal & right. I was used to it by the time I reached Part II & Part III is expected to be difficult as it represents the chartership* (sic)."

One respondent with a hearing impairment raised the following issues:

> *"The most profound problem was that most people at both these universities did not realise that having a profoundly deaf student with limited intelligible speech, and poor lip-reading skills needed more structure and time for language, especially for reading, and that more effort was required. Throughout the course this was needed for participating in lectures, crits, tutorials, presentations, discussions, meetings and for the research required for projects and essays (also other written work e.g. dissertation thesis, strategic report, etc.). I had to work a great deal harder to show that I was on a par with the other students. The pressure to keep up was ongoing, as the course progressed with each new project and assignment and also with booking the support I needed in advance. On many occasions this was at short notice, so I could receive an interpreter with no previous experience in architecture. Although they acknowledged this they didn't fully understand the effect it had on me until well into the course when I became exhausted. I needed to be completely involved at every level but this could be jeopardised, especially when communicators did not arrive."*

Experience of discriminatory behaviour

On a positive note most students (64%) did not feel that they had experienced any discriminatory behaviour or been treated with disrespect during their time at a school of architecture. In answering a question about whether the respondents felt that they had received equal access and opportunity at architecture schools again most students considered they had. Several students had studied at more than one university and 64%, 75% and 63% of respondents gave positive responses respectively for the first, second and third schools of architecture studied at. One respondent, whose experience improved during their architectural education, commented that:

> *"The tutors began to respect me and began to see things in a different way and were in regular e-mail contact with me. They also liked my sense of humour, enthusiasm and desire to learn as much as possible".*

It is likely that settling into the academic environment and gaining confidence to develop a suitable coping strategy for learning is more challenging for disabled students than for non-disabled students. The difficulties of entering into social networks were raised by a number of respondents who felt that the need to work particularly hard to keep up with the course had restricted their social lives. Clearly students can succeed and become independent and confident learners. Finding ways of entering into contact with their peers may have a substantial impact on the development of independence and the opportunity to receive and give support to others so that the individual becomes a respected member of the group. One respondent summed this up by remarking:

> *"Also, as part of the courses, there were field study trips / site visits and it was during those trips (sometimes abroad) that I was able to interact socially with other students. I tried to get by without an interpreter for many of these trips because there were insufficient funds in my budget and also because I wanted to cope by myself. On those occasions some students would take notes to help (some also acted as note-takers at University). I feel that they could see that I was a hard working and enthusiastic team member wherever our studies took us".*

Developing confidence to become a respected member of the group is likely to be affected by the extent to which an individual experiences either positive or discriminatory behaviour.

The fact that a relatively small proportion of people reported direct discrimination or inequality still left a substantial number of people who cited unacceptable incidents and situations. The behaviour of some tutors and other staff members, including, rather surprisingly, support staff with responsibility for disabled students, gave cause for concern.

One student described experiences which occurred during his first two years at architecture school.

> *"In my first year comments were made by a small number of lecturers about dyslexia. In my second year I have felt for the*

first time in my life discriminated against by a head of year lecturer by being told off for using a dictaphone to record a lecture, when other students next to me who have no disabilities weren't even questioned were also recording. People were shocked when it happened and I was quite upset and I felt like quitting architecture, other comments include from other senior lecturers "you're all the same you only need 5 min at an end of an exam"

Some of the behaviour may have been unintentional as one respondent noted:

"It [discriminatory behaviour] was only in an unintended way (based on ignorance, not malice)."

Whether or not this type of behaviour is unintended, it is evident that lack of respect or an implied indication from tutors that an individual is not capable of succeeding can undermine the confidence of a student. Some students took a number of years out because of their experience.

"I took 3 years out after completing the first year. I became very depressed during second year and had to leave. The attitude of the teaching staff towards my disability was appalling, so I decided to switch institutions when I came back to finish the course last year."

Another student described how the situation was exacerbated by the unacceptable attitude of a part III tutor.

"I stopped studying for part III for several years after I [….] suffered a brain haemorrhage. I already struggled with purely written examinations due to my dyslexia (which was diagnosed after the haemorrhage). The dyslexia was made worse by the haemorrhage and I also (still) had dysphasia - which although [it] *is not very bad does show up in a technical professional context. I lost confidence and was also told by the part III tutor [……] at the time that he didn't want any 'duffers' with difficulties on his course & not to apply again."*

For a couple of people the educational experience was so difficult that they had ceased studying. One respondent reported:

"I was completely discouraged and felt utterly worthless. I was excluded by my peers and felt like an utter failure. I did not feel I was good enough to carry on. Added to this, I did not feel able to go through any more of (what was to me) an extremely traumatic education process".

Although there is insufficient evidence to draw a definite conclusion it appears that tutors are less tolerant of mental health problems than they are of physical impairments. For example, respondents reported:

"When I told my tutor that I had depression she laughed in my face. She also said that I was lucky to be there despite having got a high 2:1 in first year. Clearly she had no appreciation that my disability had affected my studies in 2nd year".

Another student indicated that their experience had been very bad and stated:

> *"My design education has traumatised me, and despite being creative and able in this field, I feel that continuing will be detrimental to my health. As such I am unlikely to continue with it. I have suffered enough".*

The above instances provide examples of ways in which disabled students' confidence could be eroded. Confidence can also be undermined by a sense of injustice when a student is treated less favourably than a non-disabled peer. A number of respondents reported a sense of grievance associated with what was regarded as unfair treatment that affected the individual's overall performance and sense of worth. One respondent commented:

> *"In a presentation, a lecturer marked me down on my inability to answer a question that I could not hear"*

The studio environment and experience of teaching style

The physical and mental health challenges experienced by the respondents were probed in the questionnaire. There is a long tradition in schools of architecture of students being encouraged to work in a studio environment, and many do so. It is therefore of concern that 60% of the 48 people who answered this question felt that their mental health or well being had been adversely affected by their experiences. This compared with 33% who felt that the studio represented a difficult physical challenge. Many of the comments about both the physical and mental difficulties of the studio related to noise and lack of privacy. Some students found the studio environment distracting. In pointing out some of the shortfalls of the studio one student commented:

> *"Mentally very much so-rowdy, judgemental, crammed, intimidating (in personal study time only). Very much pressure applied and slim time allowances."*

> *"My anxiety levels were through the roof. I can't work in big crowded and noisy environments; however I was expected to be there every day".*

A relatively small number of students cited issues associated with physical access and other aspects. Comments on physical aspects of the studio included inadequacy of lighting which led to migraines and:

> *"not enough space to work."*

It is evident that some students felt or were excluded from or isolated in the studio environment.

> *"More able students were allowed to take over the studio spaces, forcing you to work at home - limited space. I worked slower than most students and felt I couldn't demand the space as I would need it for longer."*

> *"Not having permanent personal work space in the studios meant sometimes working in isolation"*

A significant number of respondents commented on the heavy workload required to successfully complete the course and the

long-hours culture. Two students reported on their experiences as follows:

> *"My studio tutor told me I should be working a 60 hour week or there was no point in being there at [X]."*
> (X= school of architecture)

> *"I sometimes felt overwhelmed by the amount of work and, when tired and in pain, felt quite depressed that I wasn't capable of it all"*

Some hearing impaired students found lip reading exhausting for long periods of time. This often led to misunderstandings about what was required by tutors.

A number of students complained about changes to announcements about design projects and what might be described as ad hoc organisation by tutors.

In spite of the difficulties associated with the studio many students nevertheless continued to have a positive view of the experience even though they had reservations. One respondent commented:

> *"Wonderful. I loved the interaction of attitudes and personalities. Criticism sessions were always a delight".*

Another described the studio as:

> *"Very interesting and stimulating. The downside being that studio-based teaching involves a very personal relationship with tutors. However, tutors are not trained to understand mental health issues. Some of them are ill at ease with such issues and the ensuing discomfort does have substantial adverse effects on one's learning".*

The review process

Work produced in the studio is normally subject to a critical review "the crit". Previous research Webster, H (2007) on the impacts of design reviews on students whilst highlighting some positive aspects has revealed some concerns. The following comments by respondents reflect some of these:

> *"I was terrified of presenting my work to others and being criticised every time and of not understanding the tutor's comments when the other students could. It was very stressful. I think the tutors didn't realise the extent to which I found it difficult and I was too timid to communicate it to them and ask for help - I didn't know how to; I was scared and kept a low profile."*

Another student put it more succinctly and emotionally:

> *"'Lambs to the slaughter' would aptly describe the process pre-graduation. Not great for someone with mental health or communication difficulties - but perhaps does prepare you for the more extreme clients out there!!"*

The review format was questioned by a couple of students with hearing impairments:

> *"The critics would sit towards the presenter. The rest of the students would sit behind the critics. This makes it very*

difficult to follow the important advice and criticisms given for someone else's presentation."

"Not able to totally participate due to not hearing comments etc."

It is evident that for deaf or hearing impaired students to be fully involved in and benefitting from seeing the work and recording the discussion the configuration of the review is important.

Notwithstanding that most students recognised the value of design reviews the anxiety levels were very high and probably similar to those of non-disabled students. As the following comments indicate:

"I almost always did well in crits but I often saw the more gentle characters ripped to shreds psychologically simply because they weren't tough. Back then I think more guidance should have been published on what was expected and a more professional approach taken by some of the tutors. Apart from that the education was excellent"

"Standing up in front of your class mates with prepared notes is difficult. No matter how much I prepare for a crit I stand up and forget everything and I can't read. More advice needs to be given on how to have a good crit".

Clearly disabled students do have particular challenges to face in studio and during design reviews but the rewards for most disabled people are clearly no different from those experienced by other students. In the words of one respondent:

"Architecture is a marvellously stimulating field. Learning about it is a privilege".

Inclusive design and the curriculum

The extent to which disabled students are familiar with inclusive design principles is an area that was explored through the questionnaire. Of the people who answered this question, 64% stated that they had not received any direct instruction or participated with tutors in any activities or teaching sessions that were designed to draw attention to the principles of inclusive design.

It might be assumed that a person with an impairment would have a good understanding of the principles of an inclusive approach to the design process. However a number of respondents were completely unaware of the meaning of the term or misunderstood its meaning. Others had been told by tutors:

"'not to worry' about this area of design and concentrate on the big idea"

or had been introduced to the issue mainly through consideration of the requirements of the Building Regulations. It was evident from almost all comments from participants that inclusive design

"was viewed primarily as a technical requirement and not a core basis for design"

The responses generally raised concerns. Even when students confirmed that inclusive design had been included, typical comments were:

"It [inclusive design] has not been considered at any level besides the stereotypical 'wheelchair user'"

[Inclusive design] *"was talked about from time to time"*

"One lecture in year 1 about a tutor's disabled daughter and how design must be considered"

"short, minimal session to do with getting around in a wheelchair."

These responses beg questions about the seriousness with which issues affecting disabled people are regarded within schools of architecture and the degree to which knowledge and understanding are being imparted relating to inclusive design.

One respondent summed up the situation

"I'm now an Access Consultant as well as an architect - its a real shame architects weren't taught inclusive design."

One of the expert advisers for the research noted that the profession as a whole does not place inclusive design high on the design agenda and that this is reflected even in design awards for buildings. He wrote

"Discussion [about inclusive design] *may reveal further aspects; retrospective audits of "acclaimed" work would shake up the status quo. The Bath Spa is one where the renowned architect was awarded a gold medal though the disabled changing accommodation is inadequate! Not a grab rail in sight!!"*

It could be argued that in failing adequately to integrate inclusive design into the curriculum, schools are perpetuating the failure of architects to develop an understanding and expertise in this area and are as a consequence missing out in the long term on business opportunities.

Role models and external mentoring

It has been suggested that role models and also external mentoring of disabled students may play a key part in the achievement of success. For this reason the questionnaire asked students whether they personally know any disabled architects or designers and probed the extent to which the respondents had been supported by external mentors outside the university environment. It was also important to find out if disabled students thought that mentoring would be a useful support mechanism. 56% of the people to whom this question was applicable did not know any other disabled architects or designers. People who had had contact with another disabled architect had clearly found this contact beneficial and inspiring.

"I know another dyslexic architect who has done really well and has taken quite an aggressive attitude to not allowing this to hold him back. It gives me hope."

Another student went on to explain

"……because it has made me realise that my disability is not going to impede me if anything it gives me extra."

Mentoring by external people or by tutors who were prepared to spend extra time with a student had clearly played a significant part in motivating disabled people to carry on during difficult periods. This type of successful informal mentoring was described as "*crucial"* by one respondent who noted:

"They know what its like to climb up the slippery ladder and can teach you ways of holding on and getting to the top of your game".

Personal Profile: Male student age: 26-30 Impairment: Profoundly deaf, born disabled:

My Personal Profile of experience at Universities and work placements

My route into architecture has not been straightforward. It has been extremely lengthy and totally demanding. No university would accept me because I did not have the required A-levels. Therefore the only route open to me was the artistic route. I gained a National Diploma in Design (NDD) at an Institute of Art and Design (now a University) and then progressed to a BA (Hons) Interior Architecture course and gained my first Degree. The course leader recognised my abilities and encouraged me to apply to the University of X for a place on the BA (Hons) Architecture course. However the student support disability advisor at my previous institute was against this. She considered that I would be defeated by the written work and I was advised to do a model-making or a silversmith course. I disagreed because I was determined to become an architect. I felt I had to give it a try and decided to apply to the University of X anyway, and because I had a good degree they accepted me.

My experiences at the Institute of Art and Design were good in every way. Everyone was very supportive and showed me a lot of respect. I made a lot of good friends there and one tutor even gave me work experience that summer. These experiences were much better than those at my previous college where I was studying engineering. There I had suffered from discrimination and there had been communication problems. Many of the tutors on the course were too set in their ways to change. In short they had had no experience with a deaf student before.

At X University I was promised all the support I needed but the Disability Support Advisor disliked me and let me down badly. The one person I should have been able to rely on was like an enemy. She accused me of plagiarism and that one specific interpreter had helped me. My personal tutor discriminated against me too by saying that I would never get a job as an architect. The situation became impossible, I felt like leaving because it was making me ill. I had seventeen different interpreters in less than a year and this was a nightmare because I had to

explain to each one the work I was doing. I needed consistency. High level meetings took place and these problems were resolved but I decided to take control and to organise as much of my support as I could, with some help from the new Disability Support Advisor. Without support in place for tutorials, lectures etc., I could not participate like other students or access the course fully.

There were many delays in receiving tutorial/lecture notes, and time was also lost in arranging my own support. It was a multi-dimensional operation to keep up and because of the many demands, I was not able to socialise with other students as much as I would have liked. Many students felt sorry for me and would help me with taking notes and I helped them with their work. Also my situation encouraged them to be more conscientious about their studies.

The course leaders and tutors were full of admiration and encouragement towards me and I was proud of what I had achieved there. But at the time, I was right not to feel convinced by the promises made by Disability Support Worker. She had a bad attitude towards me. I almost decided to leave but felt that time would be lost and I would have to set up everything at another university. Besides I would not have been able join the course until several months later……. but I triumphed over adversity and I gained a 2:1 Degree and was a step nearer to becoming an architect. However the stress I suffered, caused by all the problems with support, etc., was unbearable. It affected my health. I had also felt isolated and imprisoned by having to work around the clock to keep up and trying to compensate for my deafness. I tried to stay cheerful and positive but it was very difficult.

For any student embarking on an educational course, there are many preparations. For a deaf student it can be mind-blowing because there are more issues to be considered. Some of these relate to the course itself, and this means that more discussions and facts are needed. The student accommodation also needs to be adapted to meet fire safety regulations, e.g. flashing light etc.

After gaining Part 1, I quickly got a job in an architect's practice as a Part 1 Architectural Assistant. I was there for one year and did very well and felt more confident. Everyone was very friendly. I was then offered a position at another practice and worked there for a further year. My work load was huge but I thrived on it and was given more responsibility. In all, I was involved in thirteen projects, so this gave me some very valuable experience.

My experiences at a different university when studying for part 2 were equally as harrowing as those at X. Once again there were broken promises made by the Disability Support Advisor and I had to take over arranging all the support I needed. She had an ambivalent attitude towards me. The agency responsible for organising support let me down on many occasions and this affected my participation in group work, tutorials and presentations. I became extremely frustrated when interpreters / note takers did not arrive. Without the encouragement and

support from the course leader and tutors I would not have survived my two years there. They really believed in me and knew I could gain a Diploma in Architecture.

After gaining Part 2, I felt that I would be successful in finding a position with a similar practice to the one I worked in during my year out. However the recession has prevented this and I have been unemployed for twenty-one months. To date I have sent off nearly 200 applications, and have only had a handful of interviews (two of those more recently).

It has been impossible to get work experience of any kind despite all the enquiries I have made. However, in recent months I have worked on a Build-Up project with architects and other unemployed architectural people like myself. This was set up by the RIBA and the University of Westminster and allowed me to become involved in a real project. It has led to me working on competitions with two architects I met on that course. These experiences have been extremely motivating and inspirational and I feel more confident again and less isolated. I am hopeful this work will help my career prospects. Several months ago I was put in touch with two deaf architects in the hope that they could help me with work experience / mentorship but this has come to nothing. I also wish to mention that certain people at the Deaf Support Agencies/Access to Work continue to encourage me and also monitor my journey into employment.

I owe my parents a huge debt of gratitude. They have not only given me morale and financial support throughout my architectural education but have seen me through one crisis after another. They know what this means to me and feel that I deserve to succeed after all the sacrifices I have made.

No person should ever be exposed to these situations. Although I survived and am a lot wiser now about human nature everything will remain etched on my mind for ever. Without the ongoing support of my parents, tutors, course leaders and some kind people, I could not have achieved what I set out to achieve at University.

Employment

Given that architectural education typically involves at least one year in employment during the educational process, the transition to employment from university is often convoluted. The second part of the questionnaire did, however, concentrate on the disabled person's experience in working in architecture.

Transition to employment

Respondents were asked about whether they had had any difficulties making the transition from education to employment at the various stages of their careers. The difficulties were considerably more in evidence for people making the first steps to employment following completion of part 1 (see figure 32).

Considering that most of the difficulties seem to be experienced at the end of the first stage of study (Part1), surprisingly only 23% of respondents had received support from their school of architecture in making the transition from education to employment. When support was offered, it was mainly associated with suggestions for preparing a CV.

Other respondents recognised the impact of the recession, but were more likely to regard the impairment that they experience as a definite obstacle to successful employment. Respondents felt that employers were less likely to risk employing them because of the impairment. This view is summed up by one respondent who said:

> *"Unfortunately, when I completed both Part 1 and Part 2 this coincided with a downturn in the UK economy, with the resultant fewer jobs available. That said, I attended many interviews after Part 2 when I distinctly felt my disability did me no service."*

	Experienced difficulties gaining employment	**No experience of difficulties in gaining employment**
Post Part 1 (Stage 1 experience)	48%	52%
Post Part 2 (Stage 2 experience)	31%	31%
Part 3	33%	67%

Figure 32: Obtaining employment

A similar view was expressed in the written testimony of one architect, now retired, who commented:

> *"I was given my marching orders before others less capable than myself."*

Once in employment the experiences of most disabled people seem relatively positive. A substantial percentage of people were

unsure about whether to disclose the fact that they were in any way impaired, as they felt this might disadvantage them. People who had disclosed, in some cases felt that this had had an adverse effect on the salary grade offered. It is likely that in the case of all students entering employment for the first time, there is a period of quite awkward transition. For disabled students this might be more marked because they have to establish the fact that they are equally capable of being an effective employee as a non-disabled person. One respondent, who has a successful career stated:

"Initially I felt like a fish out of water but gradually got into the routine for each practice. Also I made friends at work and socialised with them. I felt I belonged and I worked very hard at both practices (after gaining Part 1) and received a great deal of support and respect. The first practice gave me an excellent reference".

The personal profile of Daniel Bourke is testament to the fact that disabled architects can succeed.

