What is developmental dyslexia english language essay

Linguistics, English

Developmental dyslexia in its simplest explanation is a learning disorder which impairs the ability to read and comprehend written words. In developmental dyslexia a sufferer's reading skills will be behind their other academic development and their achieved reading level of skill will be limited meaning that they're reading is slow and their non-word reading is impaired. Developmental dyslexia typically affects 10-20% of the population but only 4% of the population severely. Developmental dyslexia is different from acquired dyslexia in that the acquired version only happens when brain damage such as a stroke or head trauma occurs and it is in the language area of the brain and it will mainly affect adults. Whereas developmental dyslexia can affect anyone children or adults, it develops early on in life, it is just when dyslexia is seen and then diagnosed as to whether it is child or adult dyslexia. Dyslexia cannot be cured but can be managed and helped in a variety of different ways such as the use of different teaching methods. Developmental dyslexia is associated with impairments or abnormalities within a person's visual and auditory processing. The most consistent finding of dyslexia studies is that abnormalities in this auditory processing mean that the subject has a deficit in their phonological processing. Meaning they have problems with their phonological awareness which impairs their judgement the number and differences of sounds in words, rapid naming of pictures, colours, letters and numbers and their verbal short term memory such as non-word repetition and digit recall is below average. These problems with phonological awareness occur in all dyslexics however the type of phonological deficits each dyslexia sufferer will have varies from person to person. Many have asked the question as to if dyslexics have an

underlying auditory problem and argued that it could lead to problems in rapid auditory discrimination, which has been proving in some studies such as Galaburda A et al. (1994) which conducted a post-mortem study of Dyslexics which showed that abnormal auditory processing is due to smaller neuronal fields in the left medial geniculate nuclei and so there is a physical factor in dyslexics phonological awareness. This affect has been artificially produced in rodents and has caused their auditory processing to slow down (Clark, Rosen, Tallal & Fitch, JCN, 2000). The lack of phonological awareness is measured by MMN " MMN is elicited by any discriminable auditory change such as simple sinusoidal tones of different frequencies, amplitudes and durations as well as more complex tones, such as vowels and consonants, or even syllables, words and sentences... In other words, MMN is thought to reflect a memory related neuronal activity taking place at the auditory cortices" (Tuomainen, 2009, p. 77). Using MMN measures Kujala et al. (2003) showed that there was diminished left hemisphere MMN for a pitch change in dyslexics. So there is quite a bit of evidence to suggest non-linguistic auditory problems in dyslexics even if they are low-level problems, including possible neuropathological correlates of the problem. Explaining dyslexia with this hypothesis has been a very prominent idea. Even though n0t all dyslexics exhibit this type or any other type of auditory problem. Although they do all show a degree of impairment in their phonological awareness so the low-level auditory problem does not explain dyslexic’s general phonological awareness problems. However Ramus and Szenkovits (2008) show that the phonological representations of dyslexics to not be abnormal as there is no evidence that dyslexics cannot apply rules of language

phonologically to their language. Ramus and Szenkovits (2008) therefore come up with a new hypothesis as to what does explain dyslexia, of that it is dyslexics phonological access and not their phonological representations that are impaired, so dyslexics find it difficult to gain conscious access to phonological representations and as this is required in phonological awareness tasks they will find it difficult and so this difficulty has been put down to lack of phonological awareness rather than their difficulty to access it. Phonological access is explained as " all processes by which (lexical or sub lexical) phonological representations are accessed for the purpose of external computations" (Ramus and Szenkovits, 2008). So although dyslexia is defined as a visual language processing problem, it is mainly a phonological problem. However the nature of this phonological problem is debated but which ever hypothesis is created to explain this problem it needs to explain why dyslexics have diminished activation of the brain area that encodes sounds to letters and why dyslexics fail in phonological awareness tasks. Not all dyslexics are the same, there are similarities and common symptoms that dyslexics will share but there will also be differences. Such as spelling being a difficulty for most dyslexics but only some will have problems with multi-syllable words while other could find short or one syllable words difficult to spell. Dyslexia can also vary in severity for different people, meaning that help will need to be individual to each dyslexic. The causes of dyslexia are not always known although " Contemporary research suggests that developmental dyslexia is caused largely by language-related deficits, whose neurological bases are beginning to be identified" (Rayner: 2001, 43), so with this new research different and

