ABSTRACT

To succeed in school, all children need good vision along with other capabilities. When vision suffers, academic performance also gets disturbed. Vision problems are common among school going kids. If left untreated, this can affect learning ability, personality and adjustment in school. In the present study, the term Refractive Error can be defined as an error in the focusing of light in the eye and a frequent reason for reduced visual acuity. The prime aim of this study is to unearth the enormity of refractive error among school children and then to analyze the factors causing refractive error. It aims to know whether this research finding supports biological theory (Genetically determined characteristics of eye tissues) or use-abuse (habitual use of eyes at a near focal length) theory. The investigator is also interested in recognizing the difference, if any, between normal students and vision defective students in their educational performance such as reading abilities, writing abilities, identification of any given letter from a group of letters and in test scores. Another important aim is to find whether correction of refractive errors can lead to any improvement in the educational performance of the students.

With all the above aims in mind, the investigator selected two schools in Maraimalai Nagar by adopting Convenient Sampling Method. The investigator decided to take seventh standard students for this research, since age 12 is a pre-adolescence period prone to rapid physical changes. Acceptance of parents and school heads for allowing the investigator to provide eye glasses to the children was the stepping stone for the success of this research work. The pilot study was conducted by the investigator in three other schools to meet the practical problems during the process of investigation. After confirming that there are no students with learning disabilities, the research processes have been started. Because, if there is
any student with learning disabilities such as problem in visual perception or problem in auditory perception etc the investigator has to avoid such students for this type of research. With the help of an optometrist, the vision screening was done in the school premises. Out of 126 students, 49 were identified as vision defective. From the 49 vision defective students, 3 of them were rejected for the research process, since they already wore glasses. After indentifying the vision defective students, the tests were conducted individually to know the educational performance of normal and also vision defective students individually, considered as pre-test. Thereafter the vision defective students were grouped under two categories, one under control and the other under experimental. Out of 46 students, 26 of them were taken as an experimental group. The students of the experimental group were taken to the ophthalmologist and suitable eye glasses were prescribed. Then the investigator supplied the eye glasses to the respective students. Immediately after wearing glasses, the tests were conducted on educational performance. After a period of seven months, the same tests were conducted for the control and experimental group students as post-test. The first mid-term scores and third mid-term test scores were collected from the class teachers as pre-test and post-test results, respectively.

The collected data was analyzed by using statistical analysis such as percentage analysis, mean, standard deviation, Chi-Square,‘t’ test and Regression analysis. Around 40% (exactly 38.88%) of the students were affected by Refractive Error. All of them were affected by myopia. When compared with students from the rural areas the students from the semi-urban areas are more prone to the problem of refractive error. While substantiating the biological theory and use-abuse theory, the pronouncement of this research supports both. If any or both the parents have vision problems inevitably their children have them too. This fact supports the biological
theory. On the other hand the result also confirms that when the children play computers or video games incessantly they suffer from refractive error in their vision even though their parents do not. This fact supports use abuse theory. From this investigation, it can be observed that, the educational performance of normal students is superior to that of the students with refractive error. The comparative analysis shows that, when the vision is corrected by wearing spectacles, the performance is enhanced, but not if left uncorrected.

Many school children are stamped as sluggish and unintelligent by their teachers for their poor performance in school. These problems may not be in their intelligence, but may be in their eye sight. These vision difficulties can affect the children’s reading abilities, speed of writing, identification of letters in alphabets and their educational performance. Quite a lot of eye disorders can lead to everlasting visual impairment if not identified and treated early. This study suggests that care must be taken by the parents and teachers to identify the problem, before leading to irreparable damage. Awareness must be created about the consequences of uncorrected refractive error among illiterate parents. People must accept the axiom “Prevention is better than Cure”. A nutritious diet could be an ideal solution to putting an end to such eye disorders.