Architect in practice Daniel Bourke

My name is Daniel Bourke. I'm 28 years old. I'm an Architect and a T1/T2 paraplegic. I began studying for a BSc (Hons) in Architecture at Strathclyde University in 1999 and graduated from the course in 2003, returning the following academic year to do an MSc in Computer Aided Building Design, graduating again in 2004.

Beginning prior to completing my undergraduate degree I had sent out letters and CVs to all Architecture practices I could locate in the greater Glasgow area, at that time this amounted to 157, seeking placement for my first year of professional practice experience. Whilst I had some debate initially, I decided on balance it would be more prudent to disclose my disability in my covering letter and gauge what the genuine response would be. Where possible, I tried to deliver to as many of the local practices by hand, so that I could see for myself how accessible they were and get a general impression of what the offices were like.

I would estimate that only 40% of those contacted replied, of those, about half were sole practitioners and could not justify additional staff. The majority of the others replied with the industry standard stock letter regarding lack of vacancies. Despite their being no jobs available, a handful of the replies acknowledged that their premises were not accessible anyway, a few suggested alternative practices to contact and one even noted that this had made them consider whether their premises were in fact suitable for their needs going forward. An interesting

exercise, however, it yielded no offers of employment, and returning for the Masters course, whilst always a primary consideration, became a necessity.

At an examination during the course, one of the external examiners was principal of a local practice. As we talked about my project and aspects of architecture in general the focus shifted to my attempts to find employment the previous summer. I followed up later that week by sending in my CV and a covering letter mentioning our meeting. A couple of months later, as my course drew to a close, I received an invitation to interview. I am happy to say that I received a job offer a few days later and have been continuously employed with John Gilbert Architects ever since leaving University, in fact, I started my job about an hour after sitting my final exam for the Masters course!

As a modern office located in upgraded premises, facilities are good. There are designated accessible parking bays, lift access and accessible toilets. Virtually all of the office equipment is within easy reach and colleagues are more than happy to assist if required and are always supportive without being overbearing in any way.

During the following two years I was involved in various stages of projects in the office and, where access was possible, made site visits to some of our projects, gaining a solid understanding of architectural practice prior to sitting my professional practice examination towards the end of 2006.

Thankfully, all the submissions and final interview were well received and I was delighted to learn that I had passed my Part 3 exam, fulfilling my ambition of becoming an Architect; a decision I had made when I was 11 years old. Coinciding with this, a £3 million care home project I had been working on since joining the practice, received the go ahead and I was tasked with progressing it's development to get it on site.

Figure 33: Daniel Bourke, John Gilbert Architects with colleagues and newly completed building in Bankhall Street, Glasgow.

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The contractor was requested to locate the site accommodation so that it would be accessible for me to attend site meetings. Whilst the site throughout most of the construction phase was not wheelchair accessible, queries could be attended to through use of photos, video and visits by other work colleagues when closer inspection or surveying was needed. It really was a fantastic experience to be involved in a project through all work stages and to take such a prominent role discharging most of the duties of contract administrator. As with anything that works well in the contruction industry, it is the product of effective teamwork.

It may be somewhat clichéd, but for those trying to find employment, I think networking really is important. Once people have met you and know that you're capable, it's much easier for them to see beyond whatever your disability may be. As I found during the course, determination really is key to being an Architect. The work load is demanding and the days can be extremely long, so if you have a disability, you're going to have go the extra mile, but there is nothing quite like watching an empty site transform gradually into something tangible, finally moving through rooms and spaces that previously you had only experienced in two dimensions or knowing that you may have helped to create something that improves people's lives and their environment.

Practitioners

Of the practitioners who answered a question about their current job status (33), the majority were employed in architecture or a related profession (see figure 34). Many of the respondents had already had long careers in architecture with almost half having worked in the profession for 20 years or more. The majority (63%) were members of RIBA or a relevant related organisation.

People who were not employed in architecture were involved in a variety of different jobs and professions. This ranged from retail to local government officer. Three respondents were working in charitable organisations and one explained:

> *"I am now working in education - Disability and Learning Support Manager (You can see why!)"*

Some respondents who were no longer working within architecture or a related field expressed regret. One respondent summed this up by saying:

> *"[I] stepped out of the profession approx[imately] 8 years ago and would like to get back into it. It's in my blood or something as I can't stop thinking about architecture and design".*

Working as an architect	8
Employed as architectural assistant	1
Self-employed architect or designer	6
Architectural administrator	1
Access Consultant	2
Academic	1
Studying at a higher level e.g. PhD	4
Employed in related profession	3
unemployed	4
Retired or semi-retired	3
Total	**33**

Figure 34: Current Job Status of Architects

The value of mentoring: the practitioner's view

In order to compare the extent to which the successful people working in architecture had relied on mentors to assist them in their early careers with those of students currently studying, questions were asked about the extent to which the role of a mentor had had an impact. 56% of respondents to this question had had some contact with a disabled designer during their careers and to some people this was helpful as a way of sharing experiences. However, there was no clear message about how significant this contact had been. There was some scepticism about the extent to which mentoring might have been helpful with only 41% feeling that mentoring would have been helpful to them.

Figure 35: Cartoon by Louis Hellman

Personal experience of obstacles in the workplace
40% of the respondents had experience of obstacles that had made their working life difficult. Figure 36 indicates the main issues raised by respondents and the number of times the matter was mentioned.

Physical access problems	6
Spoken Communication problems	8
Written Communication problems	7
Discriminatory behaviour	8
Noise	2
Exhaustion and stress	2
Employer failing to provide adequate support for Part 3 study	1

Figure 36: Obstacles in the Workplace

A number of respondents mentioned more than one difficulty. One person summed this up by replying that there were

"too many to mention."

Employers had made some adjustments to the working environment for over half (56%) of the respondents but significantly 28% had been refused required adjustments. Adjustments had mainly been associated with the provision of equipment or minor adjustments to work spaces. Some respondents cited concerns about the fact that meetings were held in inaccessible venues and they were consequently marginalised in discussions. A number of respondents had incurred additional costs themselves to overcome particular difficulties. One respondent commented:

"*I tend to purchase items that I need to help me with my work that are not covered by the employer to maintain my independence"*

56% of respondents were unaware of the funding support that may be available to them through the Access to Work scheme.

Has the anti-discrimination law made a difference?
50% of the respondents thought that anti-discrimination law had made a difference even if it was used as one respondent noted

"as a stick to threaten when needs are not acknowledged".

However, most people felt there was a long way to go, particularly with regard to understanding unseen impairments such as epilepsy or mental health conditions. One person commented:

"Although understanding of mental health conditions has improved in the last 10 years, and I am able to be SLIGHTLY more open about my issues without so much fear of attack, my needs are still not understood and I feel looked down on".

The impact of the recession

Respondents were asked to comment on whether they felt that the current recession had affected their situation. 41% believed that it had had an impact. One respondent summed this up by saying:

"I sense there is probably reluctance on the part of firms to take on a deaf person if they have reservations about being able to communicate instantly with that person. I also believe that a number of architectural practices are not aware of the government funded "Access to Work" scheme which would provide support for me in meetings etc. They either think that no such organisation exists or that they would have to provide any funding and I feel that this again is a something that goes against me".

The comment by this respondent is salutary as 56% of the people who responded to this section of the questionnaire had little knowledge of the Access to Work scheme themselves. This is surprising as many would probably be able be benefit from this scheme because their employer would be likely to receive financial assistance to offset any additional costs associated with the employment of a disabled person.

It is evident that the majority of respondents did consider that the recession had impacted on disabled people in a disproportionate way. However, this requires further investigation to determine the full impacts.

The effects of an impairment on approach to design

47% of respondents felt that their practise as architects has been affected by their impairment in a positive way. The considerations that were mentioned most frequently by respondents related to consideration, understanding and knowledge of inclusive design.

"I consider inclusive design at an earlier stage and am less prepared to take out access features when cost is an issue."

"Inclusive design is not an afterthought but the principle of design, consult with disabled people and ask their views on projects before they get to planning approval stage."

"My own experience of building environments is reflected within my design approach. As a disabled person I have taken a strong personal interest in inclusive design. I am constantly expanding my knowledge within this area and hope to use it to influence my designs in the future."

"My spatial awareness and good understanding about inclusive design."

"I have greater awareness of inclusive design."

"I strongly believe in the importance of inclusive design."

One rather more equivocal response was:

"More inclusive than some, but certainly not all. Anyway how do I know who else is disabled?"

Others cited enhanced awareness of design implications:

"It is far more sensitive and thoughtful. I am able to see implications of certain designs that others don't."

"Awareness of the restrictions imposed by disability."

"I try much harder to understand the issues of the users of my buildings and townscapes."

Another respondent felt that their impairment had allowed strengths to develop as a result:

"I feel as a deaf person, I'm very visual and creative."

Some respondents felt that through their impairment they had developed specific interests in certain areas:

"Particular interest in design that includes people with cognitive impairments."

"I pay a lot more attention to the impact of ambient noise, both acoustic and visual, than many architects seem to"

And one respondent stated simply:

"I'm much more practical."

Conclusions from the questionnaire

Findings from the questionnaire have contributed to the issues identified and are addressed in more detail in the Conclusions and Recommendations section. It is evident from the responses that students' experiences were varied with some citing positive examples whilst others related negative ones. The fact that a number of students had taken significant amounts of time out or dropped out altogether because of problems encountered, does raise concerns and should be the subject of further investigation. Some other key areas of concern were linked to long hours, working in the studio and attitudes and awareness to certain impairments. Mental health issues were cited particularly both by students and respondents working in practice. It was not possible to deduce the overall extent to which the economic downturn has affected those respondents who were working, although it does appear that some had been affected.

All respondents to the questionnaire were asked if they would be prepared to be interviewed to discuss issues raised or be prepared to write a short piece to tell their personal story. A substantial number agreed to this. From the list the researchers selected eleven people who clearly had stories to tell which warranted further exploration. They were asked to take part in face to face interviews. The selection was made to mirror the geographical spread of respondents' place of residence and to provide a mix of students and practitioners (see figure 37).

Personal Profile Ian Hill Age 40-45

I am a UK Registered Architect and since 2009 I have been running my own business, Ian Hill Limited. I specialise in access consultancy and inclusive design.

I have a congenital mobility impairment caused by significant shortening of my femurs and malformation of both hips and both knees. I am 1.35m tall (4ft 7ins). I had various operations as a child between ages of 3 and 14 but as a result of comparatively successful operations I was very mobile in childhood. Up until about 30 / 35 I could walk say 10 to 15 miles, hike with a back pack, go camping, jog (a bit) - in other words, I was effectively mobile (I couldn't do 100m in under 10 seconds, but then who can?).

Around the age of 35/40 my condition started to worsen (effectively arthritis) such that I now use a stick and am not able to walk very far without pain and fatigue. I still enjoy swimming and camping. I am a Blue Badge holder. I am due to have a double hip and knee replacement in the near future with the aim of improving my mobility. One consequence of my impairment in childhood was significant time off school. I did not pass the 11 Plus, so I went to secondary modern school where I achieved 8 CSEs, 8 O Levels and 3 A levels.

I attended Hull School of Architecture, where I completed all three stages of study to be an architect and I was fully qualified by 1985. Unusual at the time, elements of the Hull School of Architecture curriculum focused on accessibility and inclusive design. One of the tutors was Richard Penton, whose brother John Penton (very involved in accessible design) attended regularly as a visiting lecturer. Another tutor, Brian Towers, was also seriously interested in accessible design and gave all students a good understanding of these issues. He now runs an access consultancy in Wells.

Since my initial qualification as an architect I have continued to develop myself academically and professionally. I obtained an MSc (Distinction) in Accessibility and Inclusive Design at Salford University in 2007 and I became a consultant member of the National Register of Access Consultants. I am a member of the Centre for Accessible Environments and Chair of the Access Association North.

Overall, I think that I would say that my condition has not negatively affected my career; indeed, it could be argued that my impairment has increased my perception and understanding of access issues and design approach and has enhanced my career of late.

Interviews: disabled students/practitioners

Age band	Gender	Impairment	Current situation
25-30	Female	Inflammatory arthritis diagnosed after commencement of study	2nd year of Part 1 architecture course.
20-25	Male	Dyslexia diagnosed in childhood	Third year of Part 1 architecture course
25-30	Male	Episodic depression	Completed Part 1 degree. Seeking year out employment
20-30	Female	Dyspraxia and depression diagnosed in second year of study	Did not complete Part 1 architecture. Currently studying for a different degree.
25-30	Female	Mental health problems, post- traumatic stress disorder, depression, anorexia, dyslexia and dyspraxia,	Completed Part 1 – currently Post graduate student
46-55	Female	Impaired use of right hand	Completed Parts 1 and 2 - currently Post graduate student
41-45	Female	Cognitive impairments following	Completed parts 1 and 2 – currently studying for part 3
41-45	Female	Mobility impairment following accident	Local authority employee: Access officer
Over	Male	Multiple Sclerosis	Qualified architect – now retired.
51-55	Male	Multiple Sclerosis	Qualified architect working part time expected retirement Christmas 2010
41-45	Female	Brittle bone syndrome	Principal architect Local Authority

Figure 37: Profile of interviewees

11 The findings of the interviews

Eleven in depth interviews were carried out by disabled researchers. All except one were held face to face. Five of the interviewees were based in London; two were from the south-west, one from Wales, one from the midlands and one from the north-west. Of the eleven interviewees three were architects, seven were students and in addition one local authority employee was interviewed. All the interviews were useful in providing personal stories and linking people's experiences to their career paths and decisions made. The dialogue, particularly with those still in education or with recent experience of architecture school, offered a closer insight into some of the issues disabled people face. Aspects of the personal narratives arising from the interviews have been included to highlight key matters raised as they offer a better overview than just simply offering a breakdown of responses to each question asked. Interviewees' names have been changed to protect their identity.

Interviews: Students

Cora, Mary, John, Tim, Sarah, Christine, Jacqueline

Definitions

Student interviewees were asked questions in relation to definitions and terms they used. The responses highlighted the fact that there was little consensus on usage, definitions and perceptions. For instance Tim did not consider episodic depression to be an "impairment". It was more like an *"illness"* to him and consequently something that he could recover from. He saw *"disability"* as something a person has forever. Therefore he would have difficulty in labelling himself as a disabled person.

The curriculum and inclusive design

Perhaps a striking finding from this part of the research was how many of the students were not aware or did not understand the term *"inclusive design".* For instance Tim had never heard of the term although his final year work demonstrated a personal interest. He designed a landscape that was entirely wheelchair accessible. His dissertation concentrated on sounds within spaces: looking at the illusion of space in recorded sound, synchronising sound with image in film and field recording. He said that his tutors only really commented on access design, not inclusive design.

Generally, the interviews with students reinforced the sense that limited attention was given to inclusive design within teaching in architecture schools. Sarah stated that inclusive design was not considered in design reviews and that access was touched on but never enforced. She grew up with a family of wheelchair users so she was aware of the space needed to manoeuvre around the built environment.

In terms of the situation at large Christine felt that the lack of familiarity with issues facing disabled people could affect the way a building is designed. She pointed out that whilst a person without an impairment could understand disability issues relating

to the environment, it was easy to forget or overlook certain aspects. She cited the example of the Hungerford Bridge in London and described how a mechanical lift to cater for wheelchair access had been provided at one end of the bridge. The recommendation of a ramp had not been taken up. She said that this discriminated against wheelchair users at times when the lift was out of use. The situation she said was aggravated by the fact that the wheelchair user would not find out that the lift was out of commission until they had crossed the River Thames and reached it. They would then have to cross the river again and take another bridge or other methods of transport. This was a huge inconvenience that could have been avoided if 1) there was an electronic signboard, placed at the start of the bridge, informing the public that the lift was out of use, or 2) if a ramp had been installed in the first place.

Irrespective of whether the term inclusive design was understood and whether the school of architecture regarded it as an important part of the curriculum, it did appear that individually students were pursuing aspects of inclusive design within their project work. Sarah, for instance, explored sensory experiences in her final year which she felt had taught her a great deal about design user needs.

Long-hours culture of architecture school

Several of the interviewees highlighted the issue of long-hours being the norm in architecture schools at which they had studied. Cora, who originally studied architecture before transferring to a different university to study fine art, compared her experiences of studying both subjects. Whilst she was a high achiever at architecture school, Cora found she was adversely affected by the pressures of work. She described a long-hours culture where students were expected to work twelve hour days and to be present in the studio. She became rather depressed in her third year of the architecture course and decided to leave. Her reasons for leaving the course were partly because of the workload pressures but also because of the attitude of tutors and students. She felt that although the school recognised her achievements they were not aware of the amount of work she had to undertake. Cora's experience on her fine art course at a different university was more positive. She considered that the culture of the school was more relaxed than that of the architecture school and the students were given more space and flexibility.

One student compared his experience on an architecture course unfavourably with his experience working in practice. Tim dropped out during his second year at architecture school and went to work in practice. Whilst working in practice, Tim had no problems with his depression, however when he returned to study, he relapsed and it became apparent that his depression was directly related to the architecture course. He said that the course was not structured well and that as a result things could become very intense, causing his depression to get worse. At his school the design module made up half of the year's marks. Consequently there was great emphasis on this module and other modules tended to be sidelined. Tim confirmed that he had been forced to perform "*many all-nighters"* to complete the work. In order to mitigate the problem Tim had taken steps to ensure he

never worked at the weekends. This worked out better for his health by giving some time to relax but put a lot of pressure on the working week. He pointed out that there was nothing in the university's prospectus about the pressures of undertaking a degree in architecture. However he said that

> "*Stating that the course is difficult is not the answer and that a university should make reasonable adjustments to reduce the pressure".*

Tim felt that *"his dreams"* should not be stopped by the poor course structure that resulted in unacceptable periods of intense pressure.

At the time of the interview Tim had just completed his Part 1 in architecture, but was now contemplating a career teaching art in secondary school. He thought that this would be a less stressful route that would not affect his health as negatively as architecture. However, since the interview, Tim found out that he had achieved a high first class honours degree. This news had given him the confidence to look for stage 1 / Year Out employment in architecture.

Design reviews

Sarah found design reviews very difficult because she was suffering from post traumatic stress. Under the pressure and the attention she found it hard to communicate her opinions and her responses became slow. She was terrified of being judged. She would have valued the experience of a design review and benefitted from the criticism if she had not had to present her work in front of a class full of students and if she had time to think and formulate responses and further questions. She felt that she would have learnt more if design reviews were not so aggressive or confrontational. She also considered that separate design reviews for disabled students could be created. She commented

> *"The deadlines for coursework can be extended, why can't the reviews?"*

and went on to say that the student presentations at the design review could be done publically, but the individual feedback could be given in private to avoid public humiliation.

One interviewee, Jacqueline, said that during design reviews quick responses were expected to questions about the design. Even though she knew the answers to these questions she was unable to respond adequately. Her ability to remember important terms and her speed of reply was affected when she was put under so much pressure.

Attitudes and awareness

A common theme arising from interviews with students was the lack of understanding or consideration of impairment at their respective schools of architecture. Interviewees particularly referred to tutors and to other members of staff. They felt that the lack of understanding led to a lack of support both in terms of personal interaction and also in terms of technical provision. Cora cited a lack of familiarity regarding dyspraxia and depression.

John felt that tutors of an older generation did not understand impairments, and that only people who have a member of their family with a particular condition or personal experience of an impairment can understand it in its entirety. He felt that the tutors thought that disabled students used their impairment as an excuse and they questioned the legitimacy of the support provided.

Despite having more positive experiences studying fine art at the second university, Cora did however report negative attitudes at both universities. The instances she cited reinforce areas of concern raised in the questionnaire responses about the attitude of some tutors and other staff towards disabled students. Cora said that at architecture school the tutors treated the students like *"scum".*

> *"They would shout at you and throw your books on the floor."*

In Cora's case it was apparent that inappropriate behaviour was not restricted to tutors. On her fine art course the technician had called her names. The name calling was often related to impairments. She had learnt to deal with his attitude and behaviour because he controlled the workshop and without him she could not get her projects completed.

