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# A Deeper Understanding of Dyslexia

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Action Research

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## A Deeper Understanding of Dyslexia

*The British Dyslexic Association estimates that dyslexia effects 1 in 10 of the population in the UK, 4% of those severely*

### **Introduction**

What is Action Research? Action research or participatory action research - is a reflective process of progressive problem solving led by individuals working with others in teams or as part of a "community of practice" to improve the way they address issues and solve problems.

Carr and Kemmis (1986) describes action research as being about:

- the improvement of practice;
- the improvement of the understanding of practice;
- the improvement of the situation in which the practice takes place.

Reflecting on the research cycle: while it is easy to follow the range of visual diagrams of the action research process, these are of varying complexity and, perhaps, not always helpful. They can give a false sense of regularity to the teacher (McNiff,1988) while Ebbutt (1983) declares and McKernan (1991) agrees that it has the potential to 'trap teachers within a framework which they might come to depend on and which will, consequently, inhibit independent action'.

I have chosen to investigate an area of educational disability as it has a huge impact on my learners, my department, and also my role in education, which is set in a prison environment.

It is an area where, with research, I can extend my skills and knowledge and understanding in the area of dyslexia; this will impact and improve

learning for my learners and their peers. It will enable me to extend the skills and knowledge of my colleagues and Prison staff creating a more dyslexic friendly environment for all in the area where learning takes place.

As education in prison varies from one establishment to another depending on the category of the establishment, the provider, the amount of educational hours allowed per student, with some establishments allowing fulltime education, some as little as two or two and a half sessions per week. For this reason I will be focusing on the establishment in which I am employed, which is in a cat A prison offering only the minimum education of two or may be three two and a half hour sessions per week of education.

Our students vary in age from 21 years old to 80 years old. Their ability levels range from below entry level to level 2 in English and maths.

Their needs also vary, some are diagnosed as dyslexic and know that they will require support in certain areas, others are assessed by a separate team within our establishment.

The assessment used was produced by Dr John Rack and is the Hidden Disabilities Questionnaire (HDQ). HDQ is produced by Dyslexia Action and is a 32-item questionnaire which has been shown to highlight features of hidden disabilities including Dyslexia, Dyspraxia and Attention Deficit Disorder.

The HDQ can be used by institutions to highlight individuals who are likely to perform below their potential without some adaptations to their workplace or programme of study. It is designed to be used on people over 14 years of age.

#### How the HDQ Works

The HDQ gives 'factor scores' which indicate the degree of difficulty in relation to 5 main areas of functioning:

1. General 'Hidden Disabilities factor'
2. Concentration, attention and memory
3. Abilities and difficulties with practical tasks and motor co-ordination
4. Calculation and maths, although these skills were also closely linked to memory

## 5. A generally positive social outlook and confident attitude

It is used by the Probation Service , the Prison Service, the NHS, the Fire and Rescue Service, Universities and Private Companies.

From this assessment we, as a team, receive suggestions of support from the assessment team and this is closely linked to the student's own views and ideas for learning support. As a team we need to be imaginative and as discreet as possible in our supporting techniques as some prisoners agree to an assessment but then feel embarrassed to admit they need support. For this reason skills and expertise are extremely important to enhance learning. With 90% of all prisoners coming into our department being dyslexic learners, dyslexia expertise is vital to our department.

Our students bring with them a wealth of experience from previous lives: some good, some bad. Some had jobs, families, and commitments they have left behind.

Many of our learners have been out of the education system for many years, often believing they are failures. Many of our prisoners are self taught or have built strategies to cope after dropping out of education at an early age. Some bring with them sad stories of being brought up in various foster homes or children's centres, often moved from pillar to post. Some have memories of extreme poverty and unemployment in their families. They admit to drifting into crime at an early age, some as young as 12 years old. Many did not realise that they had a learning difficulty until they entered prison. They had been labelled as lazy or thick and have grown up thinking this of themselves.