exact causes of dyslexia could be found. Diagnosis of dyslexia is best done early even though it is difficult as it is difficult to identify reading problems in young children, and the child can have extra help and special teaching methods to help them learn to read with their dyslexia. Educational psychologists or a specialist teacher will conduct tests to diagnose dyslexic children. When a child has dyslexia symptoms they may not always have dyslexia and have another learning disability such as ADHD or they could have both disorders. Which can be seen by the fact 15-40% of children with dyslexia are also diagnosed with ADHD, this could be down to the fact that both disorders affect verbal working memory and processing speed. Both dyslexia and ADHD share behaviours are shown " by all children and are considered problematic only when expressed in an age- or context-inappropriate manner" (Eden & Vaidya, 2008 p. 317). Effects that are noticed in relation to dyslexia could be early speech problems, memory difficulties, poor spelling and rhyming ability, disorganised writing or poor handwriting and difficulty in phonological tasks. There are some disadvantages to diagnosing dyslexia such as requiring a history of academic failure before diagnosing, it doesn’t take into account the lowering of overall ability due to the child’s failure to read and it tends to exclude those from more disadvantaged backgrounds. Literacy skills such as alphabet knowledge, contextual and single word reading, comprehension and print awareness are assessed. As are cognitive variables such as phonological processing, rapid naming and orthographic processing. This also helps to rule out other problems such as auditory or visual impairments suffered by the child. Reading ability is measures a child’s overall reading ability there are

different tests that can be used such as texts including non-words, irregular words and regular words. The mean score for these tests is 100 (from normative data for comparison from 300-1000children) and a reading below 80 is a concern and below 70 would be of serious concern. Comprehension is measured firstly by assessing the child's reading comprehension which is affected by the accuracy of the child's word reading. Then the general speech comprehension and word definitions will be tested which should be normal in a dyslexic child, as if the child is impaired in this general comprehension then the problem is not dyslexia. Then the child's composite skills are tested showing their phonological awareness, the test which is performed depends on the age of the child being tested; such as rhyme awareness (asks if two words sound the same), phoneme awareness (ask if two words use a similar sound), phonological working memory (non-word repetition) and non-word spelling. The child's composite skills are also assessed through orthographic skills the tests given again depend on the age of the child they could be given a lexical decision test (showing child different spellings of a word and ask which word is real), potentiophone decision test (asking a multiple choice question where the answers are similar such as which of these is an animal? Bear or beer), letter naming test or an irregular word spelling test. From these tests several outcomes could be made such as the child not having dyslexia. After these tests if a child is found to have poor phonological skills and a low reading ability they would be diagnosed with phonological dyslexia. If the child had a low reading ability and poor orthographic skills then they could be diagnosed with surface dyslexia or dysgraphia and if a child was poor in all three abilities they could

be diagnosed with mixed dyslexia. If a child is diagnosed with dyslexia in the UK they will receive an SEN (Statement of Educational Needs) which outlines their problems and recommends the help they need and the child should receive extra help inside or outside the classroom such as extra reading and comprehensive phonics instruction. There are several types of errors that dyslexics make and there are causes to these errors. Dyslexia affects the reading of single words and the comprehension of words. This is due to the fact that if you cannot read the words you cannot understand the text so there is a strong correlation between measures of a dyslexic's single word reading and their comprehension especially in children. This lack of comprehension could also be down to the fact that accurate but slow word reading requires so much attention that perhaps there is little left capacity to comprehend, so there is no evidence of a direct impairment to processes involving just text comprehension or comprehending spoken text. There are some who are just poor at comprehending and so are not dyslexic even though this is an attribute of dyslexia. Phonological skills that lack in dyslexics have a number of sub-sections which all culminate into phonological skills. The first of which is non-word reading, dyslexics are tested with ' The Graded Non-word Reading Test (Snowling, Stothard &Maclean, 1996) which tests how well the subject can read made-up words to test their phonological skills, in dyslexics the per cent of correct non-words read out is much lower than in control groups of normal readers, showing phonological skill deficit in the dyslexic subjects. Another phonological skill is phonological awareness where dyslexics are tested against garden variety poor readers, reading age controls and age controls in syllable tapping,