One of the most worrying issues identified through both the questionnaire and some interviews was the inappropriate responses by some academic staff to students' impairments. In some instances this amounted to derision. For example, Tim, who experienced episodic depression, confirmed that when he told his tutor about his depression the tutor reacted with a rude laugh as if Tim was making it up. To aggravate matters, although the tutor was told this privately, she confronted him publically. Her insensitivity made him feel really uncomfortable about returning to university after his first year. It is one of the reasons why he did not continue his education at that school of architecture.

One confrontation cited by John was when a tutor in front of a class demanded that he stop recording a lecture despite the fact that he was not the only one recording and the fact that the university rules allowed the recording of lectures without permission. He had been provided with the equipment to do so to support his impairment. John said that even after explaining this to the tutor, the tutor still maintained a negative attitude.

Jacqueline, who at the time of the interview was undertaking part 3, related another experience which caused serious questions about attitudes of academic staff. She had completed Part 2 before she acquired her impairment. She had cognitive impairments which caused organisation, concentration and memory problems. She was also a single parent which created additional issues relating to her course. She had previously embarked on a Part 3 course in the 1990s at the same university where she had completed Parts 1 and 2. Jacqueline said that she had been thrown off the course for being a *"mental defective".* She felt too humiliated to make a complaint. She considered that the architecture school was not about equal opportunities and

giving everyone a fair chance but about fitting in to the stereotype of the "*elite*".

In addition to her personal experience at Part 3' Jacqueline raised other concerns such as the high failure rate and the fact that only five out of 15 women passed in her year. Students were told to give up their sporting commitments or they would fail architecture. She cited the experience of another student who had become very ill and started missing lessons and said that he had been dismissed from the course. Jacqueline went on to say that it was not just disabled people who were discriminated against and that everyone was treated extremely harshly.

The interviews with students revealed what seemed to be a dearth of understanding about the realities of disabled people's lives. Christine said that it was much harder for disabled people and that the tenacity and hard work of disabled students should be recognised along with their abilities. Christine contrasted her post graduate experience with that of her first degree. She commented that on her MA course the tutors had been "*fantastic"* towards her. They had appreciated that she was a mature part time student and they empathised with her situation. She had been encouraged to approach her tutors more often. Christine thought that it would have been good if the tutors had been trained to understand people. She suggested that perhaps, after lectures, tutors could seek out disabled students to ask whether there was anything they would like them to run through again. This would have avoided talking about a student in public whilst still providing the necessary support.

Some of the interviewees had non-visible impairments. It was apparent that this impacted on their experience. For Mary, who had inflammatory arthritis, the severity of her impairment changed each day. Because of the unseen nature of her impairment this sometimes caused other people to forget. Mary said that field trips had been difficult and related an incident which happened on a trip to France when a group of diploma students joined a walk. They were not informed of her disability and shouted at her for walking slowly behind the group.

Another interviewee, Sarah, noted that, both in employment and education, there was no appreciation for an individual's needs, even when these needs were expressed from the beginning. Her difficulties had left her unable to complete tasks and she felt that she could be seen as being *"stupid".* Sarah said that other students expressed attitudes such as: *"You should be able to work"* and *"I get depressed too but I still work".* Sarah stated that people did not understand mental health issues and underestimated the problems.

It was evident from discussions that attitudes pre-entry to architecture school had also affected some interviewees. Christine said that her school headmistress had advised her not to follow her dream of being an architect. This was under the assumption that architecture was a difficult profession that could be stressful and challenging; and that she would not succeed because she had an impairment.

Mary, who lost the use of her right hand when she was a child after an accident, missed two years of school over a 4 year

period. She received no support to catch up and ended up being put back a year. She knew when she was young that she wanted to be an architect. On telling her headmistress this she was advised that it was something *"out of her reach"* and that she should not do it because

"her family had been through enough already".

At the time Mary had felt unable to challenge these assumptions.

Obstacles to progression

It was evident from a number of the interviews that there were obstacles to progression. One interviewee in particular raised this as a critical consideration. Mary had quite a fragmented higher education experience. She had studied engineering for a year before changing university and commencing architecture. She was diagnosed with inflammatory arthritis in her early twenties and this resulted in her leaving university and taking a few years out of education. When she returned to architecture she chose to study at a university close to her family. This contrasted with her reasons for selecting her previous universities which were primarily based on the academic reputation of the institutions. John was another respondent who chose to study at a local university to have the support of his family nearby.

When applying to her current university Mary was worried that her previous attempts at first year courses would reflect badly on her and she feared that she would not be accepted because of her impairment. However she did disclose her impairment in her application but emphasised her improved health. At first she resisted applying for the Disabled Students Allowance because she did not think she was *"disabled"* enough. However the student support officer reassured her by making it clear that she deserved support and went on to advise her that the architecture course was intense. The support officer explained what support she was entitled to. This included chairs, lockers, a mouse, a laptop stand, extra time, extensions on deadlines and library book loans. Mary found this very helpful. She stated that this level of advice and support had never happened at her first architecture school.

Architecture is an expensive educational route. It was evident that for some disabled student interviewees their impairment had exacerbated their financial situation. One student, John, had to work to support himself financially during his studies. The economic downturn had aggravated matters and he had accrued additional expenses. For instance, because he was seriously dyslexic he had to purchase books and scan them into his computer instead of borrowing them from the library. Although he did get some funding for books and printing this did not cover the necessary outlay for his architecture course. For example, the cost of A1 printing was £5 per sheet. He did feel that some of the financial support for equipment could have been more cost effective and said that he had found that the quality of the equipment provided by the local education authority was inferior to that he could have obtained if he had bought privately for the same amount of money.

Tim questioned the efficacy of the process of getting support. He had applied for the Disabled Students Allowance months previously and had still not heard the outcome. He confirmed that although the Disabilities and Dyslexia team helped him fill in all the application forms, he had not had time to chase them due to the pressures of the degree.

Tim said he had received counselling from outside the university but indicated that support was lacking from the university. He confirmed that he had not been given extensions on submission deadlines, which would have been very beneficial. In his second year he had initially been capped on a module because he had not filled out a form correctly, although this was later rescinded on appeal.

Commenting about what might become issues in the future relating to work in practice, Mary stated that the culture of an architectural practice was one of long hours, hard work and plenty of competition. She considered that if there is passion, it is easy to push:

> *"yourself but if you are physically unable to it will cause difficulty within the employment."*

Mary confirmed that if she did decide to go into architecture she would want to work part time, but that this might produce a feeling of being left behind and might prevent her working on exciting projects. Her experience had led her to consider alternative careers related to architecture rather than becoming an architect.

Disclosure versus non-disclosure

The issue of disclosure was discussed with interviewees and this elicited some areas of concern. Whilst it was acknowledged that disclosure might facilitate positive action and practical support, aspects such as stigmatisation were mentioned as barriers to disclosure. For instance, one of the issues Cora mentioned was that her current university encouraged prospective students to have a screening test to uncover any impairment or learning difficulty they might have, so that the university could provide the right support during their education. However, this was countered by advice she received not to have the screening: The following arguments were put:

> *"do you want that label?'*

> *"'it will cause extra stress"*

Cora was put off from disclosing because of the negative view of screening and this led to a delay in her diagnosis. However disclosure also proved problematic and when she did disclose her impairment, she believed that it had worked against her. As a result Cora regarded disclosure as problematic.

Christine did not disclose her impairment when she attended university. She said that to get any support at university she would have had to complete lots of forms and submit information such as doctors' notes. This was a time consuming process that she had never got around to. She did not make the lack of support in her studies a big issue, although she thought she could have benefited from the right kind of support.

Do schools of architecture make the necessary adjustments?

Several concerns were raised relating to whether schools of architecture were making the necessary adjustments. For instance, whilst Mary gave examples of positive support she had received she was still worried that she would not be able to cope with the third year of architecture and would have liked to complete this year on a part time basis over two years without prejudicing her results. However the university was not allowing her to do this. She had been advised that if she decided to do the design module the year after completing the rest of the third year modules, thereby making the third year part time, her marks would be capped. This would adversely affect her degree classification. Mary considered the university regulations to be a barrier to completing the course at her full potential. The university's stance raised questions about whether appropriate adjustments had been made and whether legal obligations were being fulfilled. Without adjusting the course to part time, there is a strong chance that some disabled students will not be able to complete an architecture degree.

Tim was another student who raised issues in terms of part time study routes. He mentioned that although it was possible at his school to do the third year part time, most of the modules were linked so only a small proportion of the course could be taken part time.

Tim also mentioned his university's mitigation process which required students to complete forms to provide evidence of extenuating circumstances for late or non-submission of work. If the grounds were accepted this would allow the student to retake the assignment without being capped. However new forms had to be completed for every piece of work submitted and the results of the mitigation process were not given until six weeks after the deadline, so during this time a student was in a state of anxiety awaiting the outcome. Tim cited a very stressful period during his second year when he had to pass or he would have had to leave the course. He felt that the way the mitigation process was organised served to aggravate the levels of stress which were the cause of the problem in the first place. He thought that the mitigation process should be made easier and less stressful. If a disabled student had a problem relating to submitting work they should have been able to get an extension without a lengthy administrative process. Tim considered that universities should be more aware of the Disability Discrimination Act. He believed that they were not fulfilling the legal requirements at least with regards to depressive illness.

Different learning issues and approaches

Impairments such as dyslexia do obviously bring to bear the need for different approaches to teaching and learning. John, who was diagnosed with severe dyslexia whilst in year 6 of junior school, became interested in architecture during college. He gained confidence in his ability whilst at college and was supported greatly by his mother. She had a *"you can do anything' approach"* which pushed him into university instead of looking for employment. He was not really informed of what to expect on the architecture course and in particular he was very nervous about the writing aspect.

John said that he expressed himself through images rather than words. He consequently found aspects such as writing a 6,000 word dissertation very difficult to manage. He would have liked to explore the possibility of using diagrammatic analysis of a building, detailed images or drawings to convey the theory behind a building instead of essay or dissertation writing.

Individual support

A common theme that emerged from the interviews with students was that even when support was provided, it was not always appropriate or sufficient. John in particular highlighted some areas of concern and cited examples of positive support that could be provided. One of his examples was that he had been allocated a support tutor who was not related to the architecture school. Whilst this person was highly trained in relation to impairments, the lack of connection with and consequent lack of understanding of what was required by the architecture school, was a disadvantage. A similar problem occurred with the assessors responsible for identifying appropriate equipment. Consequently the equipment provided was not necessarily what was truly needed in relation to his impairment and the course requirements.

During Part 1 Sarah was aware of her difficulties but these were not fully diagnosed until after she had graduated. As a result she did not receive any specific support related to her impairment during her architectural education despite mentioning the not yet understood challenges faced. She would often cry under the pressure in design reviews; but reviewers were not sympathetic. She was seen as different from her student peers and found it difficult to make friends. To make matters worse she was bullied. Due to her difficulties she was not able to work in the studio because she needed thinking time alone and found it difficult to concentrate in a group environment. She struggled with the workload (especially reading) and other pressures, so took herself out of the studio away from her peers.

Sarah said that although some of her tutors were supportive others looked down on her and were unhelpful. One of the tutors physically ignored her and avoided eye contact. On the other hand one supportive tutor gave her extra tutorials because he valued her potential and he helped her get onto a management course. During her final year she really struggled with her dissertation. Her supervisor would often make her cry. She also had difficulty with other written modules. Whilst she excelled in her design module, her grade was brought down by the more academic ones.

Sarah thought that it would be very beneficial if there was someone in the architecture department who worked with the support service of the university. She considered that the person would have a better idea of what the course included and the creative and academic pressures. She went on to say that a support person might then be able, not only to help the student, but also to communicate with tutors on the situation and become enablers rather than hindrances.

Sarah indicated that she had been given more support on the MA Fine Art course than on her previous architecture course. This

included a support tutor, reading software for the computer and extra time on her dissertation. She recommended that there should be meetings with the tutors and the disability experts at the beginning of and throughout the academic year. She thought that better communication with the school, university and the individual was needed. Sarah also thought that Disability Awareness should be taught during education to familiarise students and tutors with different impairments.

Sarah felt that group working should be limited and perhaps tutors could be a bit more considerate when facilitating "*group forming".*

Networking and mentoring

Students had mixed opinions about networking and mentoring. Cora would have liked to be involved in a network of disabled architecture / art students if it was anonymous. Other students also thought that it would be useful to belong to a network of disabled people; however one student, Mary, commented that she would see herself as a *"fraud"* due to the nature of her impairment. She did feel however that it would be good to have a balance of socialising, learning from experiences and understanding emotions. She also considered that it would be very useful to hear from disabled architects. However not all students agreed on the value of networking. Sarah did not think it would be useful to belong to a network of disabled people. She thought that setting up a network of disabled architecture students would bring up concerns about disclosure. Christine thought that to belong to a network of disabled people might turn out to be draining for the individual. It would depend on the members within the network.

Tim suggested that a "*union"* could be created to support disabled architecture students as a single person could feel isolated in the architecture field. He felt that a union would create a larger and louder voice for people. He also thought that it should be a nationwide organisation run by someone who is not studying. It should be the first point of call for advice on discrimination and rights. The union needed to have official power to enforce change. Sarah also thought that it would be good if there was a union of people to give advice on the laws and rights of a disabled person and inform them of the support available.

There was an issue about whether there was enough time on an architecture course to create a successful society and engage with other disabled students. John and Tim both raised lack of time as a factor that prevented more interaction. Web based networking was discussed with the interviewees. Mary thought that for a Facebook group to be successful, a society would need to be well established.

John did confirm that there was a Disabled Student Network (DSN) at his university which allowed students to comment on the environment of the university and raise concerns and complaints. However this was not a place where students would converse with each other; it was for putting direct questions to the university. John thought it would be beneficial to have a proactive network run by the RIBA where disabled people could raise issues that are dealt with by a professional body. He felt that an

official voice was needed from the RIBA to make an impact on the Students' Union and that it would be good to have a network of disabled architects because they would be able to offer their advice and experience.

At John's previous college there was a Learning Support Centre. This was a place where the disabled students could go. It allowed the students to use the computers in privacy, provided one to one support and group workshops. It was an area dedicated to providing support. John thought that a space like this in a university would increase networking between disabled students. It would be a social space where support could be gained. It was not seen as segregation as the students needed a space where they would be accepted and supported.

Several of the student interviewees thought that having a mentor would be beneficial. Tim thought that a mentor should be trained in disabilities and be part of the architecture department. This would enable them to make a link and provide coordination between the student support role and the course. He confirmed that there is a Disability and Dyslexia centre for the whole university but that individual courses or departments and the pressures of the architecture course are not understood.

Sarah did not have a mentor at either of her schools of architecture. However at the second institution she had a Disability Support Advisor who helped her with her writing. The advisor listened to her problems and valued her as a person. She felt that without this support she would not have been able to complete her studies. Sarah thought that a disabled mentor would only be important if they understood the problems she was facing. She would not like to be placed in a situation where there was negativity and an attitude of pity, *"poor me, I am the victim"*.

Christine confirmed that she would have found having a mentor very beneficial and that an architect mentor would be more useful as they would have specialist knowledge and understanding of the education and practice structures. She felt that a mentor could provide encouragement when a student was flagging and provide guidance on navigating their studies.

Student Experience in Practice

Several of the students had broken their studies and gone to work in practice.

John said that:

"It is important to sell your disability and be proactive."

When going for an interview in practice he confirmed that he would say he had dyslexia and that he used equipment (financed by himself) such as Read and Write Gold-9-Gold and Dragon NaturallySpeaking to show that he was able to work around his impairment. Equipment was needed to support him in a practice. Although John was aware of the Access to Work scheme, he felt that an employer might view this negatively.

John thought that the type of practice that he would find hard to integrate into was a small practice where the priority was completing projects at speed. He considered that practices where

there was already an infrastructure for dyslexic employees would be a lot easier for him to fit in. John said that during his work experience as a construction engineer, he had not encountered problems and that the staff were very positive. If they came across his spelling mistakes, they would just deal with it.

Christine thought that some employers had expected too much of her whilst working. She felt that because she was articulate and older they treated her as a fully qualified architect in situations where she was still learning. This had led to her being expected to cover more work than what she could handle. She sometimes had not been given enough time to understand the drawings. She thought that it was vital to have a mentor whilst in employment, to provide a voice at a higher level.

At an interview for a job she mentioned that she was not very fast at model making, she could do it but it would take her some time to complete. She felt that this was the reason she did not get the job although later she went back to that practice and had a very successful work placement.

More recently Christine confirmed that she had been adversely affected by the economic downturn and that she had not had any responses to job applications. She was not sure whether this was in part due to her impairment or whether it was simply the lack of jobs generally. She also considered that her lack of qualifications in architecture may have had a bearing on her employment opportunities.

Tim, who took a three year break from his studies to work in practice, confirmed that during this time he had no problems. The workload was reasonable and the practice treated him like a *"human being".* He found no need to disclose his depression because it was manageable. He did comment that other practices placed a lot of pressure on employees, especially students, and that he was aware of instances where some students would work for free or work a lot of overtime without extra pay. He pointed out that this was not fair for students who were not in a position to afford to do this. Tim said that he had avoided applying for one job after reading this description:

"Must deal competently under the pressure of deadlines".

He believed that the job would involve a lot of weekend working and a large amount of stress that would cause harm to his health.

Sarah had taken time out from her studies after completing the first year of her MA for health reasons. During this time she had found employment. Sarah saw no reason to disclose her impairment to her employer. At times she had suffered from stress, concentration problems and poor performance which could affect her work. The economic climate had placed her under additional pressures. The pressure, being judged and others' expectations were all factors in triggering depression. Sarah felt that she was currently working below her potential and that she did not feel comfortable *"to jump into the game and become a designer."*

Jacqueline felt that she could not achieve the design work she wanted to and was now more determined to find a practice that concentrated on historic buildings and accessible environments. She believed that there was not enough thought going into the design of streets and was determined to revive this area and make it more interactive. She said that her focus had changed since she became impaired. She used to design from her intellectual knowledge, now she had moved into a practical method related to her own experiences of places. Being impaired had allowed her to notice the environment in a different way, it had changed her views. She used the difficulty with escalators because of a coordination problem, as an example.

Jacqueline's cognitive impairments had affected her performance whilst at work. She sometimes stuttered when nervous and her reaction time to questioning could be delayed. She kept a book with her with all the relevant names and terms she needed because she had difficulty remembering names and terms. However, she felt these issues might affect her job applications and references.

Jacqueline said that when she first went back to work her boss treated her badly. The workmen on site supported her more. She had noticed that the employer assumed everything was a problem. This annoyed her as it was never about what she was actually capable of or what equipment could be provided to overcome the difficulties. She coped with some of the difficulties in the practice by removing herself from the situation. For instance she avoided clients as she felt she might cause offence by forgetting names.

At the time of the interview Jacqueline was under a lot of stress. This was due to a number of factors including being unemployed, a single mother and studying for a qualification. Her situation had caused financial and health problems. She felt that there was no support in the architecture profession for her and no incentive for employers to hire her.

Jacqueline's interview made it clear that her situation was not simply related to having an impairment. She felt that because she was a single mother and needed to provide her child with financial stability it had been particularly difficult to balance her family responsibilities and her career. She considered that architecture practices were unwilling to employ her because she was a single parent. She expressed the view that architecture is not a financially secure profession partly because it is dependent on the economy and deeply affected by economic downturns. If it had not been for the child she would have looked elsewhere in search of work. Jacqueline stated that architects' attitudes needed to change. She also stated that night working should be stopped as it was not fair for mothers or disabled people. *"It shouldn't be expected of an employee"*; they should not be forced to work. Jacqueline thought that there was a reluctance in the RIBA *to "change the structure of the working profession"* to reduce the hours and improve employee rights. She pointed out that there was also a poor acceptance of part- time workers and hoped that because of the recession part-time workers would have noticed the benefit of fewer hours.

From university only two women from her course had stayed in the profession. One was Jacqueline who was currently

unemployed and the other had no children. Being unemployed had not had a detrimental effect on her passion for architecture and she confirmed that she would not apply for other jobs outside of the profession. She did not want to admit defeat and felt that if she did work in another field she might lose that passion.

