

How ICT Effects A Person With Special Needs

In this piece of coursework I will be examining how ICT has helped a person with special needs. The person I will be looking at is Paddy McGinty, who suffers from Juvenile Macular Degeneration. This causes the light sensing cells in the back of the central region of the retina to malfunction and will eventually die, which leads to gradual loss of central vision. This basically means that Paddy can no longer see something in full if he looks at it directly, and only if he looks at it from the side. He is also colour blind when looking directly at something, but can see it in colour if he looks at it from the side. This means that he has to be very organised when dealing with clothes so not to put on the wrong colour item.



Paddy found out he was colour-blind at 16, when he took an eye test when applying for a job as an electrician. They found out that he couldn't distinguish between colours and he failed the test and couldn't become an electrician and so he became an engineer. Although colour blind, he got his driving licence when he was 22. In 1988 he was registered as Partially Sighted and 2 years later he was registered blind. Being blind, in government terms, means that he is 80% disabled, so this means that he couldn't do many things that he did before, such as drive and do the work that he did before. He became less able to do things in work and found himself being demoted because of his lack of sight. The job that he was doing got more and more computerised, and it was almost impossible to use the software on the computers. He came to the Royal National College for the Blind to further his ICT skills.

At the Royal National College for the Blind he was able to use software that would allow him to use the computer technology just as a sighted person would. Before he came to the Royal National College for the Blind, he was incompetent at using a computer and it was almost impossible for him to use even the simplest of programs such as Microsoft Word. This was due to the computer screen being of many colours, and often the screen was far too small for him to see it. Also, the screen often gives off a glare, which can make it a lot harder for him to use the computer without being unable to see the screen, any better than he already can.

They have many things that can help him use computers to the maximum that he needs. The Royal National College for the Blind has software packages that make it a whole lot easier to use the computer without seeing the

screen. The main piece of software that The Royal National College for the Blind use is a program called Supernova. This program uses speech technology and the use of magnification software. This means that a partially sighted person could easily see the words on the screen if they are enlarged. The software that is



at The Royal National College for the Blind is not readily available at homes, so Paddy would only be able to use the computer at college and is only able to use it at home, so he limited to doing work at college. If he wanted to write a report or an essay then he would have to do it all at the college, which would limit both his time to do the work and his possible marks for doing it. It would be possible for him to take it home and do it but with two factors: The first one would be to do it without the software that would help him, but for someone with the condition that Paddy has, this option would be almost impossible; the second option would be to take the Supernova package home which could either be extremely expensive (costing upwards of £800), or illegal, as putting a program on another computer with buying another licence, which can result in prosecution and a hefty fine.

To be able to use the computer to type up stuff, he needs to learn to touch type. This means that he has to be able to type words with the keyboard without actually looking at them. It took Paddy a long time to learn how to touch type, and he is still learning. To help him, the keyboard has bumps on the letters 'J' and 'F', which shows him where to put his two thumbs to make it easier for him to type. Although this has made him able to type, he is unable to type anywhere near as fast as a sighted person, so it takes him a lot longer to type up reports etc. However, there is a scheme being set up called Access To Work, which can allow people with disabilities to take software home to help them to do their work. Paddy is not able to use this, for one reason or another, and hence has to do all his work at the college.

To make him able to use the functions of Word, Supernova has Keystrokes built in. These are combinations of button presses that do a certain action when pressed. Such examples are pressing 'Ctrl' and 'B' makes the font bold, instead of moving the mouse up to the Bold icon; pressing 'Ctrl' and 'A' highlights the whole document, instead of highlighted it manually; and pressing 'Alt' and 'F4' will close the document that is currently open, to save you from going to the cross in the top of the screen. All of these Keystrokes will save Paddy the hassle of going to the icons by using the mouse, which he can hardly see anyway. But, there is a problem the Keystroke commands. That is that they differ between each software package and if you learn one set of Keystrokes for, say Supernova, on computers in one department, and then you will have to learn a completely different one for Zoomtext, a different magnifier and Keystroke package, and it can result in a lot of confusion and frustration.