onset-rimes and phoneme tapping (Swan & Goswami, 1997). Dyslexics are worse than chronological age controls on all three tasks and were worse than reading age controls only on phoneme tapping though, and it was found that there was little difference between the dyslexics and the garden variety poor readers on this task. Another phonological skill that lacks for dyslexics is that of understanding letter sounds and studies such as Gallagher et al. (2000) showed that children who are genetically prone to dyslexia are slow to learn letter sounds and names. Poor verbal short-term memory is also a phonological skill that dyslexics will lack to a certain extent and so will have more difficulty recalling a series of succinct sequences of words that they need to speak that they are either told visually or verbally. So poor readers and therefore dyslexics do not perform well at this task compared to others their age and so have shorter memory spans. The other type of phonological skill is spoken word production, this is split into several parts the first being RAN (rapid automatized naming) deficits (Denckla & Rudel, 1976) to test this subjects are to rapidly name random stimuli such as numbers, colours and objects and their time to name for example 50 of them would produce a measure of RAN which is an independent predictor of early reading in children and dyslexics have longer naming times than control groups. The second part of spoken word production is that of ‘ word-finding’ difficulties (Swan & Goswami, 1997) where dyslexics will have poor picture naming of long relative to short picture names unlike the control groups and they will have low compared to high frequency picture names unlike the control group also; and this is not a vocabulary deficit as the dyslexics could recognise the items on comprehension tasks. So in general in this task dyslexics will have

more phonological errors than the control groups. Another test of spoken word production is paired associated learning (Wimmer et al, 1998) in this tasks dyslexics find it harder to associate 3 non-words with 3 unfamiliar animals, although some researchers have found that dyslexics and reading age controls will have similar differences when associating non-words with pictures of new objects. There is no clear evidence however of a similar deficit where the objects and therefore names are familiar. The causes of these phonological problems in dyslexia do not have one specific truth but there are several hypotheses, one being a poor definite phonological representation in the speech production system of dyslexics, or that there are inaccurate presentations or that it is harder to separate these representations into smaller units for dyslexics (Snowling, 2000, p. 59). These poor phonological representations in dyslexic results in impairment in all possible tasks to do with output of phonological forms shown in the previous examples of tests for the different phonological skills I have shown. These phonological skills (phonological awareness and paired associate learning) are fundamental for acquiring and development of reading skills, as they will find it difficult to see the relationships between the phonemes in spoken words and the letters that represent them in written words. Dyslexics are known to read differently, to understand the difference we must first look at the typical reader’s models of readings. There is a three stage model of how native English speaking children learn to read, the most widely recognised is that of Frith (1985) the first stage is the 'Logographic Stage' which is the recognition of familiar words and words as pictures whilst letter order is ignored. This happens around pre-school age and is purely visual not

being based on letter recognition by the child or letter to sound associations and rarely includes the recognition of non-linguistic or phonological features. This stage ends as over time a child's sight vocabulary expands. Dyslexics can remain in this 'Logographic Stage' and will distinguish their words visually and their reading will over time fall behind normal readers of similar age. The second stage is the 'Alphabetic Stage' Frith (1985) suggests that alphabetic strategies occur in spelling before reading as the logographic strategy does not help a child with writing or spelling. This stage is generally acquired by the first year of schooling. With this stage children will produce more correct spellings and can spell words that they may not be able to read, meaning they can sound out words they have not seen in print before but can understand them if part of their spoken vocabulary. It is unclear why children do this but Goswami and Bryant (1990: 148) concluded this situation:" It is still not clear why children are so willing to break up words into phonemes when they write, and yet are so reluctant to think in terms of phonemes when they read. But there can be little doubt that at first children’s reading and spelling are different and separate. The most dramatic demonstration of this separation is the fact that young children often cannot read some words which they know how to spell and also fail to spell some words which they can read." Many dyslexics will not become alphabetic readers and so cannot transition to the third reading stage model of the 'Orthographic Stage', even though some children who enter the alphabetic stage do not transition into the orthographic stage and so they will never learn proper orthographic representations for many words as they do not build up a full sight vocabulary. So they will spell and read words