For Jacqueline completing part 3 had now become a necessity as she was having difficulty obtaining employment without it. She hoped to complete it the following year. The support she needed during her part 3 included computer access, list of terms and double spaced blue paper in her exams; a proof-reading computer programme and a more concise reading list. She could not think of a way to overcome the problems she experienced in oral examinations. Her cognitive impairments might cause difficulty in a potentially stressful situation such as being interrogated by examiners.

Some students had considered not pursuing architecture as a career. For instance Cora had not yet decided on what career she wanted to pursue when she completed her studies. She had thought about teaching art in secondary school. During her interview she discussed combining her knowledge of architecture and fine art with her experience as a disabled person and was enthusiastic about exploring the possibility of joining organisations that might offer this possibility. Architecture Inside Out and the Arts Council were mentioned.

What student interviewees would like to change

Interviewees identified areas that they thought could change for the better.

Cora said that the attitudes of the tutors needed to change and that they should support the students whilst teaching them. John also reiterated this. He felt that tutors often criticised without being constructive and that this could negatively impact on a student's self-confidence. He went on to say that if they provided more support a student would be more productive and positive. Taking the fear away from the tutoring would increase the attendance and encourage the students to reach their full potential.

Cora considered that the label of *"disabled"* should be removed and the needs of the individuals should be expressed. She noted media stereotyping of *"learning disabilities"* and cited as an example the popular television programme, "*Malcolm in the Middle"* which portrayed a class of children with learning difficulties as idiotic, disruptive and socially incapable. Cora felt that there should be more programmes on television that portray disabled people in a true sense so people could learn their difficulties and needs but also their capabilities. Cora thought that online resources should be available for all students on different strategies for coping whilst studying, for example: methods of organising, prioritising and concentrating. These would not just be useful for disabled students; they could be valuable for all.

She felt that university should have compulsory placements as this would give the students knowledge of what employment is like and provide contacts for life after university. Her current university organised placements and there was no expectation that students would have any employment contacts. Also local

employers were more involved in the teaching on the fine art course than on her previous architecture course.

Mary recommended better communication, particularly with tutors. She considered that they should be in constant direct contact with disabled students in order to check and agree how best to tackle aspects of the course.

John felt that it would have been useful to have had more information on what to expect on the course prior to commencement of studies and what was expected of the student. This would have assisted students in preparing for the pressure.

Another point John made was that architecture is a career that would benefit from having students from all different trades and skills not just ones with high A levels in unrelated topics.

Sarah believed that there must be a way in the future to take the pressure away from an architecture degree. She said:

> *"there is not this much pressure in the practice, why should there be in the education?"*

She thought that this research project should be taken across all design professions; it was not only the architecture discipline that created pressures and attitudes towards disabled people. It should be spread to the Design Council.

Sarah recommended that the books that are necessary for the curriculum should be made available electronically for the students. She had a lot of trouble reading books. If they were electronic she would have been able to have them read to her, using a computer program. She believed that this would also benefit other students as they would not have to wait in a queue to read a popular book.

Sarah thought that design reviews should not be on the basis of presenting to a whole class of students. She felt that students would learn more if design reviews were structured with smaller groups and were not so aggressive or confrontational. She also considered that students should be afforded more time to think and formulate responses and further questions. She felt that she would have learnt more if this approach had been taken.

Jacqueline commented that men are still in control of the architecture profession. She said that all the Part 3 courses that she has looked at are run by males. Her recommendation was that:

> *"different people are needed in the profession to provide different experiences and to speak for the different people in the population; for example those with impairments."*

Christine put forward a number of suggestions. She felt that the longwinded method of applying for support should be changed or the disability advisor should be able to fill in all the forms on behalf of the student, avoiding the consumption of study time. She argued that support could then be provided faster.

Another of Christine's suggestions was that extra training could be provided for students, there could be courses to complete

alongside the degree to support the course, for example CAD workshops.

A number of interviewees felt the course structures could be more flexible for instance to allow the course or parts of it to be undertaken part time.

Christine felt that disabled students should be recognised for their abilities, tenacity and hard work. Awards could be given to disabled students at graduation ceremonies. It is difficult for disabled students to compete against able students so perhaps they could have their own category. She also thought that inclusive design projects should be rewarded.

Personal story: Practising architect, mid-career

"You have two sons; one will go far; don't expect too much of the other one" was the advice my infant school head teacher gave my mother. I was the "other one." However, I was fortunate that my parents could see that I had more potential than seemed apparent to the head teacher. Because I had communication difficulties, one more enlightened teacher suggested that I might have a hearing impairment. So I had a hearing test, followed by a sight and speech test. Yet none of these tests found the cause of my difficulties. So what was the problem? When I was eight, I was eventually assessed by an educational psychologist, as having symptoms typical of dyslexia, including a lack of short term memory. He also discovered that I had advanced abilities, particularly in relation to understanding three dimensional concepts. Whilst, dyslexia doesn't necessarily come with high IQ's it can often become that more apparent when there is a disparity between someone's intellect and communication abilities.

My experience is overall a positive one. I received help when I was young and when awareness of dyslexia was in its infancy. With the arrival of word processors (a dyslexic's equivalent to spectacles), I was able to conclude my architectural studies and pursue my career. I have now been qualified as an architect for about seventeen years and been registered as an access consultant for over five years. As one might appreciate, I have a particular interest in design that includes people with cognitive impairments.

I still experience latent difficulties associated with "decoding" what I hear and "encoding" what I want to say. I liken my experience to having a computer with a fast central processing unit, good programmes, but with a lack of random access memory. Whilst I can speak publicly with reasonable effectiveness, my difficulties become more apparent when I haven't had sufficient opportunity to order my thoughts. Our Human Resources Manager is therefore seeking some coaching assistance for me, so that I might better manage the co-ordination between my thoughts and my speech in such situations.

Interviews: Practitioners

Owen, Kenneth, Jennifer and Linda

Definitions

In common with the student interviewees, practitioners were asked questions in relation to definitions and terms they used about disability and impairment. Once again the responses highlighted the fact that there were differences of opinion on usage, definitions and perceptions. For instance Owen, who had practised as an architect and had also been a university lecturer, said that he was not bothered by descriptions or definitions of disability. Interviewees tended to interchange the term *"impairment"* with *"disability".* Kenneth commented:

> *"Again, this highlights the overall problem – no single term or label covers all conditions*."

He went on to say that he thought a number of terms could be used but that "*disability"* or "*impairment"* constituted the most socially acceptable labels. However for Linda, an access officer, definitions and specific usage were important and in fact she said emphatically that the research team should *be "using the social model"* and not just *"trying to use it".*

There did appear to be a general awareness and understanding of the terms social model, medical model and inclusive design amongst the practitioner interviewees. However one interviewee, Kenneth, considered that inclusive design was a worthy but totally impossible ideal and went on to say that two main sets of criteria should apply. These were to design to the lowest common denominator or provide sufficient adaptations and variations to cater for the full range of abilities/disabilities. In the context of the latter he felt that there were so many criteria such as age, gender, height, weight etc. that it was impractical to "*expect that any built environment activity, system or product design"* could be truly inclusive and "*that at some point, in most given sets of circumstances special adaptation and specialised design"* would need to be applied. On the other hand Linda considered inclusive design to be a mindset that should start at the inception of a project and continue through the design process to the management and provision of services and that inclusive design involved taking everyone's needs on board.

Past education and thoughts about current education

None of the practitioners interviewed had been taught anything about inclusive design when they had studied architecture. However Owen said that his final student design project had been a residential home for disabled people. Kenneth's recollection was:

> *"I studied part-time in the 1960's. Designing for the disabled did not form part of any tutoring or design review processes. The only source available at the time was a copy of Goldsmith's 'Designing for the Disabled.'"*

In addition to their own past experiences as students studying architecture, practitioners were asked their opinions and to give suggestions about how to improve current architectural

education. Jennifer, a principal architect in a local authority, considered that tutors should be talking and listening to students and acting on what they discovered.

All the interviewees stressed the need for good communication, particularly between tutors and students.

Owen thought that universities could best act to support disabled students by meeting the Building Regulations and creating an atmosphere that is inclusive.

When he was a lecturer in the design studio, Owen said that students were aware of him being in a wheelchair and were more thoughtful in their design work. He had introduced "*design briefs that included designing for the disabled"* Owen also asked his students to experience life in his spare wheelchair. They had to navigate around the university and spot any difficulties.

Linda stressed the importance of ensuring that education was open to disabled people and that the physical environment and the course should be accessible with support made available. Unlike Owen she was strongly opposed to *"play acting*" as she considered that it gives a false outlook on the barriers. A person using a wheelchair without a mobility impairment would still be able to access areas more easily than those with one. She said that this could cause more problems as for instance they might see a ramp as easily accessible when in reality it might not be. A way of avoiding play acting, she felt, would be to accompany a disabled person on a journey. This would allow barriers and other difficulties faced to be seen and highlight the inaccessibility of a particular environment.

Design approach and spatial awareness

The interviewees were asked whether their impairment had had an influence on their design approach and also their spatial understanding. All the interviewees who were in architectural practice or had been previously confirmed that this was the case and that generally they were more aware of inclusive design issues than some other designers.

Owen confirmed that his impairment had had a huge impact on how he designed buildings throughout his working life. He considered that he had gained more insight, understanding and sensitivity due to his experiences and was much more conscious that the needs of every disabled person are individual to them. Owen was strongly of the opinion that inclusive design could look aesthetically beautiful without looking "*too disabled"*.

Owen considered he had an enhanced and sharpened spatial awareness because of his impairment. He knew whether he could manoeuvre through spaces. He referred to himself as being the *'height of the average ten year old'*, whilst sat in his wheelchair. This restricted what he could reach, do and see. His kitchen had been redesigned with his access in mind; however his wife still managed to hide the biscuits!

He confirmed that navigating around the environment had become a problem solving exercise for Owen which could be

frustrating. Dropped kerbs could be located at one side of the road but not the other, for example.

Kenneth said in relation to the question about design and spatial understanding:

> *"My own experiences of the numerous private and public situations where my increasing disability caused problems has been an education – an education which an able-bodied person cannot appreciate. It is obvious from observations within the office, and from many and varied discussions, that, the design process is not all inclusive, and unless there is a specific disability related brief, the only consideration given is the 'add-on' provision of applicable statutory requirements.*
>
> *I think the main aspect within this process is that, a disabled person has a much greater awareness of the need to consider the 3D aspect of any design – for instance the height of things becomes the most important element.*
>
> *Although the general principles of spatial awareness still apply, an understanding of both horizontal and vertical relationships between differing elements and surfaces will affect how an overall layout is considered."*

Issues relating to expectations of disabled architects were also discussed. Kenneth pointed out that some disabled people have found that they are expected to take on the role of *"expert"* on access and inclusive design or have been asked to become an access auditor because they have personal experience of living with an impairment. He confirmed that this had happened to him and said:

> *"My experience in private practice has always been that any disability has "qualified" that person to advise on any related design elements."*

He went on to say that depending on the individuals involved, this could be both acceptable and unacceptable. In general, a disabled person's awareness and understanding might be greater and he thought that the benefits gained by utilizing the experience of a disabled person usually outweighed the disadvantages.

It was clear from Kenneth's interview that he considered some elements of inclusive design could be incorporated as the norm and become mandatory. He said that having worked on a small number of healthcare buildings as well as a wide variety of domestic, commercial and industrial buildings, both to specific briefs and for design and build contracts, it was still the case that designing for disabled people fell into two distinct categories –a specific and detailed brief which itemised requirements for the particular healthcare or disability requirements, or the required statutory requirements applied as a necessary *"add-on".* He thought that perhaps the emphasis was wrong and that instead of trying to include disability related design options within an overall design process, these should become the default options,

thereby applying criteria designed to suit impairments as an overall industry standard. He gave examples of some criteria that could be applied such as setting all door widths at 1000mm minimum and requiring all taps to be lever.

Linda considered that people without an impairment did not understand for instance the space needed by a wheelchair user in a toilet. She pointed out that in her experience the layout of accessible toilets often caused many problems for users while appearing to comply. She cited restrictions on movement caused by incorrectly positioned plumbing pipework.

She said that most people thought that ramps are the most important design feature when thinking of wheelchair access but she, like Owen, was concerned about kerbs. She pointed out that dropped kerbs with a 15mm raise, which is supposedly there to stop rain, could cause a hazard in heavy rainfall or in other situations which reduced visibility and a wheelchair user could not see whether the pavement was flush with the road.

Attitudes and awareness

The interviewees had mixed experience in terms of attitudes and awareness of others. Jennifer stated that she had not experienced attitudinal problems from clients, colleagues, consultants, contractors or other parties and said that this was

> *"probably as I have worked in the public sector for the last 16 years".*

Linda, on the other hand, had more negative experiences and related a number of instances, including being *"patronised by senior architects"* whilst providing them with access advice. As a woman with mobility impairment in a difficult world, there were situations when people would not listen to her. To counter these attitudes she had become a *"forceful person".* She physically showed designers the barriers she encountered and how designing differently could make a difference. Linda felt that over a period of time and particularly after meeting other disabled people, she had earned respect in her field.

Owen related some worrying incidents. There were a number of occasions when people had parked in his disabled car parking space. He had received excuses for parking in his space such as *"I was there for only a minute."* However on one occasion he had experienced aggressive behaviour from a driver whose vehicle was in his space.

Owen also cited an episode when one staff member once asked him *"How tall did you used to be?"* Owen's response was good humoured and he replied that he was *"the same height today"*. He recognised that in this instance the person was not trying to cause offence.

Whilst he had encountered poor attitudes or ignorance Owen said that he had also experienced kindness and support. One example of supportive behaviour he gave was when site contractors lifted him three feet to allow him to see the space that he had designed.

Career/employment history/working life

Owen's impairment had influenced decisions in relation to his career path. He said that when the university job vacancy was advertised, he was working in a rural housing trust. This involved many site visits to villages and a lot of driving. Owen felt that he could not fully practise as an architect due to the physical demands of the role and wanted a more sympathetic environment that was willing to adapt to his needs. He decided that it was the right time for him to move into lecturing.

Kenneth also confirmed that his impairment had impacted on his working life. He said

> *"I was diagnosed (with multiple sclerosis) in my mid forties (now 61), and so, have experienced both abled and disabled conditions."*

He went on to say:

> *"My working life has also spanned the changes from imperial to metric and from drawing board to computer. The changes in all three of these elements has been more revolution than evolution, but it was the increasing disability which had (and still has) the greatest affect. Not only has my physical situation changed – firstly moving from higher floor offices to the ground floor, gradually reducing working hours until eventually working permanently from home and now, about to retire altogether, but my appreciation of the needs of a person with a disability quickly expanded."*

Linda, whilst not an architect, did give an indication of what some disabled people faced in seeking work. After her accident she spent twelve months in hospital. She was taught how to use a wheelchair but there was no emphasis on her getting back into work. The prevailing attitude at the time was that wheelchair users were not expected to work. Linda said that she was *"disabled not ill"* and that the hospital should have offered her alternative means to continue her working life.

She confirmed that she had been confident in applying for jobs before her accident. One of the experiences she cited was that after she became impaired she had visited a recruitment agency but had not been able to access the building. She contacted them and was told to get in touch with the director. The agency made no changes to the building to make it more accessible but instead asked her whether she still wanted to sign on with the agency. Linda's general comment was that:

> *"people can see the disability before the capability of the person."*

After becoming impaired Linda initially became involved in the voluntary sector and was recognised for her contribution to disabled people. However it took her seven years of determination to find paid work.

Linda related her final success in getting work after joining a voluntary access group. Her experience in the voluntary sector had led her to become interested in the environment and organisations with a commitment to inclusive design that

supported access for disabled people. She applied for a job as an access officer. She was up against eight male applicants and was successful in acquiring the post. Linda considered that her personal knowledge and experience of accessing buildings and environments were key to her success as the opposition was only educated in the area and had little direct experience. Having the personal knowledge with the additional formal training was more beneficial to the role.

Linda's mobility impairment had influenced the way she did her job and affected how she lived her life. She had to consider access constantly throughout her day. Linda said that she knew exactly what questions to ask a client because they were answers she needed to know herself.

Jennifer, who worked in a local authority, considered that her impairment had not affected her employment opportunities to date but felt that she would need to think carefully about future areas of work if she left her current post.

There was some discussion about the working environment and Owen confirmed that he had seen accessibility improving at his university with the addition of double release doors and the variety of disabled toilets. However during his last year working there he had encountered problems with the management. He had often asked staff members to give him a hand when accessing his car. A person in a senior position stopped staff from doing this by telling them that they should refuse to help and not inform him of the reasons for their refusal. This withdrawal of assistance and the lack of explanation created friction between staff members and it took six months of working with a union representative to negotiate terms. The Access to Work scheme funded him with a taxi to and from the university. Owen believed that the senior member of staff had acted in this way because she was trying not to upset him. However he considered her actions to be highly inappropriate and that she could have handled it better if she had researched the solutions to accessibility within the work place. Owen did also "*point the finger of blame"* at himself and felt that he could have spoken up and told people his needs. He also felt that he had waivered on his decision about leaving the university. At the time Owen was physically ready to retire because he found it harder to be physically independent. However he had avoided departing because he was unsure of what he was going to do in retirement. After the *"standoff"* at the university, Owen considered that his choice of retirement had been taken away from him. The whole situation had made him very depressed during his first year of retirement.

Kenneth said that he had not experienced any particular problems within the office environment and went on to say that it had been the increasing impairment itself that has brought him to:

> *"the position of firstly, part-time work, and shortly, full retirement."*

Kenneth confirmed that the practice had been supportive during the period of his progressive impairment and disability and continued to be so.

The impact of the current recession

From the limited number of interviews undertaken it was not possible to give a definitive answer on the impact of the current recession on disabled architects and particularly to comment on whether this impact was disproportionate in relation to the impacts on people who are not impaired.

The current economic climate did not appear to be significantly affecting the architects who were interviewed. However, Linda gave examples of the impact of the recession in her sphere. She stated that in the current economy people were cutting corners, especially with accessibility and inclusive design. She went on to say that there were no consequences to face if a building was not accessible, so they were ignoring this aspect in order to save costs as it was perceived as benefitting only a few. The attitude was to wait until a confrontation occurred or there was a challenge. It was not understood that inclusive design benefits all.

Linda also confirmed that the access officer role in the local authority was not a statutory one and had been lost as part of the sector's efficiency savings. Designers who were required to produce the design and access statements to accompany planning applications did not have enough guidance on how to prepare an effective statement. Linda felt that no one had the knowledge to give people effective advice on the statements and continuing professional development (CPD) on this topic was rarely available. Whilst consultation could still occur with voluntary access groups of disabled people, these people did not have the technical knowledge of an access officer. She stated that there should be an Equality Impact Assessment on the employment decisions made during the recession. This would facilitate investigation of whether there was a greater impact on certain groups.

Networking and mentoring

Owen did not have a mentor during his education. At the university where he taught he was provided with a mentor for his first year amongst other things to familiarise himself with techniques of gaining student attention. On attending the multiple sclerosis (MS) clinic he met other disabled people during physiotherapy sessions. However Owen did not want to meet people just because they had MS. He did not think it would be useful to belong to a network of disabled people and confirmed that he had plenty of support from friends and family. When he joined a group, it was to gain something out of it. He was involved with access groups and the Green Tourist Group because he gained knowledge from them and he also felt they had a positive impact. Owen did not view them as support groups.

Jennifer confirmed that she belonged to her county council disability network and thought that a network of disabled architects could be useful as a way of understanding other people's issues. She did not perceive a network as necessarily offering support on a personal level. She suggested that web-

based, online networking perhaps through Facebook and the RIBA could maximise access.

Kenneth belonged to the MS Society but said that this had no relevance to his employment. He felt that providing specific disability mentoring or forming a disabled architects' network could create *"double edged situations"* and that whilst they could well make information and knowledge more widely available they would also inevitably lead to exclusive specialisation. Although Kenneth thought that it might possibly be feasible to set up a network of disabled architects, he questioned the usefulness or validity of this.