There is also a piece of software that allows Paddy to talk into a microphone connected to the computer and it writes out what he says. A few years ago things like this would have been very unreliable and it would have resulted in him having to repeat a lot of words just to get a sentence complete. But now days they are very reliable once you have 'worn them in' and used them enough to get your voice recognised. This can take a long time and will result a lot of mistakes in work at first, but all in all they will become very, very useful in the future.

As well as using computers to do work, Paddy also uses it to talk to his friends in the Royal National College for the Blind internally and also talk to people outside the college. To do this he uses Windows Messenger (or MSN

Messenger to most), which is favoured by the students at the college because it has the ability to speak to friends directly without having to type. This means he can talk faster and be more precise. Although, the screen for msn is a lot smaller than other screens so it may be hard to read who is online and whom you are talking to. It is also mainly comprises of colour and images, and if the colours are reversed, then it may be too dark and Paddy may be unable to see it on the screen.

Computers are not the only technology that has features, which enables blind and partially sighted people to use them. There are many household appliances that Paddy uses such as talking microwave ovens and cookers, which are very useful. As well as it being a fire hazard using a cooking appliance whilst unable to see what is being pressed, it also means that Paddy will be able to cook his own food and not relying on someone else to do things for him. But it is not only the only thing that limits his ability to cook and eat food.

Many different foods come in similar or even the same shapes and sizes as one another, so for a blind or partially sighted person it could be almost impossible for them to distinguish between, say, dog food and beans. This is where Paddy would use mini magnifiers, which allow he to magnify the text in a small area, like a packet of food, and he'll know what he has in his hand. It is compact so it could be taken anywhere with him, such as when he wants to read a bus timetable, or shopping in a supermarket. It is also relatively cheap, as all it really is a piece of magnifying glass and a casing.

Not that he would be able to take it home, but there are magnifiers available in a larger size known as a CCTV. These are like the small magnifiers mentioned, but are a lot larger and will enable you to read a much bigger area. This can be used to read letters (as most blind people have to rely on others to read things to them such as confidential letters and even bank statements) and newspapers. They can also be linked up to a computer to magnify a piece of text and show it on screen, and at the Royal National College for the Blind Eye-Tech Exhibition they have CCTV's where half the screen is what is magnified and the other half is what it being typed. This

allows people like Paddy to, if they are copying something from a book, to do so without turning their head or having to go over it with a smaller magnifier.

As well as college, Paddy has a social life with both friends and family. So, he bought himself a mobile phone. But he could not get just any mobile phone, because some of the new phones are almost impossible to use if you cannot properly see the key. A lot of the newer mobiles are made to be smaller so because of this the keys are getting flatter. Paddy bought himself a Motorola mobile phone like the one on the right. He chose this phone because of a few features on it that would make it a lot easier to use. He obviously cannot read texts,



but that wasn't a problem because he couldn't write them easier. It has big keys, which as well as being easy to see, are easier to type with when typing in phone numbers. It also has a feature a bit like a computer key board called hotkeys, where you simply hold a certain button and it rings a number. The phone has a built in radio so he does not have to get a compact radio which usually has small buttons which are impossible for Paddy to press. And the phone has voice dialling, which is what it says it is; you talk into the phone and it dials the person that you said. Firstly, you have to record the tag for each person, but once you've done it, the voice dialling would be very useful to Paddy when dialling his friends and family. There are speaking phones, though, but these can cost at least £200, so the cost outweighs the benefits of it.

Paddy, as some may think, is not just someone who lazes around the home, he is a very fit person. He even works and trains in the Royal National College for the Blind gymnasium. In the gym, there are many specially adapted pieces of equipment that allows Paddy and others to use the gym as any others would. There are talking watches, talking stopwatches and even talking Blood Pressure and Heart Rate Monitors. These will let the people at the Royal National College for the Blind to use the gym as well, and sometimes better, than people in other gyms. The college even lets people come to the gym where they can be given a health and fitness assessment by a blind person.

All of this technology means that a blind or partially sighted person is able to do everything someone with perfect sight. They can, in some circumstances, do it better. All they need is a bit of help to do it, and as technology evolves for you and I, it also evolves for those who have disabilities both physically and mentally.