alphabetically meaning they will struggle to read and spell irregular English words. In this orthographic stage the child will learn to produce larger units and will read familiar words by sight and rhymes will be recognised as familiar units. However the existence of this stage has been disputed such as by Lennox and Siegel (1998) who investigated the spelling errors of 420 children aged between six and sixteen. The results showed phonological and orthographic skills develop from the early years of learning to spell. This theory of stage do not take into account the part phonological awareness may play, and the fact that different types of schooling may actually cause these affects and thus not every normal reader will go through these three stages. The fact that some dyslexics seem to reach the orthographic stage of reading without going through the alphabetic stage (Campbell & Butterworth, 1985) also disputed these reading stage models. In the UK there are three different types of teaching reading: phonics teaching, visual methods and whole language approaches. Torgesen et al. (2001) tested different teaching methods by giving dyslexic children 50 minutes of phonics teaching and training on text reading daily for eight weeks. They were split into two groups who had a different mixture of text training and phonics teaching. The results showed that within both groups their reading accuracy improved and this improvement was shown to be maintained in a follow up one and two years later. This and other experiments have shown how phonics teaching is important Ellis et al. (1994: 90):" If we wish to base our educational recommendations on evidence rather than politics or fashion, then all the evidence to date strongly favours teaching methods that incorporate a clear systematic phonic element" So dyslexic people read

differently from other readers as they do not progress past reading words as pictures, meaning they have a limited reading ability and will fall behind other readers. Dyslexics as well as normal readers' reading improve with different teaching methods, meaning that dyslexic children need different types of teaching reading, mainly focusing on phonics as this has been shown to help improve their reading and spelling skills better than the other types of teaching. So dyslexics cannot learn to read in the same way other children can as their minds comprehend language differently, some dyslexics can understand phonetic sounds and syllable rules even if they are not taught them, but for some this approach does not work. This may not be a particularly helpful method as children need phonetic sounds and the language rules presented in a clear manner which does not happen in this way. There are several issues and controversies within the field of dyslexia. One issue within the field of dyslexia was caused by the a UK Government report Language for Life (Bullock, 1975) which accepted that " a syndrome characterised by severe reading disabilities which are not accountable for in terms of low intelligence" existed however Bullock did not want to refer to this as dyslexia as " it is not susceptible to precise operational definition and does not indicate any clearly defined course of treatment" and so he wanted it referred to as specific reading ability and not dyslexia. The severity of this impairment as being classified as dyslexia is also an issue, as dyslexia does not have clear cut-off points as to whether a person is dyslexic or just has a less severe reading problem. Although there is general agreement about the symptoms and the ways in which dyslexia is tested and certified as the boundary is blurred then some who are in fact dyslexic may not be classified

as dyslexic and those with a different type of learning disability may be classified as a dyslexia sufferer. In the field of dyslexia there has been found to be correlation between reading scores and IQ scores for children it has led to the question as to if dyslexic children are merely just unintelligent children. However Yule et al. (1974) screened over 2000 children who were 9 and 11 years old in the Isle of Wight and using estimates of how children should perform on basis of IQ and their age tested the children's reading abilities and found that only 4% that is around 86 (1% were girls and 3% were boys) of the children tested were two or more years behind what was predicted from their age and IQ. The definition of dyslexia itself has had issues as its main distinguisher of impaired reading has different definitions that are agreed and not agreed with. Rutter & Yule (1975) explain the two definitions of impaired reading the first is the age-discrepant definition of reading backwards " reading which is backward in relation to the average attainment for that age, regardless of intelligence… low achievement but not (necessarily) under-achievement". The second definition Rutter & Yule (1975) explain is that of IQ-discrepant definition of reading retardation " A specific disability in reading… not explicable in terms of the child's intelligence… what is usually called ' under-achievement'". The reading backwardness isn't accepted as dyslexia by some as many who read " backward" will be of low reading ability and of low intelligence and so their poor reading is only what would be expected from their low IQ. Rutter & Yule's (1975) view of reading " retardation" is closer to the way dyslexia should be defined; even though a child with a very high IQ could be " reading retarded" even if their reading ability is on par with an average reader of