Some of our students say that they knew they were not thick, lazy or had a behaviour problem but needed to be taught in a slightly different way; however no one listened to them. So eventually they gave up. To some it is a relief to find out that they are dyslexic and now are able to receive help with their education, to others this has created a feeling of anger and

frustration. They feel cheated out of an education they feel they were entitled to.

The Dyslexic Research Trust state 75% of convicted criminals are illiterate.

## Action Research



Using the action research cycle I will research and identify the purpose of this study. My research covers the question: What is dyslexia? Following on from that: How to best support and teach dyslexics in a prison environment? The purpose of the study is: To develop skills, awareness and knowledge which will help to enhance learning.

Due to an increase in students identified as dyslexic and recent new staff to the department, I believe there is a need both personally and as a team to develop a deeper and clearer understanding of dyslexia to

enhance teaching methods and enhance learning for students and to identify and confidently use resources and strategies to teach dyslexic students according to their particular learning need.

By developing my own knowledge and understanding of dyslexia, I can then use that knowledge to better support my students, also educate others so as they also can offer better support to students. This will build the confidence of all involved, staff and students. It will also develop the understanding of the staff and inmates in the prison.

#### **i. Research**

I will carry out my research by researching the internet, reading and questionnaires to existing staff and verbal questioning.

Due to the nature of my employment within Her Majesties Prison Service, questioning of the prisoners is forbidden in my role, also in the interest of confidentiality I will refrain from any form of identification etc.

#### **ii. Action plan**

I shall use the knowledge gained to promote awareness of dyslexia by:

- 1) Dyslexic awareness displays
- 2) Producing leaflets for staff and inmates as well as prison personnel to develop an understanding of dyslexia
- 3) Staff training /open morning to make staff aware of teaching resources suitable to support dyslexic learners

#### **iii. Reflect and evaluate action**

##### **a. Dyslexia display**

The dyslexia display has now been in place for eight weeks and draws great interest from students, staff and visitors. Students are now contributing to the display by posting and displaying their own tips for personal stories. I feel this has become a great success in promoting

awareness. This is an ongoing project and will lead up to dyslexic awareness week in November 2011.

This has created a lot of interaction within the educational department team and created a lot of discussion as staff also share knowledge and experiences.

#### **b. Leaflets**

Additional leaflets have also been displayed within the department and throughout the prison offering information on dyslexia, again promoting knowledge and understanding. They will now be a permanent feature.

#### **c. Staff training/workshop organised.**

The staff have shown enormous interest and are extremely supportive of any form of training and opportunity to get together to share skills and knowledge of dyslexia in order to support our students.

Following my research of dyslexia and the analysis of staff knowledge of dyslexia, knowledge of resources, confidence in support and planning we have met as a team to review my findings. I have been amazed at the interest and enthusiasm. We have become more supportive of each other, openly asking for and sharing knowledge and experience in support of our students to enhance their learning. I really feel this has been a great move in the right direction to achieve my aims as we are extending skills and knowledge all the time.

I will now research the definition of dyslexia, the effects on individual learners, both positive and negative.

#### **What is dyslexia?**

*The word 'dyslexia' comes from the Greek 'dys-', meaning difficulty with, and '-lexia', meaning words or language*

For many reasons people find it difficult to learn to read, write, or spell. For many such people, those difficulties can be explained by the normal range of opportunity and experience.

For others, however, those difficulties do not seem so easily explainable. Such learners may be what are termed 'dyslexic'. We understand dyslexia to be a

specific difficulty, typically characterised by an unusual balance of skills. Dyslexia affects information processing (receiving, holding, retrieving and structuring information) and the speed of processing information. It therefore has an impact on skills such as reading, writing, using symbols and carrying out calculations. However, there are many differing definitions; dyslexia is an umbrella term.

It is important to recognise that:

Dyslexia is not related to intelligence and can occur in severe, moderate, or mild forms

People with dyslexia have their own individual profiles of strengths and weaknesses; no two people are exactly the same and the impact of dyslexia on each individual is different

Dyslexia does not only affect literacy skills such as spelling, but most of what we know about it relates to its relationship to language and literacy

Dyslexia may overlap with related conditions such as dyspraxia, attention-deficit disorder (with or without hyperactivity) and dysphasia

Most people appear to be born with dyslexia, although others acquire it through accident or illness

Many people with dyslexia have a family member with the same condition

Some researchers think that dyslexia affects more men than women; others think that roughly the same numbers of males as females are affected.