In relation to students Kenneth said:

> *"It has always been my view that all architectural students should gain practical experience by spending one year of their course working on a building site, so, why not extend this idea by including a period within their course working with disability groups or within a healthcare environment."*

Practitioner recommendations

The interviewees were asked whether there were any recommendations they could pass on. Several suggestions were directed at students and most of the interviewees stressed the importance of talking, listening and responding to students.

Many suggestions were applicable to the wider community such as ensuring that students visit premises. Providing information on what work experience involves and supporting students in the workplace were also cited as important.

CPD was mentioned by both Linda and others. This particularly related to legal requirements and considered important for all staff.

Linda made several recommendations. These included:

- ensuring that higher education is accessible (both physically and educationally) to disabled people with the necessary support available to complete the course.
- encouraging disabled children at an early age to take on knowledge and experience to make a difference in the field in the future. *"Some disabled children are 'family cuddled' and lack confidence. They should be shown that they do not have to be dependent on others and they can achieve independently."*
- making the social model compulsory.
- providing Disability Equality Training delivered by disabled people. "*This would provide insight into the needs of the environment for everyone and hopefully change negative attitudes."*
- promoting inclusive design as being good business and benefitting everyone not just disabled people.
- making Inclusive Design a mandatory part CPD for all whose work affects accessibility.

Interviews: Support staff responsible for disabled students in HE

In addition to discussion with students about their experiences and perceptions of architectural education interviews were held with eight people at universities who have responsibility for supporting disabled students. A deliberate choice was made to interview people at varying degrees of seniority in an attempt to obtain a range of views. A number of different universities were selected to achieve examples from both post 1992 universities who acquired their status following the Further and Higher Education Act 1992, and the longer established universities who are members of the Russell Group.

All respondents had roles that required the provision of support for disabled students (see figure 38). The range of posts meant that some were in daily direct contact with students, whereas others were responsible for strategic aspects of support. Only one post holder was an academic member of staff with specific responsibility for dealing with academic problems experienced by disabled students. In detailing lists of responsibilities it was interesting to note that only one university monitored the performance of disabled students in comparison with non-disabled students as part of its Equality and Diversity policy. The university concerned compared the dropout rates, failure rates and degree classification as a mechanism for checking the performance of the university itself in providing appropriate support for disabled students.

There was substantial agreement amongst the interviewees about the types of impairments that were represented in students on architecture courses. Figure 39 sets out the impairments mentioned in order that the impairment was considered to be most frequently experienced by students on architecture courses. Dyslexia was the most frequently mentioned impairment and mobility problems the least frequently mentioned. The impression given was that dealing with physical impairments was more straightforward that other conditions, particularly mental health problems. Most interviewees agreed that the number of students with mental health problems was increasing and that often these conditions were little understood and were

"on the bottom of the pile"

as one respondent put it, when it came to acting appropriately to support the student. One interviewee had particular knowledge of mental health and had worked to develop mentoring programmes for students with mental health problems. A repeated comment from interviewees was that people did not understand impairment and were often afraid of disabled people, particularly people with mental health problems. Most of this fear was related to the fact that people did not know how to act towards disabled people. It was therefore easier to walk away rather than engage with the student. However on a positive note the majority of interviewees felt that the situation was improving as more disabled students entered architecture courses.

Figure 38: Roles and responsibilities of educational support officers in HE and / or schools of architecture

Position	Role	HE institute
Student Advisor Junior post holder (full time)	Acts as first port of call for disabled students with problems Liaises with administrative team and team responsible for supporting disabled people	Post 1992
Senior Disability Officer (full time)	Works on developing policy framework on support disabled people Managing support worker service Trouble shooting on difficult cases	Post 1992
Disability Co-coordinator (part time) Senior post	Liaison with tutors Co-ordination of support Organising reasonable adjustments	Post 1992
Academic Disability Advisor (part time) Principal Lecturer	Providing advice for tutors and students Trouble shooting Academic support	Post 1992
Head of disability service (full time)	Strategic responsibility for student support	Russell Group
Manager Senior post (full time)	Management Organisational support Practical help for disabled students and non-medical support	Russell Group
Disability and Dyslexia Advisor Junior post (full time)	Supporting disabled students	Russell Group
Disability Support Manager Senior post (full time)	Management Organisational support Practical help for disabled students and non-medical support	Post 1992

Figure 39: The frequency of specific impairment experienced by architecture students as perceived by disability support staff

(1 = most common, 7 =least common)

	Impairment	Explanation
1	Dyslexia	Dyslexia is a learning impairment that affects reading and spelling of words and the organisation of written and sometimes other material. It is a spectrum disorder so that for some it is relatively mild but for others it can create extreme problems.
2	Mental health	Mental health impairment covers a wide range of conditions. These can range from mild to clinical depression through to more severe conditions such as bi-polar disorder or schizophrenia.
3	Hearing impaired	Again this can cover a spectrum from mild to complete hearing loss. There are also conditions which affect the ability to hear certain sound frequencies or cause sound distortion. The experiences of people with hearing impairment who acquire the impairment are very different from those born with the impairment. The latter is often associated with impaired speech.
4	ADHD	Attention deficit hyperactivity disorder (ADHD) and attention deficit disorder (ADD) have symptoms that may begin in childhood and continue into adulthood. The condition causes persistent inattention, hyperactivity and/or impulsivity. It is a disorder which can be mistaken for aggressiveness or disruptive behaviour.
5	Dyspraxia	Dyspraxia is a condition which affects the ability to perform controlled co-ordinated movements and also to process information.
6	Dysgraphia	Dysgraphia is a specific developmental impairment that affects a person's ability to write and draw. Problems may include a lack of fine-motor muscle control of the hands and/or processing difficulties.
7	Mobility problems	There is a vast range of different conditions that affect mobility ranging from very minor through to more serious conditions which make independent movement problematic. Assistive technology such as the use of a wheelchair may be required.

Entry and financial support

No major problems were reported regarding the arrangements for entry of disabled students to the school of architecture. However, respondents in most cases did not take part in the selection and student recruitment process. All respondents recognised that some prospective students were wary of disclosing their impairment for fear of discrimination at the point of entry, although again this was seen by most people as a matter that was gradually improving.

Disclosure in most cases led to a pre-entry meeting to discuss the support needs of the student and was usually helpful. There were some differences of opinion about the extent to which a disabled student should be left to ask for support if he or she needed it after entry. One interviewee thought that overdoing support could limit the development of the individual as an independent learner and raise unrealistic expectations of his or her future as an employee. She stated:

> *"The amount of support provided by the university may sometimes give the student an unrealistic idea of what will be expected by their employers."*

When asked about this, another interviewee responded by saying:

> *"This is total rubbish! If the support provided is appropriate then it will not give disabled students an unrealistic expectation of what it is like in employment. Firstly disabled students will be able to draw down on access to work funding. Secondly we are here to provide students with access to the curriculum and not to make value judgments about their future employment".*

One interviewee reported that evidence had shown that people who took up offers of support were less likely to fail the course.

Some interviewees reported problems with the organisation of Disability Support Allowance, although most of the interviewees said that the university had improved its systems. One described the current system at a post 1992 university as *"exemplary"* and went on to explain that interim support is funded by the university if there is a delay in obtaining DSA that might affect the student's ability to study.

Studio teaching and design briefing

Several interviewees raised concerns about how information about design projects was provided for students. Some people commented on the lack of clarity of the written briefing that seemed to be designed to confuse people rather than help them to understand what was required of them by the tutor. She summed this up by saying,

> *"why do briefs have to sound so intense and intellectual ".*

One interviewee reported on a staff development exercise where tutors had swapped design briefs with each other. In some cases on reading the instructions even the tutors found it difficult to understand what their colleagues were trying to get their students to do. A number of interviewees reported on the way in which students received coursework briefs from tutors as a series of incremental stages, often without prior warning to the students. One interviewee described this as a *"drip drip "*approach to briefing students about the requirements of a design project. Whilst it was accepted that in

some cases there were sound educational reasons for providing briefing incrementally, this was not always necessary and tutors should be aware that this approach can add to stress and make it difficult for a disabled student to plan work schedules. Many students may find this approach confusing, but a disabled person may be particularly disadvantaged by a lack of clarity about the nature of the requirements of project work. One interviewee commented that many architectural tutors seem to resist using virtual learning environments (VLE), such as Blackboard, as a means of conveying information to students even though it was apparent that all students benefit from the opportunity to review lecture notes, handouts and design briefs online.

Design review

Participation in critical design reviews was also seen by most interviewees as a major obstacle for some disabled people such as people with hearing impairments, communication difficulties or autism. Support workers reported cases of considerable distress, including panic attacks, following design reviews and in some cases high levels of stress or even depression. A common theme that emerged from the interviewees was the agreement that architecture is a tough profession that involves personal sacrifice on the part of the person who embarks on a career as an architect.

The culture of long working hours

Most of the interviewees felt that students on architecture courses required a disproportionate amount of support in comparison with students on other courses. When asked why this was considered to be the case, the responses were mainly related to the high expectations of the tutors for students to complete demanding work schedules. This was seen as a cause of stress for all students, but particularly for disabled students where working long hours may exacerbate existing medical conditions, particularly mental health problems or conditions that cause fatigue. The interviews with support workers confirmed opinions that the long hours culture commences at university. One commentator said that in a number of cases students, where the condition was not previously manifest, developed dyspraxia which she believed was a result of long hours of concentration. A long-hours culture can become very stressful for some individuals and very disheartening. This can be exacerbated in cases where tutors prohibit the use of computers for some design projects. The prohibition of computers was mentioned by a number of interviewees. Another interviewee in commenting on the culture of long working hours said that on architecture courses a student was:

> *"regarded as a slacker if they work regular hours."*

Reasonable adjustments

All but one of the interviewees expressed some concerns about reasonable adjustments and recognised that this was an area that needed further work to enable appropriate adjustments to be made.

Some tutors had major concerns about fairness and competence and how and when adjustments should be made. One interviewee remarked:

> *"Reasonable adjustments are about disabled students being given the opportunity to demonstrate core competencies, not about them being allowed to gain a degree despite poor performance."*

It was reported that one post 1992 university had commissioned a working group with external expert support to prepare a more comprehensive report of how and when adjustments should be agreed to provide more comprehensive advice. The same university had also appointed an academic member of staff to assist tutors and disabled students in dealing with this type of academic matter and to act as a point of contact for the student if difficulties arose.

Exam arrangements for dyslexic students were widely reported as a problem. The practice of allowing students extra time in an exam, with disabled students grouped in a separate room was severely criticised by a number of commentators. The importance of making exams as stress free as possible for all students was considered to be a high priority and a matter that had not yet been fully addressed by the universities.

Staff training

A number of the interviewees in senior positions were responsible for some staff training and raised concerns about how this was done. One interviewee commented:

> *"The staff who attend CPD courses on Equality and Diversity issues are usually people who are already well informed and very supportive to disabled people. The challenge is to convince the people who are not present that they need to attend."*

All agreed that continuing professional development (CPD) for all staff on equality and diversity was essential to move people on from a reactive to a proactive approach to the provision of support. A number of interviewees felt that this CPD should be compulsory and that it should include academic, technical, administrative, domestic and all other employees of the university. In making this point about the responsibility of all employees of the university to avoid discriminatory behaviour, one person commented:

> *"A disabled person can be made to feel excluded if a contractor blocks the accessible parking space just as well as by other forms of behaviour that exclude the disabled person".*

One interviewee described her strategy for addressing the need for effective CPD for staff by saying:

> "*I gatecrash other staff meetings to ensure that disability issues are considered."*

Developing good practice

Interviewees were asked about their understanding of the social model of disability and the extent to which this guided their approach to the provision of support or the approach taken by the university and the school of architecture. All interviewees had at least a basic understanding of the social model, although some did not know this term. Other interviewees were exceptionally well informed.

There was a consensus view that universities are moving towards exemplary practice in supporting disabled students appropriately, but have by no means achieved this. When probed about the extent that the senior management in the university or school was aware of the social model and the legal requirements of the legislation to

actively promote a non-discriminatory environment, most interviewees felt that there remained considerable room for improvement. One interviewee summed this up by saying:

> *"Senior management say they are on board, but most speak the words but don't do the deed."*

The same interviewee commented that individual champions have made great strides in accepting the need for effective and positive action to ensure opportunity for disabled students, but she expressed concern that this can lead to inconsistency of treatment and even unfairness. If one student is lucky enough to engage with a committed individual he or she is advantaged. However others may meet with tutors who have not accepted their legal and moral responsibilities and may even discriminate against a disabled person either knowingly or unwittingly. Unfairness may be the result. The employment of external tutors for the conduct of design reviews was mentioned as a particular problem as these individuals were more likely to be unaware of their responsibilities. The extent to which all university staff ranging from domestic, estates, administration, technical and academic had accepted their role in ensuring equal and fair treatment of disabled people was another cause for concern. One interviewee commented:

> *"Disabled students still seem to be 'owned' by the Disability service".*

This highlights the fact that providing a specific service for disabled students does tend to make some staff consider that they can leave support for disabled students to the specialist service rather than thinking about how their own behaviour should change. One interviewee commented that tutors expect the disability service to organise accessible teaching materials or make other adjustments that are the responsibility of the tutor.

The interviews with disability support staff revealed high levels of commitment from them. However the majority recognised that there was considerable room for improvement mainly because of a lack of coordination with the people responsible for delivering courses. Some of the discussion highlighted a lack of priority given to inclusion by senior management and academic staff and the shortfalls led to a situation where support was patchy.

Supporting disabled people working in architectural practices

The part of the research which focussed on support provided for disabled people working in practice proved to be rather disappointing in terms of results. The first line of enquiry through a web based questionnaire directed at people involved in a supporting role or interested in issues facing disabled people failed to attract responses. In an attempt to fill this gap a sample of architects' websites were selected. These practices all indicated that they were involved with "*design for the disabled"*. This criterion for selection was used as a possible indicator that these practices would be aware of issues associated with disabled people and possibly able to provide some examples of good practice. Twenty five practices of varying sizes were contacted with a view to interviewing a relevant key person in the organisation. Only three practices responded to enquiries and of these one confirmed that

they employed no disabled people. This practice stated that their premises were not accessible and that they would not employ a disabled person anyway because they would not be able to go on site. The only really positive outcome from this process was the identification of two practices which did employ disabled people and had a positive attitude to disabled employees. An interview was undertaken with the heads of human resources (HR) sections of both practices.

In a further attempt to obtain more information about the employment of disabled architects personal contacts were then used in an attempt to gain interviews with HR practitioners. The points made by this group of people are summarised as follows. However it should be noted that the paucity of responses does mean that the following comments cannot be seen as a reflection of architectural practice as a whole, although the lack of response in itself could be seen as an area of concern in implying a general lack of interest.

Types of impairment

It is evident from this last set of interviews that dyslexia was the most commonly referred to impairment although the interviewees did have wider experience of architects with other types of impairment, including physical impairments. Several HR interviewees had also had experience of making adjustments to meet the needs of an individual who had acquired an impairment since taking up employment with the practice. Most of the interviewees said that architects with mental health conditions associated particularly with stress or depression were increasing in number. The findings related to impairment tended to tally with the findings from architectural schools.

Some HR interviewees provided detailed responses to the questions posed in the structured interviews. Interviewees were asked about the extent to which they understood the social model. Although most of the interviewees were unaware of the term it was evident from discussions that principles of this model were being applied.

Procedural questions were asked to find out what their practice had in place following disclosure of an impairment. Most HR respondents described practices which were quite well organised and had a reasonable understanding of how to make adjustments. Two of the best examples were the provision of coaching for dyslexic architects and the re-ordering of an individual's programme in recognition of the impact of medication for depression on his work. Another example of good support was one practice where the HR team made arrangements for wheelchair access to sites to ensure that the architect was able to carry out his work. That compared favourably with the situation where people simply assumed that site work was not feasible.

Nearly all the HR interviewees stressed the importance of listening to the needs of the individual and this was considered paramount. One respondent commented:

> *"By the time people are fully qualified as architects they will usually have developed their own coping strategies. These need to be respected by the employer".*

Summary of advice from HR teams

These interviews did elicit some good practice advice which might be taken up by others (see figure 40)**.**

:

Be positive	Take the general attitude that whatever the difficulty associated with a particular impairment the problem can be overcome.
Keep people safe	Ensuring the safety of employees was considered to be the highest priority. This included the obvious need to ensure that people were safe on site or in using the employment premises, but also included ensuring that the working environment did not exacerbate existing impairments or medical conditions.
Mainstream the need to make adjustments	Ensure that addressing the need to make adjustments to meet the particular needs of an individual was considered by the practice community to be a mainstream activity and not an exceptional one. Facilitate adjustments with external organisations to ensure that the architect is not discriminated against in carrying
Work closely with the individual to determine	Working closely with individuals is critical in making appropriate adjustments. Never make assumptions about what is appropriate but carry out appropriate research to achieve the best outcome possible.
Adopt a low profile approach	A low profile approach that is discreet and respectful of the privacy and dignity of the individual was considered to be the best way forward.
Undertake regular reviews	Review needs periodically, particularly in the case of impairments that may be degenerative.
Collaborate with appropriate professionals	Work with occupational therapists, other appropriate professional and the disabled architect to find the best possible technical aids and arrangement of workstations**.**
Provide appropriate mentoring and training	Providing ongoing support assists in maintaining employees' confidence.

Figure 40: Recommendations for the workplace by HR Staff

12 Analysis of websites

Schools of architecture: website review

The importance of websites as a means of obtaining information about schools of architecture before deciding on a final choice was a common factor of significance for respondents to the questionnaire. A number of interviewees also mentioned the fact that the websites of architectural practices were used to find out whether a disabled person would be likely to be welcomed as an applicant for a year out placement or a permanent post. An analysis of websites of a selection of both schools of architecture and architectural practices was therefore undertaken. Criteria for assessment were developed and a systematic review undertaken. In the case of schools of architecture it was necessary to examine the website of the host institution as well as the one dedicated to the school. Figure 41 sets out the areas addressed and ratings of schools of architecture. Sixteen schools of architecture including Russell group and post 1992 institutions were reviewed. All but four of the schools followed the social model. There were some discrepancies between the host website and that of the school of architecture. The school websites were more likely to be less user friendly than those of the host institution. There were variations between schools. For instance some websites were accessible using assistive technology but others were not readily adjustable on matters such as changing font size or colour contrast.

Most websites stated a commitment to equality of opportunity and had a disability equality statement, but in some cases this was difficult to find and there were poor linkages between the host site and that of the school.

It is evident from responses to the questionnaire and the interviews that information about the delivery and structure was considered important. The best examples gave a clear picture of what a student was likely to experience in a typical day. Websites that were not as inclusive implied that tests to assess skills levels such as drawing might be undertaken. This could perhaps be perceived as gatekeeping.

One example of good and imaginative practice was the University of Edinburgh's School of Architecture and Landscape Architecture. Their website had a video showing experiences of a disabled student.

Whilst some schools were very clear on what support was available, others made little or no mention of this. The most effective sites gave information for disabled people at the university itself but also gave details of the wider community. For example Brighton University made connections to the wider community by demonstrating the way a disabled person could link into support networks. The website gave information on accessible cafes and pubs. There were some other good examples about how to apply for disabled students' allowances for instance by giving step by step guidance. One the other hand there were instances where information was lacking and one website provided no information at all. .