average intelligence. The definition recommended by Research Group of Developmental Dyslexia of the World Federation of Neurology in 1968 is " a disorder manifested by difficulty in learning to read despite conventional instruction, adequate intelligence and socio-cultural opportunity" this definition accepts normal IQ as part of the criterion for diagnosis of dyslexia and so they accept the " reading retardation" definition to a degree. However some accept reading backwardness as dyslexia and that IQ is irrelevant as a child with low IQ as well as a high IQ could both suffer from dyslexia. Seymour (1986): " Dyslexic problems may occur at any level of intelligence, social status or adequacy of schooling... dyslexia is defined as ‘ difficulty in learning to read’". Even though dyslexia may be easier to spot and diagnose in children with high IQ this factor it is said should not form part of its definition. Dyslexia is different in other languages. English is an 'opaque' writing system, the problem with this is the inconsistency of grapheme to phoneme correspondences and inconsistency of graphemic parsing principles, this is caused by frozen spellings such as 'night' and failure to change imported words such as 'café'. In Britain children begin to learn to read when they enter school aged 4 or 5, the teaching of children this age is discouraged in other countries such as Germany and does not begin until the children are 6 years old. To some degree age is the reason why they perform better, Seymour et al. (2003) tested this age theory out by comparing two languages which are both opaque orthographies (Danish and English), Danish children are two years older when they start to be taught reading skills than English children; the Danish children read more non-words and regular words correctly than the English children, showing that teaching

reading later my in fact be beneficial. Hanley, J. R., Masterson, J., Spencer, L & Evans, D. (2004), investigated the reading skills and incidences of dyslexia in 10 year old Welsh children compared with English speaking children. The investigation found that English children had a lower frequency of reading irregular words relative to the Welsh translations of the words. Existence of irregular words in English makes learning to read more difficult than in other languages were there are few or no irregular words. The results also showed that decoding reading skills of the English children had caught up with the Welsh speaking children, but the decoding skills of the least able English readers showed they had not caught up with the Welsh readers. Lundberg & Hoien (1990), studied dyslexia in the transparent orthographies of Dutch, German, Greek, Italian and Norwegian. They found that dyslexics in transparent orthographies are more accurate readers of real words than English dyslexics although they will read slower than unimpaired children. Landerl, Wimmer & Frith (1997) used matched words in English and German in 12 year old dyslexics, it found that German dyslexics have accuracy impairments but it is less severe than for English dyslexics. Ziegler et al. (2003) found in their tests that German dyslexics read slower than reading age controls but still read faster than English dyslexics. Phoneme awareness scores are also much higher in readers of the transparent orthographies than in English orthography. Ziegler and Goswami (2005) argue that this phonological deficit underlies in transparent alphabetic systems, the slow reading speed could reflect the reader's slow phonological processing and the non-word difficulties in German dyslexia conclude to a phonological deficit. Although Wimmer, Mayringer and Landerl (2000) argued that a

phonological deficit is not the main cause of German dyslexia; and unlike English dyslexics German dyslexics are better at phoneme awareness and decoding. So learning to read is difficult for English children and it takes them longer to learn to read even though they start to read earlier, and the inconsistency of the orthography means that decoding skills develop later and irregular words will take longer to learn; and dyslexia exists in other writing systems but does not have as big of an impact as it does in English. So developmental dyslexia is a broad term meaning that no two dyslexia child sufferers are the same having the same problems or symptoms. There is not on specific definitive cause that has been found to cause dyslexia but there is " growing evidence that dyslexia may have multiple causes, which may require different types of intervention, and that the causes may have different effects in the case of different writing systems" (Rayner: 2001, 45). Dyslexics will defect from the development of normal reading stages by staying at the first reading stage, meaning that they fall behind other people of the same reading age. However with different teaching methods dyslexics can improve their reading to a normal or efficient level as they need to learn differently to other 'normal' readers.