### **The possible effects to learning**

Dyslexic learners' weaknesses lie in areas such as phonological or visual processing of sounds and/or letters and numbers, sequential aspects of language and number, time and direction and short term memory. This means that many learners with dyslexia have the following characteristics that may impact on their learning, though not all dyslexic learners will have all these characteristics:

Difficulties in organising work and other aspects of their lives.

A poor sense of the passage of time, mixing up dates and times and missing appointments.

Directional confusions, getting lost easily and having problems using maps or finding the way to a new place.

Difficulty in achieving automaticity when they have to do more than one thing at a time, as in taking notes.

Difficulty in carrying out instructions, copying from the board and remembering what has just been read or said, taking messages, remembering phone numbers and dialling numbers accurately.

Poor motor control, resulting in difficulties in controlling a pen (leading to untidy handwriting with many crossings out and making it difficult to get ideas down on paper).

Difficulties in recognising, or confusion between, letters or familiar words when reading or remembering the visual image of words, signs, or symbols.

Mispronunciations caused by difficulties in discriminating between sounds.

Difficulties in reading text caused by visual distortions such as blurring or moving letters.

Problems with sequencing such as with instructions and mathematical procedures or sequences of numbers or letters and difficulties using dictionaries, encyclopaedias and directories.

### **A gift or a curse**

The fact that dyslexia causes difficulties in processing information is generally accepted. Some now suggest that the neurological differences found in people with dyslexia may confer advantages for some individuals. This may explain the apparent paradox that some individuals who have problems with skills such as reading and writing can be highly gifted in other areas. Dyslexia is increasingly being recognised as a difference in cognition and learning rather than a deficit.

Although most of the literature on dyslexia focuses on the difficulties it causes, dyslexic learners may possess, or have developed, more positive talents such as:

creativity , fantastic imaginations

thinking laterally and making unexpected connections

being able to see the 'big picture'

good visual spatial skills and being able to think easily in 3D

problem-solving skills

good verbal skills

good social skills.

They may learn well when they can:

make personal, meaningful connections to secure things in their long-term memory

remember patterns rather than sequences

remember landmarks rather than directions

think holistically 'all at once' rather than step-by-step

learn to read and write by being very interested in the subject

I will now extend my research towards the adult learner and look at how they may differ from a younger learner.

### **The Adult Learner**

Adults with dyslexia are individuals and come to learning with their own histories, ambitions and abilities. They will be at different levels and have different learning needs. They will have some problems in common with other adult learners, but many that appear specific to their dyslexia. Within their dyslexia they will have an individual profile of strengths and weaknesses, and strategies they have developed to deal with these.

Unlike young children, adults have already developed physiologically as well as psychologically and this includes the neurological 'pathways' for processing visual and auditory information. They will have had to develop compensatory strategies for their weaknesses in perceiving or processing written language, for their memory difficulties and other problems. Some of these will be helpful, but others may need to be unlearned in order for adults to make progress.

Compensatory strategies may include relying heavily on. Long-term memory is based on meaning, so adult dyslexics often have a very personalised approach to remembering. This may involve pattern or colour; or it may involve mnemonics that relate to their personal associations.

Other compensatory strategies might be the use of holistic learning approaches. Such learners often learn best if they can see the whole before trying to understand the parts; they may be thought of as 'grasshoppers' rather than 'inchworms'. The inchworm takes a step-by-step approach to solving problems; the grasshopper makes intuitive leaps, jumping over steps, or approaching a problem in a different way. Grasshoppers may have difficulty showing how they got the answer and may need help to be able to describe their thinking processes.