Website review of Schools of Architecture

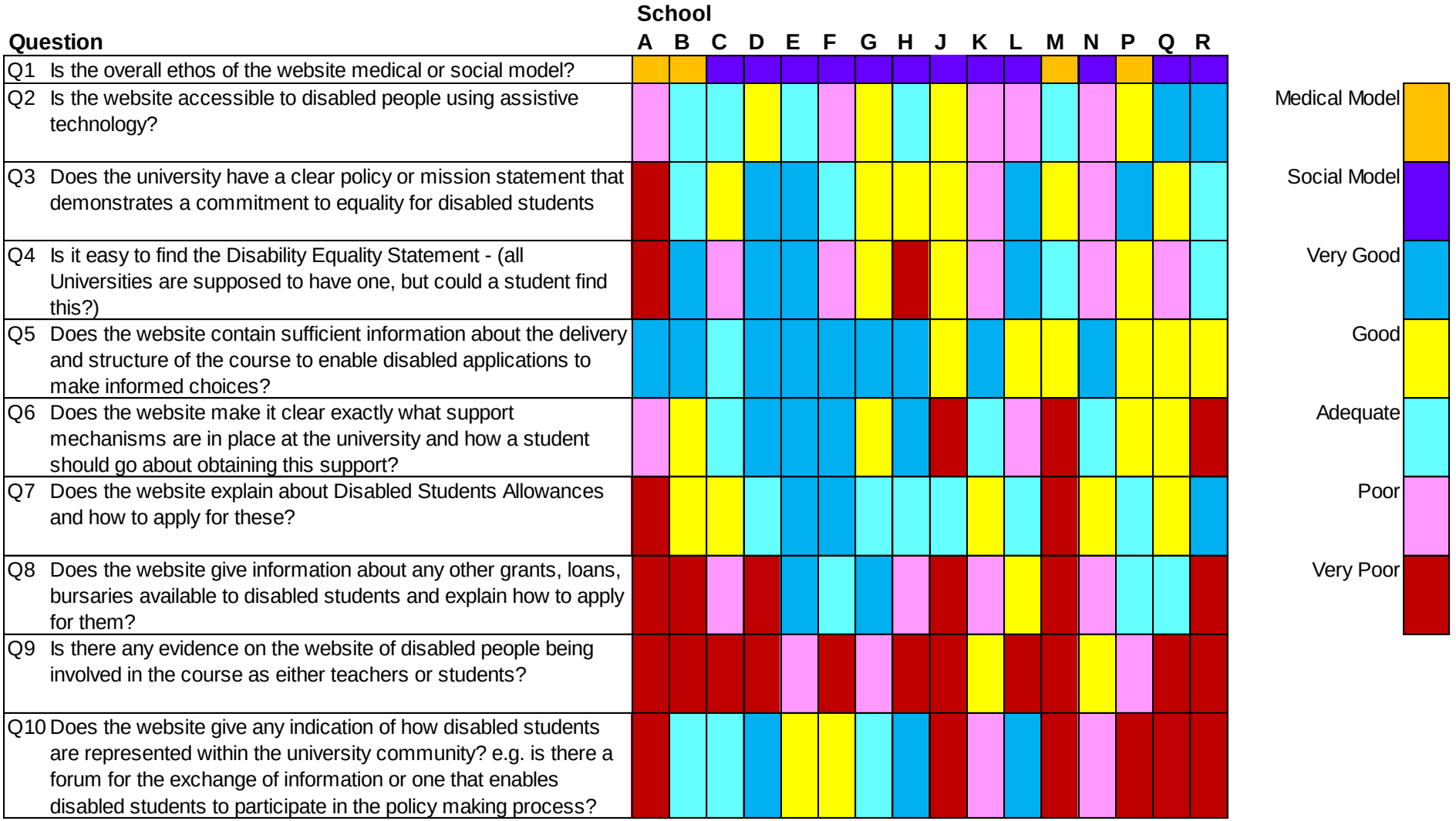

Figure 41: Analysis of schools of architecture Websites

Apart from Edinburgh the vast majority of schools gave no coverage of disabled people's involvement on any aspect of their architecture courses as either tutors or students. Also within the host institution there was limited indication on their websites of how disabled students are represented within the institution.

A general comment about most of the schools of architecture is that there was an emphasis on dyslexia. Although this is probably understandable in terms of the higher representation of dyslexic students studying architecture the absence of information about other impairment was notable.

Architecture Practices: website review

The research team reviewed a sample of 26 websites of architecture practices. The practices varied in size from very large to very small and were located in different regions in the UK. The websites were evaluated against criteria set out in figure 42. Criteria covered recruitment and careers, information for students, evidence of commitment to equality and diversity in particular in relation to disabled people and any evidence of involvement of disabled people. Also included was any evidence of Inclusive Design projects.

As figure 42 indicates, the overall picture of practice websites is not very favourable with most of the practices meeting fewer than half of the criteria and two practices meeting none. All but two of the sites surveyed were not accessible to disabled people using assistive technology and the majority did not give any indication of an inclusive ethos. Ten of the practices had a mission statement which confirmed their commitment to equality and diversity, but only one mentioned disabled people. There were no indications in any of the websites that disabled people were involved in the practice. Also there was little or no information available to disabled people despite the fact that the majority of practices mentioned inclusive design in their work.

Only two practices met more than half of the criteria with one achieving nine out of the 13 and the other seven. None of the practices had the Two Ticks symbol on their websites. The inclusion of the symbol would have indicated Two Ticks accreditation and a firm commitment to disabled people in terms of recruitment, support, practice awareness and the workplace environment.

Although their practice was not one of the 26 reviewed Covell Matthews Architects did appear to be one of the few practices which offered a distinctly positive perspective on inclusive design in its website. (http://www.covellmatthews.co.uk/specialist/dda2.html)

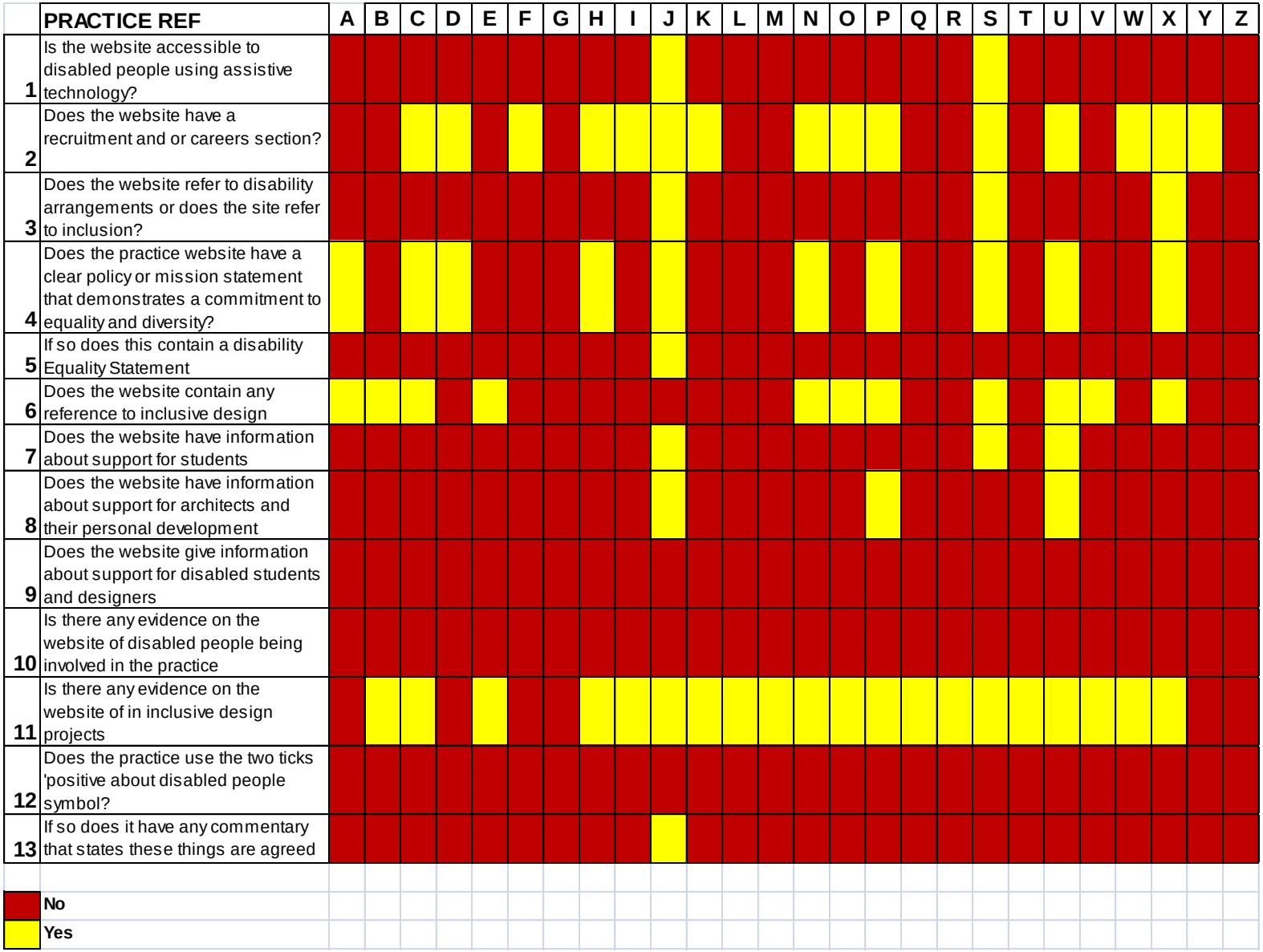

Figure 42: Website review of architecture practices

13 Conclusions and Recommendations

In examining the experiences of disabled people in both architectural education and practice, the overall conclusion is that the architectural profession and those responsible for delivering architectural education need to make significant changes. To create a more diverse profession that reflects the population that it serves, changes are necessary in both the education and the practice environment. However, it is evident from the research that it is the educational environment that needs to change most significantly. At present the education sector acts as a gatekeeper to the profession and it has been too effective in excluding rather than including disabled people. Even before entry to architectural school many disabled people are given strong messages that architecture requires major sacrifices and hardships and is not a profession suitable for many people with an impairment. It also seems that too many disabled people who survive their education perceive their time at architectural school as a gruelling struggle rather than as a time of exciting creativity. Others do not survive the process and are lost to the profession. There was no discernible pattern in relation to the type of institution where individuals reported disturbing behaviours or concerns. However there may be patterns that affect individual schools or programmes.

There are concerns that not all schools of architecture or architectural practices have fully embraced or even understand their legislative and moral responsibilities to provide fair treatment for the entrance, progression and retention of disabled people as students or employees. This is at the institutional level and also at the individual one.

This research has offered a snapshot of the current professional environment that relates to disabled people as narrated by participants in the research.

One of the stated aims of the research was to identify good practice and provide case study examples of this. It is therefore disappointing that in undertaking the research more examples of success and good practice were not forthcoming. It was also disappointing that more people with in a general interest in inclusive approaches and practice to support disabled students and practitioners did not participate in the research.

What did arise from the research is that it would be desirable to undertake further investigation in order to highlight success and to provide appropriate role models and case study examples to support greater inclusion in future. The profession remains unrepresentative of the population as a whole and it can be argued that this lack of representation leads to disregard for or resistance to inclusive design and inclusive approaches. To move forward the profession needs to adopt a more diverse profile which fully includes disabled people. Greater diversity would benefit the image of the profession and ensure that architects are able to respond more effectively to client and user needs.

Whilst there were shortfalls in contribution in certain areas, the participants in the research particularly disabled students and practitioners offered an invaluable and detailed insight into issues that disabled people experience in the practice and study of architecture. If these are addressed it would be beneficial to the architectural profession as a whole. On a positive note disabled respondents who were studying or practising as architects in most cases demonstrated their enthusiasm for their discipline and many had a strong commitment to pursuing architecture as a career.

The recommendations which follow are a response to the issues which were identified through the research and run from primary and secondary school through architectural education to employment. These include suggestions for organisations and individuals and are seen as practical steps which can be taken generally with little or no cost.

The recommendations cover the following areas:

- Primary and secondary school education
- Overview of architecture schools: environment ethos and culture
- Overview of architecture schools: environment ethos and culture
- Application to architecture school
- Progress and progression
- Teaching learning and assessment
- Inclusive curriculum
- Student transition to the workplace
- Architectural practice
- Additional recommendations for relevant professional institutions
- Additional recommendations for individuals

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N.B: Where issues, recommendations and actions refer to schools of architecture this is deemed to include the higher education (HE) institution in which the school resides where this is applicable

1 Primary and secondary school education

Issue or concern		Recommendation and action		Action by whom
1.1	Careers advisors may have stereotypical views about the limitations of disabled people. In addition the popular image of architects as white, male and not disabled may lead to assumptions that a profession such as architecture is inappropriate for a disabled person	1.1.1	Institute of Career Guidance and agencies and authorities that provide career guidance to ensure that careers advisors are informed re diversity and opportunities generally.	Institute of Career Guidance and other agencies Primary and secondary schools and FE colleges RIBA Architecture schools
		1.1.2	CPD for teachers and heads to include diversity awareness and training around career routes.	
		1.1.3	Primary and secondary schools to provide more diverse images in relation to career choices. This should include disabled people with a range of impairments.	
		1.1.4	RIBA to lobby and inform careers advisors and schools and colleges to change perceptions and provide more information.	
		1.1.5	RIBA to review its promotional material and work with schools (pre-higher education) to stress the importance of diversity and inclusion generally and the specific issues relevant to the entrance, progression and retention of disabled people in the profession. Publications and web material such as Think Architecture could be improved by including positive images/profiles e.g. • a case study or comment from a disabled person who has been successful in his or her career • profiling role models • more specific positive statements to encourage disabled people to enter.	
		1.1.6	RIBA to review its outreach programmes and work to include disabled people and school pupils.	
		1.1.7	RIBA to liaise with organisations representing disabled people to pursue outreach and provide information and support.	
		1.1.8	Architecture schools to review and adapt careers and course material directed to primary and secondary schools and colleges to counter stereotypes and to be generally accessible. This should include websites and other promotional materials.	

Issue or concern		Recommendation and action		Action by whom
1.2	Disabled applicants may be discouraged from considering architecture as a career thereby losing opportunity to add to diversity of the architectural profession	1.2.1	Adopt a more proactive position to attract wider pool of people by portraying architecture as a diverse profession that is open to everyone.	RIBA Primary and secondary schools and FE colleges and HE institutions Architects
1.3	Poor careers advice: Careers advisors, teachers and secondary school heads may be insufficiently informed or have incorrect information about required attributes to enter architecture as a career.	1.3.1	Institute of Career Guidance and agencies and authorities that provide career guidance to review training of careers advisors to ensure that they are up to date about required attributes to enter architecture as a career.	Institute of Career Guidance and other agencies
		1.3.2	RIBA, Architecture schools to ensure that appropriate information is made available	Primary and secondary schools and FE colleges RIBA Architecture schools
1.4	Limited and / or poor information available about access to buildings, resources, teaching and learning styles and any other factors that might affect choice for a disabled applicant. This makes it difficult for a disabled prospective architecture student to make informed choices and select an appropriate school that is more likely to meet his or her needs.	1.4.1	Schools of architecture to provide comprehensive seamless information on access.	Schools of architecture
1.5	Disabled pupils may not be pursuing their ambitions or may be unaware of their rights.	1.5.1	Disabled pupils should be proactive in exploring options and not be deterred by obstacles from pursuing architecture as a career if this is their ambition. Pupils should also find out about their legal rights and seek support where necessary to achieve this.	Disabled pupils

2 Overview of architecture schools: environment, ethos and culture

Issue or concern		Recommendation and action		Action by whom
2.1	Some Schools of architecture continue to work to the charitable / medical model of disability.	2.1.1	Schools to ensure that all staff understand and adopt the social model of disability and have a clear written policy.	Schools of architecture
2.2	Schools may not be very diverse particularly with regard to academic staff	2.2.2	Schools to develop a more diverse profile including visiting lecturers and clients	Schools of architecture
2.3	Some HE institutions and schools of architecture may be failing to meet the legal requirements in their provision for disabled students, employees and others.	2.3.1	Schools of architecture to review and update their practices and procedures to ensure compliance with current legal requirements and good practice guidelines. This includes adherence to the QAA Code of Practice for the Assurance of Academic Standards in Higher Education, Section 3: Disabled students (hereafter referred to as the QAA Code). (Note: the code does not dictate specific actions required, but each school should be able to demonstrate how they are addressing each precept within the context of the school and its host university. They need to ensure that a clear written policy framework is in place.	Schools of architecture RIBA validation panels SCHOSA
		2.3.2	RIBA to place greater emphasis on the importance of schools of architecture achieving the good practice set out in the QAA Code. Each school should be able to demonstrate to the RIBA how they are addressing it. A review of this performance to be carried out as part of validation panel and monitoring procedures.	
		2.3.3	Heads of schools of architecture to be provided with CPD to ensure that they undertake their leadership roles in ensuring the elimination of discrimination. For example SCHOSA could facilitate appropriate training.	
		2.3.4	Schools to review their resources and provision for disabled students, staff, visitors and the public in general to enable full participation of disabled people in the academic and social life of the institution	

Issue or concern		Recommendation and action		Action by whom
2.4	Schools may be failing to adopt anticipatory duty which is required under Equality Act and continue to be reactive rather than predictive	2.4.1	Schools to ensure that they meet the legal requirement.	Schools of architecture
		2.4.2	Schools to review provision and to take steps to identify areas where anticipatory action can be taken and put in place predictive resources and support.	
		2.4.3	Schools to undertake audit of current provision and development action plans for improvement.	
		2.4.4	Schools to undertake audit of current provision and development action plans for improvement.	
2.5	Poor coordination of provision for disabled students, staff and visitors. Unclear lines of responsibility	2.5.1	Schools to review practice and coordination and lines of responsibility.	Schools of architecture
		2.5.2	Schools to ensure effective liaison between academic and other staff and staff responsible for supporting disabled students.	
		2.5.3	Adopt QAA Code.	
2.6	Lack of input of disabled students and staff in the practice and policy of the HE institute generally and schools of architecture specifically i.e. non inclusive approach.	2.6.1	Adopt recommendations set out in HE Academy Involvement Project. Ensure the involvement of disabled students in policy and practice of the school and the university as a whole.	Schools of architecture
		2.6.2	Encourage disabled students to participate in staff/ student liaison committees and other forums.	
2.7	Ignorance leads to discrimination	2.7.1	Compulsory CPD and training on equality legislation both generally and specifically in relation to disabled people. This should include academic, administrative, technical and other support staff e.g. cleaners, porters, car park attendants, bar staff, shop, café etc.	HE institutions Schools of architecture RIBA to require this as part of validation process documentation

Issue or concern		Recommendation and action		Action by whom
2.8	Derisive attitudes to disabled students. This may be from individual members of staff or part of the prevailing ethos of the school	2.8.1	Compulsory CPD for all staff on equality legislation both generally and specifically in relation to disabled people.	Schools of architecture
		2.8.2	Monitoring and disciplinary procedures to ensure that any discriminatory behaviour is identified and dealt with appropriately.	
		2.8.3	Schools of architecture to ensure that senior members of staff have the knowledge and authority to act to eliminate discriminatory behaviour.	
		2.8.4	Individual members of staff to ensure that their behaviour and actions are compliant with legislation and the equalities policies of the institution.	
2.9	Dismissive attitudes to provision for inclusive design within the curriculum.	2.9.1	Schools of architecture should mainstream inclusive design in their curricula and ensure that academic staff fully support and promote this in their teaching and assessment.	Schools of architecture RIBA
		2.9.2	Written course outlines should make clear the importance of inclusive design in the curriculum.	
		2.9.3	Feedback and review procedures which can identify shortfalls or concerns should be in place in order to ensure full implementation.	
		2.9.4	RIBA and ARB to monitor through validation panels and other reviews.	
2.10	Strategic planning and resource allocation may ignore the requirements of disabled students, staff and visitors.	2.10.1	Institutions, including schools of architecture, to review their strategic planning and resource allocation to ensure compliance with QAA Code and legislation.	HE Institutions and schools of architecture
2.11	Disabled students may not know what support systems are available and how they work	2.11.1	Disabled students need to learn about what is available and how support systems work. They should seek to understand the institute assessment regulations particularly with regard to extenuating or mitigating circumstances.	Disabled students Schools of architecture
		2.11.2	Schools/HE institutes need to make clear what the support systems are and confirm the channels of communication.	