Acknowledging the effects on adult learners of their previous experience of learning is important. It may have had a negative impact on them. Dyslexic adults may not have had their difficulties identified at school and may have been labelled 'thick', 'lazy' or 'careless'. They will have experienced repeated failure to learn by 'traditional methods and are likely to have experienced intense frustration in trying to do what their peers seem to be able to do. They are often confused about their abilities and have no way of understanding the reasons for their failure at school. Many will have accepted the negative labels given to them and believe themselves to be unable to learn.

Learners who have recently been diagnosed as dyslexic may feel anger at previous negative experiences and will need support to deal with such emotions. Once learners have understood their difficulties - and that these are not related to intelligence - their self-esteem may grow.

### **Research theories**

There is as yet no known reason for the cause of dyslexia some say it is inherited through genetics through families.

Some researchers believe that dyslexia is the result of improper neuronal migration. Neurons, nerve cells that form the brain, develop away from where they actually need to be.

Some believe it to do with hearing problems at an early age.

There are studies that suggest that a child with dyslexia will use the right side

of their brain for language work where a child without dyslexia will use the left side. The right side of the brain is not the side that is made to comprehend language, suggesting that somewhere those wires got crossed. This dependence on the right side of the brain makes a person with dyslexia have to work twice as hard to comprehend language.

Dr Stein (nd) states "dyslexics suffer from a defect in a set of very large nerve cells known as magno-cells. These cells rapidly transmit electrical impulses from the retina in the eye to the brain so that it can recognise rapid changes or movement." Dr Stein, according to New Scientist magazine believes that the damage occurs in the brain of the developing foetus and may be caused by the mother's immune system.

The Dyslexia Research Trust (nd) states that Omega-3 deficiency may contribute to dyslexic problems because these fatty acids play an important part throughout life in the proper functioning of the brain cells involved in reading. So fish oil supplements may help both child and adult dyslexics, and we've recently completed randomised controlled trials that suggest that this is so.

Reflecting on my research into dyslexia, dyslexia is a lifelong condition. There is, despite research, still no proven cause or cure for dyslexia.

## **Dyslexia in the workplace**

Approximately 1 in 10 people have dyslexia. Those who have recently entered employment from school or university will most likely have been assessed for dyslexia. They will have had specialist tuition and learned strategies to help them with their dyslexia.

Prior to 1975 there were no formal assessments. This means that there are thousands of employees out there who have dyslexia and have never been assessed. They probably don't even know that they have dyslexia and certainly will not have received any support.

Dyslexia is recognised as a disability under the Disability Discrimination Act. This means that employers are expected to ensure that their company is dyslexia

friendly. They must also make 'reasonable adjustments' for any employees who have dyslexia.

Reasonable adjustments need not be expensive to the employer, it may be just the case of breaking the task into more manageable segments, the employee keeping a diary, giving verbal rather than written instructions, visual wall planners, colour codes, use of a calculator and check back understanding.

### Effects on social life

The impact of dyslexia is different for each person. The extent to which it will affect someone's life depends on the severity of their dyslexia.

In today's society the ability to read and write is fundamental for every aspect of our lives. Internet shopping, sending and reading text messages, sending and reading e-mails, reading and following instructions for new electronic gadgets or games, and keeping abreast of local and national news using teletext are only some examples of how our technological developments of modern society presupposes that we can all read and write fluently.

Imagine yourself in the position of a dyslexic person for a moment. These are just a few of the things we take for granted but can have an enormous effect on the life of a dyslexic:

Going out for a meal with others can be daunting for some dyslexics. If they are unable to read this can be embarrassing when they are handed a menu in a restaurant and asked if they are ready to order.

Trying to buy clothes when they can't read the labels, read the instructions on goods in the supermarket, read directions on a road sign, read signs such as "danger keep out", "push" and "pull".

Apart from the difficulties of not being able to read they have the problems of language processing, wanting to ask for a particular thing and not being able to pronounce or remember the word they are looking for.

When someone then asks them to fill a form in, it is embarrassing when they have to say "I can't write" or "I can't read"

All of the above most of us take for granted but for a dyslexic this can have a

major impact on their life style and self esteem.

However for those with mild dyslexia the impact may not be as extreme. The most important piece of advice I would offer to all dyslexics is not to feel ashamed or embarrassed, just ask for help.

I will now look at the knowledge and understanding of dyslexia within the team in which I am employed.

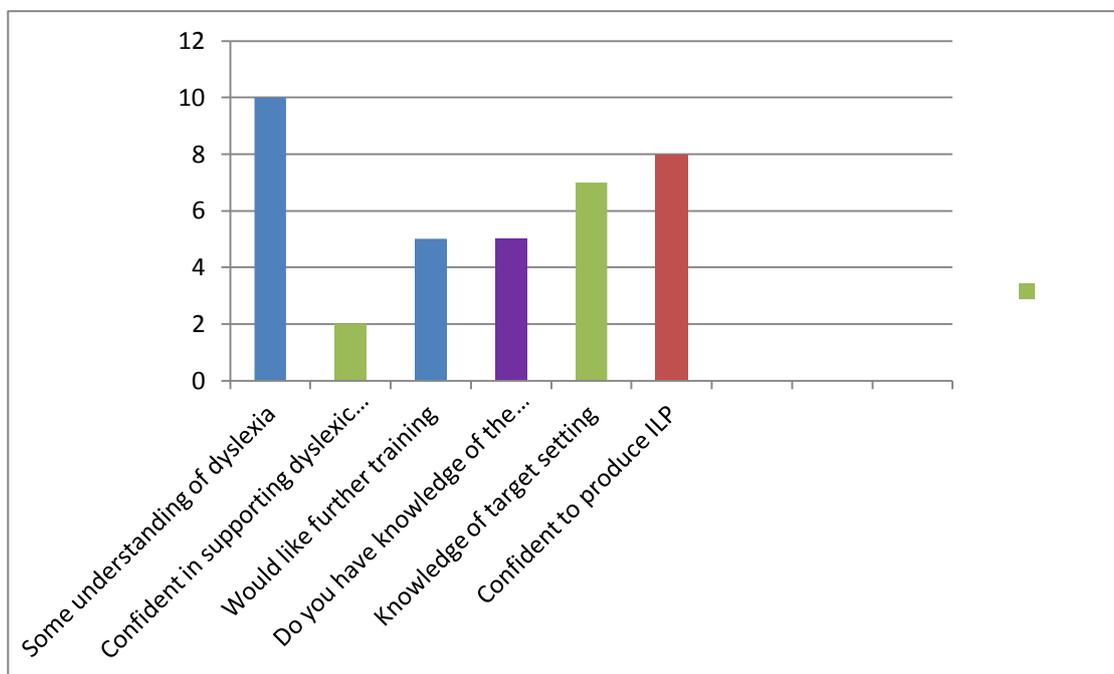
I have obtained the information by questionnaires (appendix 1) which I shall analyse and identify areas for improving.

On completion of this I will identify my action plan.

### Dyslexia research Analysis

Analysis of knowledge and understanding of dyslexia and support of students, also knowledge of resources within the team.

Team of ten in education unit



Analysis of staff skills and understanding of dyslexia:

I have chosen this particular method of data collection as, being a small team, I felt this produced a clear understanding of objectives and outcomes. The

advantage also of a questionnaire is that responses are gathered in a standardised way, so are more objective and information can be collected quickly, but they can take time to design. The questionnaires were hand delivered and collected. They were also anonymous.

Examining means of data collection suitable I researched such methods as quantitative and qualitative data; from my research I learnt that some methods provide data which are quantitative and some methods data which are qualitative. Quantitative methods are those which focus on numbers and frequencies rather than on meaning and experience. Quantitative methods (e.g. experiments, questionnaires and psychometric tests) provide information which is easy to analyse statistically and fairly reliable. From this I identified that using both a quantitative and qualitative approach meant drawing together number and meaning.

The advantage of qualitative is the fact that I could pin staff down and gather information, knowledge, opinions, suited to the small work force. This may have been a disadvantage if a larger workforce. It has also been suggested that you don't get the precise measurement.