Issue or concern		Recommendation and action		Action by whom
2.12	Long-hours culture prevails. This may be aggravated by the programme and deadlines set by schools of architecture that result in students working under great pressure, particularly for design projects. There is a concern that a macho culture in some schools may encourage long-hours working.	2.12.1	Schools to ensure that expectations of students by teaching staff and by other students do not include 24 hour working. Students to be encouraged to keep a reasonable work-life balance.	Schools of architecture
		2.12.2	Schools to consider the extent to which a long-hours culture has become endemic. If this has happened schools should adopt a strategy to reduce this expectation.	
		2.12.3	Schools should develop design projects that are programmed to reduce the amount of pressure on students by better spacing to avoid significant peaks.	
2.13	Difficult for staff, students and visitors to complain. Not always clear who to approach if things go wrong and also concern that complaints not dealt with expeditiously.	2.13.1	Clear transparent route for staff, students and visitors to complain needs to be provided. There should be routes for people who have witnessed unacceptable behaviour to put in a complaint on behalf of another person.	HE institutions Schools of architecture RIBA Disabled students
		2.13.2	Dedicated non-academic student advisors should be appointed to provide routes for students to raise concerns.	
		2.13.3	A similar complaints procedure with independent advisors should be available for staff and visitors.	
		2.13.4	Liaison needs to take place between the parties responsible for recording and monitoring complaints to establish a clear overview of the whole school and institution.	
		2.13.5	Institutions to put in place written practical procedures to ensure timely and appropriate handling of complaints. However the complaints procedures should not be so prescriptive that in themselves they deter legitimate complaint and negate speedy redress.	
		2.13.6	Disabled students should take action to report concerns or complaints early and where these are not addressed adequately or in a timely manner should seek support and advice from head of school or failing that through the education section of the RIBA.	

Issue or concern		Recommendation and action		Action by whom
2.14	Unsupportive environment and procedures.	2.14.1	Schools to ensure that their websites explain procedures for obtaining all the support that is necessary. This information may be available on the main university website, but links to this information should be easily available from the school website.	Schools of architecture Disabled students
		2.14.2	Five types of information on support need to be considered: • Academic support that is accessible, informed and appropriate for disabled students • Personal support from specific designated staff working in disability services • Personal support from dedicated non-academic student advisors who are not involved in student assessment. • Course organisers and the course team need to monitor performance and provide assistance as necessary • Technical support from designated staff with expertise in providing tailored equipment for disabled students undertaking architecture courses	
		2.14.3	In addition to the formal mechanisms schools should consider setting up or supporting peer assisted learning (PAL) and mentoring programmes.	
		2.14.4	Disabled students should try to make sure that they understand and make use of the support services that are available and also participate in the process to ensure that support is tailored to their needs.	
		2.14.5	Disabled students should consider acting as a mentor or PAL leader to provide support for other disabled students.	
		2.14.6	If there is no support group, disabled students should consider setting one up.	
2.15	Uneven support or breakdown in support. For instance a student may find that support breaks down when she/ he progresses to a new academic year.	2.15.1	Schools to provide adequate liaison between relevant staff to ensure that support is continuous from all the relevant people throughout the academic years and cycle.	Institutes and schools of architecture

Issue or concern		Recommendation and action		Action by whom
2.16	Difficult for disabled students, staff and other provide critical feedback on aspects of schools of architecture that will be positively acted upon.	2.16.1	Route for staff and students to provide feedback. This needs to be clearly stated. There should be routes for people who have witnessed unacceptable behaviour to report this.	Schools of architecture Disabled students
		2.16.2	Disabled students should provide feedback to architecture schools and university disabled support services about the quality of their experiences.	
		2.16.3	Schools of architecture should record and monitor feedback and where appropriate take steps to remedy any shortcomings identified.	
2.17	Non-academic staff may discriminate against disabled students	2.17.1	CPD programmes should include training for non-academic staff.	Schools of architecture
2.18	Other students may discriminate or be unsupportive of disabled students.	2.18.1	Student handbooks and other written material provided to students should provide definitions and anti-discrimination policy and make clear that there is zero tolerance of discrimination.	Schools of architecture Architecture students
2.19	Social and sporting networks may exclude disabled students.	2.19.1	Diverse range of social and sporting activities to ensure that students feel able to participate in some of the events.	Students' union HE institute Architecture school Students
		2.19.2	Disabled students need to find time for a social life and to develop relationships with peers.	
2.20	Disabled students may lose confidence through being in a culturally unsupportive environment.	2.20.1	Disabled students need to maintain self belief and self worth and if necessary seek support elsewhere to achieve this.	Disabled students Schools of architecture
		2.20.2	Schools of architecture to identify and provide information on support networks which might be available.	

Issue or concern		Recommendation and action		Action by whom
2.21	Schools fail to understand and put in place reasonable adjustments to ensure that disabled students and staff are able to demonstrate their capabilities and reach their potential. This also applies to visitors etc.	2.21.1	Institutions to review support, develop strategic plan and implement reasonable adjustments on a holistic basis.	HE institute Schools of architecture
		2.21.2	Institutions to ensure that staff have an understanding of what is meant by reasonable adjustments.	
2.22	Physical environment of schools of architecture and HE may not be inclusive and at times may be inaccessible. A difficulty that may be inconvenient for some students may make the learning environment impossible for some disabled students. E.g. for a student who experiences fatigue when travelling, timetabling sessions on different sites may be a significant barrier to participation.	2.22.1	Institutions to undertake audits to assess the accessibility and inclusivity of the physical environment and take action to remove barriers where necessary. This not only applies to mobility issues but also to other aspects such as auditory provision, lighting, signage, seating etc.	HE institute Schools of architecture
		2.22.2	Institutions should use their best endeavours; however, there may be some problems that are difficult to resolve, particularly for institutions that have historic buildings. Institutions should ensure that the accessibility of buildings is clearly explained in an honest way and is publicly available. In cases where changes are introduced Equality Impact Assessments should be undertaken.	
2.23	Culture of architecture schools generally runs counter to ethos of inclusivity.	2.23.1	Schools of architecture to be proactive in changing the culture of the institution.	Schools of architecture SCHOSA
		2.23.2	Heads of schools (SCHOSA) should take a leadership role in bringing about changes to embed inclusive practices in all schools of architecture.	
		2.23.3	Schools to ensure that heads of schools are equipped to take this leadership role by using a combination of methods, including CPD on the *QAA Code* and the management of culture change.	
2.24	Insufficient data on representation in architecture schools.	2.24.1	RIBA to include data on disabled students and teaching staff in their annual statistical review and report.	RIBA

3 Application to architecture school

Issue or concern		Recommendation and action		Action by whom
3.1	Stereotypical views of disabled people continue into higher education. Assumptions by some schools of architecture that disabled people with certain impairments cannot succeed and that therefore architecture is inappropriate as a sphere of study.	3.1.1	Compulsory CPD on impairment and additional training for staff involved in recruiting students.	Schools of architecture
		3.1.2	Schools of architecture to review their CPD provision.	
3.2	Assumption that all applicants to architecture school intend to become architects despite the fact that many students go on to a career other than architecture may result in rejections of disabled people who may be able to undertake the course but may not intend to practise as qualified architects.	3.2.1	Architecture should be treated both as a vocational and also a general degree that offers knowledge and skills that are valuable for other career routes or simply as a life enhancing area of study.	Schools of architecture
3.3	Website and other material such as prospectus do not encourage applications from disabled people. Many websites adopt medical rather than social model.	3.3.1	Schools of architecture and RIBA to review and update their material to ensure that disabled people are encouraged to consider architecture as a course of study.	Schools of architecture RIBA
3.4	Disparity between university wide web information and that provided by schools of architecture. The websites of schools are often less accessible and not as welcoming as those provided by the institution's main site.	3.4.1	Better links between main university site and the architecture school site so that there is comprehensive accessibility.	Schools of architecture
		3.4.2	Schools need to follow guidelines in *e-Accessibility Action Plan: making digital content accessible.*	

Issue or concern		Recommendation and action		Action by whom
3.5	Poor or inadequate information about access e.g. to buildings, equipment etc. and the support available. This lack of information may make it difficult for prospective architecture students to make informed choices about the suitability of a particular architecture school.	3.5.1	Schools of architecture to provide detailed seamless information on access from transport to facilities such as accommodation, equipment and support.	Schools of architecture RIBA
		3.5.2	Stress in documentation that schools of architecture must work to achieve the good practice set out in the *QAA Code*	
		3.5.3	RIBA to require schools to report on their progress in achieving good practice under the *QAA Code* as part of the validation process.	
3.6	Lack of information provided by architecture schools/HE institutes for disabled students about their entitlement to obtain resources and support when considering applying to architecture schools.	3.6.1	Information should be made available in a variety of formats to ensure that potential students are fully informed in relation to teaching and learning resources and support.	Schools of architecture HE institutes
3.7	Failure or unwillingness to assess the individual capability and potential of disabled applicants.	3.7.1	Put in place proper procedures accompanied by clear guidance to staff on how to assess capability and potential.	Schools of architecture HE institutes
		3.7.2	Use skilled assessors.	
3.8	Obstructive attitudes such as perceiving provision for disabled people as inconvenient, disadvantageous to other students or financially draining. Unwillingness to accept a candidate because necessary adjustments deemed to be onerous.	3.8.1	Schools to fulfil the legal requirements and make necessary adjustments.	Schools of architecture
		3.8.2	Better training for staff responsible for recruiting students.	

Issue or concern		Recommendation and action		Action by whom
3.9	Assumption that drawing by hand is essential.	3.9.1	Consider whether the school's policy on admission has unwittingly excluded people who could be successful architects and/or complete the course e.g. by having a standard expectation that all students must be able to draw by hand.	Schools of architecture
3.10	Not all schools of architecture acting legally to provide fair treatment at the point of entry to architectural education.	3.10.1	Review entry procedures to ensure that they meet the legal requirements.	Schools of architecture RIBA's & ARB's validation scrutiny
3.11	Lack of adequate information about the nature of architectural education, study methods, the type of activities (e.g. field trips, site visits, critical design reviews, work placements) undertaken during the course of study.	3.11.1	Schools to provide better information to explain aspects such as expectations in relation to study methods to enable disabled students (and others) to make informed choices and decisions. Particular attention should be paid to explaining the school's approach to studio teaching, timetabling, assessment and design review processes.	Schools and RIBA to action
		3.11.2	RIBA to review careers material.	
		3.11.3	Video on careers in architecture should illustrate a diverse range of participants and illustrate the type of activities likely to be undertaken on the course.	
3.12	League table position and reputation of the school of architecture may not be the best indicator of appropriateness for a disabled student.	3.12.1	RIBA and archaos to provide feedback and review mechanism for disabled students and others to assist in assessment of schools of architecture.	RIBA archaos
		3.12.2	Disabled applicants to check material from schools of architecture to ascertain provision and access.	Disabled students Disabled applicants
		3.12.3	RIBA to produce or identify guidance to assist in selection related to disabled applicants.	

4 Commencement of architectural education

Issue or concern		Recommendation		Action by whom
4.1	Induction arrangements can be exclusive. For example, a disabled student with a hearing impairment might find it impossible to make social connections with his or her peers in a noisy activity based in a bar. A student with a physical impairment might be disabled by the fact that the social event is taking place in an inaccessible venue.	4.1.1	Review induction arrangements to ensure that disabled students are not excluded from important social events in the early weeks of term when support networks and friendships are established.	Schools of architecture HE institute Students union Archaos
		4.1.2	Ensure that a range of activities are provided, particularly in the early weeks to cater for a range of different cultural preferences and other needs.	
		4.1.3	Induction arrangements need to be coordinated across the institute requiring liaison between the school, and student union and central administration.	
4.2	Stigmatisation that deters disabled people from disclosing and applying for support.	4.2.1	Provide several or continuous opportunities for students to disclose their impairment following admission.	Schools of architecture HE institute
4.3	Insufficient encouragement to apply for DSA.	4.3.1	Encourage disabled students to apply for the DSA www.direct.gov.uk and support the student in achieving a successful allowance and appropriate support that works for the student. Work in conjunction with central services to achieve this, but do not assume that everything will happen smoothly. In the event of a time lag from application to receipt of the allowance, organise appropriate support to fill the gap by anticipating the need for interim funding for some students in yearly budgeting.	Schools of architecture HE institute
4.4	Serious delays in obtaining disabled students allowance (DSA).	4.4.1	Schools to provide interim bridge funding while awaiting DSA.	Schools of architecture HE institute

Issue or concern		Recommendation		Action by whom
4.5	Failure to assess disabled students' learning and other support needs adequately and in collaboration with disabled students	4.5.1	Disabled student support staff to work closely with disabled students to discuss their learning needs and other support at the point of entry and as the course proceeds. Support staff need to be informed about the special learning styles and activities expected in architectural courses. This should include more liaison between the support and teaching staff and disabled student.	Schools of architecture HE institute
4.6	Delays in providing additional support.	4.6.1	In cases where additional support is needed by a student who has disclosed an impairment, ensure that the technology is provided in a timely fashion and that the student is trained to use any assistive devices.	Schools of architecture HE institute Disabled students
4.7	Assessors allocate technology that is not tailored to the specific requirements of a course in architecture e.g. they assume that a personal computer with conventional software will suffice.	4.7.1	Identify appropriate specification and provide appropriate inclusive hardware and software.	Schools of architecture HE institute Disabled students
4.8	Constraints on purchase routes restrict what equipment students have access to.	4.8.1	More flexibility to enable student to select or participate in selection of precise technology which will meet their needs within the funds awarded. For instance IT equipment needs to be appropriate for design work.	Schools of architecture HE institute Disabled students

5 Progress and progression on architecture courses

Issue or concern		Recommendation		Action by whom
5.1	Inflexible study programmes may fail to accommodate disabled students who could otherwise succeed in completing courses with an alternative pattern of study for instance part time rather than full time.	5.1.1	Schools of architecture to review modes of study and academic regulations.	Schools of architecture Disabled students
		5.1.2	Schools of architecture to facilitate different modes of study as part of the legal requirements to make reasonable adjustment including the opportunity to study part time.	
		5.1.3	Disabled students need to inform themselves of the university regulations for instance about late work and extenuating circumstances and if they are aware of or experience difficulties they should alert the appropriate tutors or support staff. If necessary they should take the matter further and seek support elsewhere.	
5.2	Students may become disabled or became aware of an impairment during the course of study.	5.2.1	Schools of architecture should provide several opportunities for students to disclose their impairment following admission as some students do not disclose for fear of discrimination.	Schools of architecture
		5.2.2	Schools of architecture to ensure that they create and environment where students feel able to disclose an impairment	
5.3	Failure to address situations where a student's needs change in relation to their impairment.	5.3.1	Schools to ensure that students are able to participate in assessment and review of needs on an ongoing basis	Schools of architecture Disabled students
		5.3.2	Schools to find an appropriate ways of adjusting the teaching environment or making reasonable adjustments to assessment through consultation with the disabled student(s) concerned on an ongoing basis.	
		5.3.3	Disabled students to participate in assessment and review of needs.	

Issue or concern		Recommendation		Action by whom
5.4	Inconsistent support for disabled students. For instance support and provision for disabled students may vary dramatically from year to year or from. This appeared to apply particularly to students with mental impairment.	5.4.1	Schools to ensure that the school environment including provision for teaching and learning support is appropriate throughout the course of a disabled student's studies.	Schools of architecture
5.5	Some disabled students are dropping out due to negative experiences in architecture schools.	5.5.1	Schools to develop and implement a system of monitoring the progress and retention of disabled students, possibly in conjunction with the monitoring of performance of other protected groups, to ensure that disabled students are performing at an appropriate level and that drop out rates are not above the expected rate.	Schools of architecture RIBA
		5.5.2	Schools to refer to UCAS and HESA statistical information.	
		5.5.3	Schools to ensure that policy and practice ensures fair treatment.	
		5.5.4	RIBA to examine performance as part of validation procedure.	
5.6	Potential of disabled students may not be realised in terms of degree classification.	5.6.1	Schools to develop and implement a system of monitoring the progress and undertake comparative review of academic attainment of disabled students compared to other students.	Schools of architecture
		5.6.2	Schools to refer to UCAS and HESA statistical information.	
		5.6.3	Schools to ensure that policy and practice ensures fair treatment.	

6 Teaching, learning and assessment

Issue or concern		Recommendation and action		Action by whom
6.1	Failure to teach inclusively.	6.1.1	Compulsory CPD on inclusive teaching methods.	Schools of architecture to implement RIBA to monitor through validation and feedback procedures
		6.1.2	Guidance notes for staff and students on inclusive teaching methods to be made available on school websites.	
		6.1.3	Organisation specific training for tutors on inclusive teaching and materials. This should include visiting lecturers and participants in design reviews as well as new and existing tutors.	
6.2	Non- inclusive software and hardware.	6.2.1	Fulfil anticipatory duty. Develop inclusive technology so that all software and hardware that students have access to is accessible regardless of an individual's impairment.	Schools of architecture HE institute
6.3	Failure to distribute information in a timely manner and in an inclusive form. This includes tutors making last minute changes which may disadvantage disabled students.	6.3.1	Tutors to ensure that information is available sufficiently in advance.	Schools of architecture RIBA to produce inclusive teaching handbook RIBA to review as part of validation and feedback process
		6.3.2	Tutors to ensure that information is consistent and not subject to last minute changes.	
		6.3.3	Tutors to ensure that the information is in readable format.	
		6.3.4	Tutors to make good use of Virtual Learning Environments by providing material on websites.	
		6.3.5	Tutors to provide accessible versions of handouts and include auditory materials as well as written where possible.	
		6.3.6	Guidance to clarify procedures and identify good practice.	

Issue or concern		Recommendation and action		Action by whom
6.4	The design review configuration can be exclusive and for instance some seating formats can disadvantage or prevent participation of students with hearing impairments.	6.4.1	Reconsider the assessment methods used for design reviews. Consider whether alternatives to the standard crit process could be used to enable students to be assessed in a variety of ways.	Schools of architecture
6.5	Design reviews can be unnecessarily adversarial resulting in stress.	6.5.1	Tutors to consider the dynamic of design reviews.	Schools of architecture
		6.5.2	Specific training should be provided for all staff and tutors including Visiting Lecturers or reviewers to ensure that design reviews are inclusive.	RIBA to develop code of practice
		6.5.3	Develop written guidelines for good practice in conducting design reviews that aim to minimise stress and encourage more supportive frameworks.	
		6.5.4	Consider ways of preparing students for the process of design review.	
6.6	Academic staff and schools in general may not be responding to the specific learning needs of disabled students.	6.6.1	Accept the school's responsibility to ensure that the student has access to teaching and learning and that his or her needs are met.	Schools of architecture
6.7	The requirement to make reasonable adjustments for assessment may not be meeting legal requirements of the QAA Code,	6.7.1	Schools to develop clearer guidelines for reasonable adjustments.	Schools of architecture
		6.7.2	Schools to facilitate mitigating circumstances procedures which are appropriate for disabled students with ongoing impairments and / or variable conditions. The revised system should avoid time consuming, stressful repeat applications for extenuating circumstances and inappropriate capping of student marks due to failure to take into account the impairment	

Issue or concern		Recommendation and action		Action by whom
6.8	Where attempts to make adjustments for assessment are made, these are often an ad hoc and may not include effective consultation with the disabled person or provide the opportunity for students to demonstrate their competence.	6.8.1	Schools to ensure that a disabled student is able to demonstrate competence to meet learning outcomes through appropriate alternative methods or modes.	Schools of architecture
6.9	Assessment regulations may discriminate against disabled students.	6.9.1	Institutions to review their assessment regulations to ensure that regulations do not result in unfairness	Schools of architecture HE institute

7 Inclusive curriculum

Issue or concern		Recommendation		Action by whom
7.1	Failure to teach inclusive design or inadequate coverage of this in the curriculum.	7.1.1	Review the way that inclusive design is taught in the school. If this is presented as an afterthought in design schemes or simply as a technical or regulatory problem, consider ways of embedding inclusive design into the mainstream of the design process.	RIBA and ARB to include in curriculum criteria
7.2	Failure to include inclusive design as an essential element of the assessment criteria for design projects.	7.2.1	Ensure inclusive design principles are considered for all assessment.	Schools of architecture

8 Student transition to the workplace

Issue or concern		Recommendation		Action by whom
8.1	Some schools fail to provide sufficient support and guidance to assist students in obtaining work.	8.1.1	Schools of architecture to review connections to practice and facilitate opportunities for employment in architectural workplaces.	Schools of architecture
		8.1.2	Schools of architecture should offer support and guidance on producing and presenting effective CVs.	Schools of architecture RIBA
		8.1.3	Disabled students should look at ways of enhancing their CVs whilst at school of architecture. This might include additional activities and roles such as acting as a student representative, attending committees running student societies, volunteering.	Disabled architects Architectural practices
		8.1.4	RIBA to encourage chartered practices to engage architectural students.	
		8.1.5	Disabled architects should consider mentoring disabled students to assist in the transition to work.	
		8.1.6	Practices should ensure that in recruiting students they act in accordance with legislation and do not discount employing a disabled applicant.	
8.2	Inadequate support for transition to the workplace in terms of the expectations of the employer.	8.2.1	School to review their advice to and support for students about to enter work whether year out or after part 2.	Schools of architecture
		8.2.2	Students to be given information about their entitlements for reasonable adjustments in the workplace including access to work, provision of assistive technology as well as general employment rights.	

Issue or concern		Recommendation		Action by whom
8.3	Lack of confidence of some disabled students in considering continuing their training.	8.3.1	Schools of architecture to provide guidance and support to prepare students for applying for work and obtaining employment.	Schools of architecture
		8.3.2	RIBA to review and update existing guidance.	RIBA
8.4	Employers and disabled students may not be aware of funding available to assist.	8.4.1	Disabled employees to apply for Access to Work or other funding.	Disabled students Architectural practices
		8.4.2	RIBA and archaos to provide guidance on funding available.	RIBA archaos

9 Architectural Practice

Issue or concern		Recommendation		Action by whom
9.1	Not all architectural practices have fully embraced their legislative and moral responsibilities to provide fair treatment for the recruitment, entrance, progression and retention of disabled employees.	9.1.1	Practices to update their knowledge and understanding of employment legislation and the Equality Act 2010 and comply with these requirements.	Architectural practices
		9.1.2	RIBA to circulate members and remind them of their legal responsibilities.	
9.2	Disabled architects and students find it difficult to obtain employment.	9.2.1	Architectural practices to review their employment policy and practice.	Architectural practices
		9.2.2	RIBA to produce guidelines on good practice in employment.	RIBA
9.3	Disabled applicants may be discouraged from applying for work in architectural practice.	9.3.1	Architectural practices should actively encourage disabled applicants through recruitment material provided by practice.	Architectural practices
		9.3.2	Practice to obtain two ticks accreditation and adhere to commitments and include two ticks symbol on their publicity material.	

Issue or concern		Recommendation		Action by whom
9.4	Practices may not be fulfilling their legal and moral responsibilities in making the necessary reasonable adjustments.	9.4.1	Practices to update their knowledge and understanding of employment legislation and the Equality Act and comply with these requirements.	Architectural practices RIBA
		9.4.2	RIBA to circulate members and remind them of their legal responsibilities.	
		9.4.3	RIBA to provide good practice guidance and examples of implementation.	
9.5	Practice physical environment may not be accessible or inclusive.	9.5.1	Architectural practices to audit their premises and develop action plans to remove barriers.	Architectural practices RIBA
		9.5.2	Information about accessibility of practice premises and relevant access arrangements to be made available in practice publicity material.	
		9.5.3	RIBA to produce access toolkit or identify suitable guidance documents to facilitate appropriate action by practices.	
9.6	Employees and applicants may feel insecure about disclosing their impairment either in the job application process or in circumstance where the impairment is acquired during their working life.	9.6.1	Guidance to be provided on legal rights and scope for reasonable adjustment in the workplace.	Architectural practices Employees RIBA
		9.6.2	Employees should be given the opportunity to disclose impairment at frequent intervals for instance at staff appraisals and in an environment where it is safe to disclose.	
		9.6.3	RIBA to provide guidance on best practice examples.	
9.7	Employees who acquire an impairment during their working life may not receive adequate support.	9.7.1	Architectural practices to ensure that they make the necessary reasonable adjustments to meet needs in accordance with legislation and to ensure that the ethos and culture of the practice is supportive.	Architectural practices RIBA
		9.7.2	RIBA to provide guidance on best practice examples.	

Issue or concern		Recommendation		Action by whom
9.8	Practice cultural/attitudinal environment may not be inclusive.	9.8.1	Practices to adopt social model.	Architectural practices RIBA
		9.8.2	Practices to provide clear guidance to employees about acceptable behaviour and ensure compliance with employment legislation and the Equality Act.	
		9.8.3	Practices should develop an equal opportunities code of practice taking into account the provisions of the Equality Act 2010. They should provide a clear written equal opportunities policy and disciplinary procedures policy to all members of the practice as part of the terms of their employment. Practices should ensure that all staff are familiar with code and put it into practice.	
		9.8.4	Practices should ensure that appropriate action is taken in the event of discriminatory behaviour.	
		9.8.5	Practices to adopt and implement a written equal opportunities policy and grievance procedures.	
		9.8.6	Practices should place a summary of their equal opportunities policy on the practice website.	
		9.8.7	RIBA to include and expand inclusive design CPD for practice.	
		9.8.8	Individuals in practice should consider their own attitudes and be mindful of their legal and moral obligations.	
9.9	Employers and employees may not be aware of available sources of funding to support disabled employees and undertake appropriate adjustments.	9.9.1	Architectural practices to ensure that they are up to date on the funding sources available through Access to Work. This information to be made available to employees.	Architectural practices RIBA
		9.9.2	RIBA to assist with the dissemination of this information to practices	

Issue or concern		Recommendation		Action by whom
9.10	Lack of disabled role models and success stories for disabled people.	9.10.1	RIBA to identify and disseminate positive images.	RIBA
9.11	Inaccessible website even by practices that claim to provide services for disabled people.	9.11.1	Architectural Practices to review and update website to meet the criteria set out in the *eAccessibility Action Plan: Making digital content accessible* produced by the Department for Business Innovation and Skills (BIS) 2010.	Architectural practices RIBA
		9.11.2	RIBA to provide guidance.	
9.12	Insufficient information about premises to assess accessibility for disabled applicants.	9.12.1	This includes aspects such as transport to premises, parking, lighting, facilities and other physical aspects.	Architectural practices
9.13	Insufficient dissemination of good practice. Although good practice was identified it is evident that much of this is hidden.	9.13.1	Good practice guidance and case studies to be made readily available in publications.	RIBA
		9.13.2	RIBA to provide guidance on relevant literature.	
9.14	Insufficient data available on representation and career progression.	9.14.1	RIBA and ARB to include disabled architects in their annual statistical analysis and report.	RIBA ARB
9.15	Design ethos of practices may be exclusive or segregationist.	9.15.1	Practices should inform themselves about inclusive design.	Architectural practices RIBA
		9.15.2	Architectural practices to adopt inclusive principles and ensure that all members of the practice are fully informed of inclusive practice and implement for all design work. In their publicity they should raise the profile of inclusive design and embed inclusive design as part of the practice philosophy.	
		9.15.3	Architectural practices to undertake CPD on inclusive design.	
		9.15.4	RIBA to promote and include CPD on inclusive design.	

Issue or concern		Recommendation		Action by whom
9.16	Disabled architects and architectural assistants may not know their legal rights.	9.16.1	Disabled architects should inform themselves of their rights.	Disabled architects Architectural practices
		9.16.2	Practices should ensure that they are compliant and provide relevant information to employees about the employment and grievance procedures.	
		9.16.3	Both disabled architects and practices should inform themselves of funding available through the Access to Work Scheme.	
9.17	Pressure of work may make it difficult for disabled architects and students to maintain healthy work-life balance.	9.17.1	Disabled architects and students should consider their work- life balance and where appropriate make adjustments.	Disabled architects and students Architectural practices
		9.17.2	Practices should ensure that they adopt good practice in relation to working hours and do not enforce a long-hours culture.	
		9.17.3	Senior staff should consider their own work-life balance and ensure that this is not sending messages about unreasonable expectations.	

10 Additional recommendations for relevant professional institutes and student bodies

Issue or concern		Recommendation		Action by whom
10.1	Professional institutes and bodies may not be leading by example to achieve exemplary practice in relation to disabled people and diversity generally.	10.1.1	Institutes to review and update their practice, provision and procedures.	RIBA ARB CIC
		10.1.2	Institutes should consult the Disability Tool Kit developed by PARN, 2008 which provides advice on ways in which professional bodies can embed awareness and support for diversity into their organisation.	
10.2	Professional institutes may not be providing leadership in diversity and inclusion in relation to design awards and the work of disabled architects, students and designers.	10.2.1	Raise the expectation that the design awards made by RIBA should only be awarded to buildings that have reached high standards of inclusive design. This should form part of the award criteria.	RIBA

Issue or concern		Recommendation		Action by whom
10.3	Professional institutes may not be taking a cutting edge stance in relation to the architecture curriculum and CPD requirements in terms of embracing and promoting inclusive environments.	10.3.1	RIBA and ARB to reconsider curriculum and CPD requirements to ensure that inclusive design is a mandatory element.	RIBA ARB
10.4	Professional institutes may not be implementing inclusive policy in their own practices including employment, membership and public interface.	10.4.1	Institutes to monitor equality and diversity in its own employment practices, its service and provision for members and the public and review accessibility of its premises.	RIBA ARB CIC
10.5	Professional institutes may not be making best use of support networks and guidance available.	10.5.1	RIBA and CIC to join the Professional Associations Research Network (PARN) as a means of sharing good practice with other professional institutes and maintaining impetus.	RIBA CIC
10.6	Lack of networking and mentoring through education and career is restricting the opportunity to exchange experiences and provide support.	10.6.1	The RIBA and archaos should assist in facilitating disabled networks for disabled architects and students. This might be web based and become a potential lobby as well as networking forum. Mumsnet might be seen as a precedent for successful networking and support.	RIBA Archaos Disabled architects and students
		10.6.2	Disabled architects and students in employment should consider mentoring and networking.	
10.7	RIBA has removed some material relating to inclusive design and inclusion from its website.	10.7.1	RIBA to ensure that material on website is accessible, maintained and includes material on Inclusive Design and information for and about disabled architects students as part of their equalities initiatives	RIBA

11 Additional recommendations for individuals

Issue or concern		Recommendation		Action by whom
11.1	Students on architecture courses and qualified architects including disabled students and practitioners may be unaware of the legal rights of disabled people.	11.1.1	Individuals should ensure that they update their knowledge of the legal position regarding the rights of disabled people.	Individuals
11.2	Students on architecture courses and qualified architects may be unaware of the social model of disability and may be working within a charitable or medical model.	11.2.1	Individuals should ensure that they update their knowledge and ensure that they are familiar with the social model and work within a social model framework in all aspects of their work.	Individuals
11.3	Students on architecture courses and qualified architects may discriminate against disabled people.	11.3.1	Individuals should challenge discrimination wherever it occurs, guard against stereotypical assumptions about the ability of disabled people and support disabled people in education and practice.	Individuals
11.4	Architects may be continuing to design buildings and places that are not designed inclusively and thus discriminate against disabled people.	11.4.1	Individuals should learn about / become familiar with inclusive design principles and put these into effect in their daily work.	Individuals

Issue or concern		Recommendation		Action by whom
11.5	Personal attitudes may impact negatively on treatment of and provision for disabled people.	11.5.1	Individuals should review personal attitudes	Individuals
11.6	Work life balance may not contribute to general well being of individual.	11.6.1	Consider whether their own work life balance is appropriate and if necessary make adjustments	Individuals
11.7	Students and practitioners may not be working closely with disabled people and therefore be ignorant of how built environment affects them.	11.7.1	Students and practitioners should work with disabled people where possible to broaden their understanding of inclusive design, approaches and increase their awareness of the impact of impairment.	Individuals

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Notes: This report includes some legal commentary. This is provided as a guide rather than an authoritative legal interpretation and is no substitute for obtaining the appropriate legal advice from a qualified practitioner.

Glossary of terms and acronyms

AFC	Architects for Change	Founded in 2000, Architects For Change (AFC) is the Equality Forum of the Royal Institute of British Architects. It guides RIBA action on equal opportunities in practice and education as well as being an umbrella body encompassing independent organisations such as Women In Architecture (WIA), Society of Black Architects (SOBA) and the student body ARCHAOS. It has links with other interest groups including Women In Property, National Association of Women in Construction (NAWiC), Women and Manual Trades (WAMT) and the Construction Industry Council (CIC).
AHEAD	Association of Higher Education and Disability	AHEAD is a professional membership organisation for individuals involved in the development of policy and in the provision of quality services to meet the needs of disabled people in all areas of higher education. There are 2,500 members throughout the United States, Canada, England, Australia, Ireland, Northern Ireland, New Zealand, South Africa, Sweden, Japan and Greece.
ARB	Architects Registration Board	The UK's statutory body for the registration and regulation of architects.

ARCHAOS	National Architecture Student Association	Student-led organisation for the support of architects.
CABE	Commission for Architecture and the Built Environment	Advisory body on design matters funded by central government. Currently about to merge with the Design Council.
CAE	Centre for Accessible Environments	Charitable organisation providing expertise and a resource on inclusive design and access to the built environment.
CEBE	Centre for Education and the Built Environment	The main role of CEBE, which is a UK based organisation, is to enhance the learning experience for students studying built environment courses, including architecture, by identifying and sharing good practice amongst the higher education establishments.

CIAT	Chartered Institute of Architectural Technologists	Qualifying body for architectural technologists, technicians and professionals who are working and studying in the United Kingdom and overseas.
DED	Disability Equality Duty	This duty, which came into force in 2006 requires organisations in the public sector, including universities to pay due regard to the elimination of unlawful disability discrimination in carrying out all its functions.
DES	Disability Equality Scheme	The DED requires public sector organisations to develop a disability equality scheme which sets out ways in which the institution is acting to bring about the duties under the DED. The preparation of the Action Plan should involve disabled people from the outset.
DIUS	Department for Innovation Universities and Skills	The former department responsible for higher education. This has now been replaced by BIS (Department for Business Innovation and Skill).
DSA	Disabled Students' Allowance	Disabled Students' Allowances (DSAs) provide extra financial help for disabled students on higher education courses
EHRC	Equality and Human Rights Commission	The EHRC has a statutory responsibility to promote and monitor human rights; and to protect, enforce and promote equality across the seven "protected" categories, namely age, disability, gender, race, religion and belief, sexual orientation and gender reassignment. The former Disability Rights Commission has now ceased to exist and its duties have been taken over by EHRC.
HEFCE	Higher Education Funding Council for England	Promotes and funds higher education in England.

heidi	Higher education information database for institutions	heidi is a source for the collection and dissemination of statistics about publicly funded UK higher education
HESA	Higher Education Statistics Agency	HESA is the central source for the collection and dissemination of statistics about publicly funded UK higher education.
JISCMail	National Academic Mailing Service	JISCMail acts as an information source and system for disseminating knowledge and experience and fostering collaboration and the sharing of good practice across the UK and global academic communities. The Disability Forum facilitates these exchanges in relation to disability issues.
NRAC	National Register of Access Consultants	An independent register of accredited Access Auditors and Access Consultants.
Mentor	A trusted teacher or advisor or more senior colleague who agrees to advise and support a junior employee.	The Association of Professional Studies Advisors in Architecture (APSAA) produce a useful leaflet that sets out the key responsibilities of a mentor.
PAL	Peer Assisted Learning	Providing support for students through peer assisted learning has proved to be a helpful way of supporting new students at a number of universities. Students who have successfully completed at least a year of study are trained to support newcomers and share their knowledge and experience of the course.
QAA	Quality Assurance Agency for Higher Education	The QAA checks how well universities meet their responsibilities to provide a high quality learning experience for students at higher educational establishments in the UK. IQA identifies good practice, makes recommendations for improvements and publishes guidelines such as the *Code of Practice for the Assurance of Academic Quality and Standards in Higher Education, Section 3 Disabled Students.*

RIBA	Royal Institute of British Architects	Professional association of architects in the United Kingdom along with international members.
Russell Group	Consortium of universities • University of Bristol • University of Cambridge • Cardiff University • University of Edinburgh • University of Glasgow • Imperial College London • King's College London • University of Leeds • University of Liverpool • London School of Economics & Political Science • University of Manchester • Newcastle University • University of Nottingham • University of Oxford • Queen's University Belfast • University of Sheffield • University of Southampton • University College London • University of Warwick	The Russell Group represents 20 UK universities. The members of Russell Group regard these universities as the best in the UK and emphasise their commitment *to "maintaining the very best research, an outstanding teaching and learning experience and unrivalled links with business and the public sector".*

SCHOSA	The Standing Conference of Heads of Schools of Architecture	All heads of schools of architecture are members of SCHOSA. The organisation promotes exchange of views about architecture in general and architectural education in particular.
VLE	Virtual Learning Environment	A Virtual Learning Environment (VLE) is a means of delivering learning to students via the internet. A VLE may provide a means of sourcing materials, such as lecture notes, design briefs, videos, audio presentations and any other resources needed for learning from any computer in any part of the world where internet access is available. A VLE may also track student progress, enable staff to provide feedback and be used as a means of communication with students. An example of a VLE used by many universities is Blackboard.

Useful contacts

Access to Work http://www.direct.gov.uk/en/DisabledPeople/EmploymentSupport/WorkSchemesAndProgrammes/DG_400034	Provider of support for people whose health or impairment affects their working lives. Provider of financial support for adaptations to the work environment, equipment , travel costs and support workers.
Action on Access The National Co-ordination team for Widening Participation Edgehill University, Ormskirk, L39 4QP E-mail: help@actiononaccess.org Tel: 01695 650 870 Fax: 01695 584 098 Website: www.actiononaccess.org	Action on Access promotes inclusivity and diversity and the broadest possible access to higher education, including access to education by disabled people. Provider of advice on many aspects of higher education provision and publications on good practice.
Centre for Accessible Environments and the Access Lab 70 South Lambeth Road London SW8 1RL Tel/textphone: 020 7840 0125 SMS: 07921 700098 Email: info@cae.org.uk Website: http://www.cae.org.uk	Provider of access consultancy, training and publications including design guides.
Disabled Peoples' International 874 Topsail Road Mount Pearl, Newfoundland A1N 3J9 Canada **Telephone:** 709-747-7600 **Fax:** 709-747-7603 **Email:** info@dpi.org	An international network of national organisations or assemblies of disabled people established to promote the human rights of disabled people through full participation, equalisation of opportunity and development.

Equality and Human Rights Commission

MANCHESTER
Arndale House,
The Arndale Centre, Manchester, M4 3AQ
Telephone 0161 829 8100 (non helpline calls only)
info@equalityhumanrights.com

LONDON
3 More London,
Riverside Tooley Street, London, SE1 2RG
Telephone 020 3117 0235
info@equalityhumanrights.com

CARDIFF
3rd floor, 3 Callaghan Square, Cardiff, CF10 5BT
Telephone 02920 447710 (non helpline calls only)
Textphone 029 20447713
Fax 02920 447712
wales@equalityhumanrights.com

GLASGOW
The Optima Building, 58 Robertson Street, Glasgow, G2 8DU
Telephone 0141 228 5910 (non helpline calls only)
Fax 0141 228 5912
scotland@equalityhumanrights.com

The Commission is a statutory body set up to protect, enforce and promote equality across seven areas: age, disability, gender, race, religion and belief, sexual orientation and gender reassignment. The Commission is also charged with protecting human rights, and promoting good relations in society.

Institute for Human Centered Design 180-200 Portland Street, Suite 1 Boston, MA 02114 USA Telephone: 1 (617) 695-1225 (v/tty) email: info@HumanCenteredDesign.org	(Formerly the Adaptive Environments Center) Promotes accessibility through education programmes, technical assistance, training, consultation, publications and design advocacy.
National Register of Access Consultants 70 South Lambeth Road London SW8 1RL Tel: 020 7735 7845 Fax: 020 7840 5811 SMS: 07921 700 089, Email: info@nrac.org.uk	An independent register of accredited Access Auditors and Access Consultants