Advantage of quantitative is that measurement is more precise in all areas, the ease of feedback, it is quick and easy and can be done by email.

Some may say questionnaires can be a disadvantage as being standardised, it is not possible to explain points in the question that maybe misinterpreted.

From the information obtained from my staff questionnaire, I have identified the following:

All staff have a basic knowledge of dyslexia and most 80% feel confident when producing ILPs, with 65% feeling they have knowledge and skills to set SMARTs. However staff would welcome more training and to develop their skills and knowledge with the use of resources suitable to extend learning.

However the analysis identifies the lack of confidence felt by staff that they are supporting in a beneficial way or that they are not familiar with suitable resources. 65% of staff would like further training.

## **Conclusion**

### **Personal Reflection of Action research**

The benefits of my action research to myself and learners is that I now have developed a deeper understanding of dyslexia. I have a clearer understanding of the impact of dyslexia on learning, both positive and negative. From this I have extended my knowledge of how I can support my students best to extend learning and build the students' confidence and self esteem.

I have learnt that some may feel that their dyslexia is a gift as they develop their positive talents to their advantage, as many famous dyslexics have in the past. When teaching I reflect on this and try to incorporate and transfer these skills to promote learning.

While I understand that there is no cure for dyslexia, it is reassuring that research is ongoing to develop and understand the cause of dyslexia.

I have extended my knowledge and understanding of dyslexia in the workplace and how to advise employers to become dyslexic friendly at a reasonable cost. I also have developed my knowledge of the disability act.

This action research has also produced the opportunity for me to research and develop my own knowledge of resources and to extend my skills to support my students.

Reflecting on Carr and Kemmis (1986) I feel this links and meets with their definition of action research.

I have created and stimulated interest within the education department which has not only developed and extended skills and knowledge of dyslexia but promoted team work, which in fact could easily have turned in the other direction as staff may have felt threatened by my research.

### **Following my research I recommend :**

Training from Dyslexia Action in the areas of supporting the needs of dyslexic students.

#### **Area for staff development:**

Training to develop the understanding of identifying the needs of the adult learner with learning difficulties, how to recognise dyslexic tendencies, and

understand the impact and effect on learning.

Training to develop a better understanding and workings of specialised programmes and resources to enhance learning.

As a team, following our requests, we have received notification of additional training in a specialist dyslexia reading, writing, memory and spelling training programme: The Unit Of Sound, which was produced for dyslexic adults by Dyslexia Action.

Also I have now had it confirmed that this training course will be extended to meet the needs of additional training needs.

This will improve the levels of our students' ability, enabling them to access the curriculum more confidently.

I will continue to monitor learners through this programme to measure improvements in their reading, writing and spelling skills.

I will measure and record outcomes with a monthly analysis.

I will meet with staff to obtain feedback on effects this has had in others' area of study.

From this I will produce a report to inform other members of staff of progress of their students. This will also contribute as evidence of learning for inspection procedures.

Both myself and colleagues through my research programme and action have become more skilled and confident in the area of dyslexia. I am happy that I have achieved my aims with my action research. However this research, I feel, due to my environment, was limited to a small area within which I work. I would have liked to have extended my research to include other areas of the prison.

My work has recently extended the need for me to go onto the wings to see students complete inductions; this has highlighted an area where the understanding of dyslexia for staff working in this area could be improved, however it is not only dyslexia. It also identified the need to develop skills in other disabilities such as ADHD, disculia, dyspraxia and autism. I have already identified that some of our future students have other unidentified difficulties

and they will be attending education in the near future.

### **Future research**

I would like to research the areas of disabilities within the education department and find out what support is in place for them. I regret due to the nature of my employment, I have been unable to question the students to obtain a greater insight into their educational backgrounds and experiences of early education, employment and so on.

I would not have done anything any differently as I feel the methods I used were relevant to my research and employment, my team and establishment which for security reasons are limited.

Promotion of dyslexia awareness within our establishment will not be governed by a time scale and will be ongoing in the interest of enhancing learning and supporting our learners.

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