

READING EFFICIENCY OF VISUALLY IMPAIRED STUDENTS— REVIEW OF PILOT PROGRAM

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Abstract

A pilot program was run to determine if reading efficiency could be improved in visually impaired tertiary students. A review of these students was conducted twelve months post-training. The students were able to maintain the skills of vision training and reading efficiency for an extended period without further training.

Key words: *eccentric viewing, null point, reading efficiency, vision training.*

Visually impaired persons are able to improve their reading speed. Olsen, Harlow and Williams¹ were able to significantly increase the reading speed of visually impaired subjects following an intensive training course. Krischer and Meisen² have examined factors which will influence the reading speed of the visually impaired. Following from such studies a pilot program was devised to improve the reading efficiency of visually impaired tertiary students. The students underwent a program of vision training and reading skills. Reading efficiency was seen to improve Fitzmaurice and Keast.³

Subsequently the question remained; was this improvement able to be maintained without continued training? Fridal Jansen and Klindt⁴ in their review study found such improvement could be maintained.

A review of the students involved in the training program was designed to determine if improvement in reading efficiency could be maintained for an extended period post-training.

METHOD

Subjects: The students from the Tertiary Resources Service of the Royal Victorian Institute for the Blind who had participated in the pilot program were notified for the review twelve months post-training. Of the original ten subjects two did not complete the program due to work commitments. One student has employment interstate and was not available. One student withdrew during training and has since recommenced but not completed the program. Six students presented for the review.

Procedure: The students were required to complete the Co-operative Reading Comprehension Test Form M, from A.C.E.R., Hawthorn, Victoria. This test was used for pre- and post-testing in the pilot program. In addition reading test two from the pilot program was redone as a measure of reading speed. The students were all asked to complete a questionnaire relating to various aspects of the training.

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TABLE 1
Comparison of Reading Speed Tests 1, 2, 3 and Review

Student	Reading Speed Words/Minutes per Visit			
	1	2	3	Review
A	143	124	147	182
B	55	53	71	80
C	41	53	54	75
D	177	169	160	237
E	132	138	127	161
F	145	132	145	144

RESULTS

Reading speed in words per minute is shown in Table 1. An indication of reading speed can be gained from the percentage of questions completed on the A.C.E.R. vocabulary test Table 2 and comprehension test Table 3. An indication of comprehension skills is gained from Table 4, percentage of comprehension questions answered correctly.

TABLE 2
Comparison of Pre, Post and Review Test Results

Student	Vocabulary Test % Completed		
	Pre Test	Post Test	Review Test
A	100	100	100
B	75	80	77
C	42	53	60
D	100	100	100
E	78	100	97
F	100	100	100

The questionnaire revealed all of the students had continued to use their vision training technique and to maintain their reading efficiency. Five of the six found the reading lamps useful and were either using or intending

TABLE 3
Comparison of Pre, Post and Review Test Results

Student	Comprehension Test % Completed		
	Pre Test	Post Test	Review Test
A	65	85	78
B	32	52	57
C	17	33	33
D	88	100	100
E	53	70	67
F	62	78	78

to buy one. Reading boards were of use to five of the six students, four have either obtained or are looking into obtaining one. Three of the students found the training time to be insufficient, none found it too long. All students agreed the training was useful to them.

TABLE 4
Comparison of Pre, Post and Review Test Results

Student	Comprehension % Answered Correctly		
	Pre Test	Post Test	Review Test
A	62	69	57
B	83	94	94
C	100	85	90
D	75	72	83
E	72	83	75
F	92	85	92

DISCUSSION

The review has shown that reading efficiency was not only maintained but improved in some areas over the twelve month period.

Reading speed measured in words per minute was seen to improve with five of the six students (Table 1). Student F shows a small decrease of one word per minute. At the time of retesting this student was carrying a heavy reading workload and presented for testing over two lunch hours of the one week. This student may have been performing in a fatigued state and therefore not reaching optimum level.

When comparing the A.C.E.R. pre-test, post-test and review tests the percentage of questions answered gives an indication of reading speed. Table 2 reveals an increase in the percentage of questions answered by one student. Three

students remained the same, i.e. 100% of questions answered within the fifteen minutes allowed. Each of these students completed the test in less than fifteen minutes. Student A completed the test in less time at each test, i.e. pre-test 10 min. 37 sec., post-test 8 min. 20 sec., review 7 min. 30 sec., therefore indicating an increase in reading speed. Students D and F completed the review test in less than the pre-test time but greater than the post-test time. This reflects some maintenance of increased speed.

The percentage of comprehension questions answered (Table 3) indicates one student increasing in speed and three remaining the same between the post-test and review. Student D completed all questions in less than the allowed time at both the post-test and review. The time taken to complete this was a minute longer at the review test.

The difference in result between reading Test 2 and the A.C.E.R. tests may have been attributable to the skills involved. While reading Test 2 only assesses reading speed the A.C.E.R. tests require reading and a written response in the form of a tick. Transferring attention from the reading board to an answer sheet, selecting the appropriate answer and then returning to the reading board may have been reflected by a slower reading rate for some students.

Where a decrease in reading rate is noticed in both Tables 2 and 3 the decrease is only in relating the review test to the post-test result. These students were still reading at a greater rate than they had been pre-training.

Comprehension in terms of the percent of answers correct (Table 4) was shown to improve with three of the students, one student remained

the same and two showed a decrease from post-testing to review. One of the students showing a decrease had more questions correct when comparing review and pre-test. Student A was the only student to show a decrease at review in relation to both pre-testing and post-testing. The three students showing an increase in comprehension had shown a decrease between pre-testing and post-testing. This improvement at review may reflect a greater mastery of vision training skills allowing full concentration on the material being read.

CONCLUSION

This review study was organized to determine if visually impaired students are able to maintain reading efficiency skills for an extended period of time post-training. The students were able to maintain an improved reading speed with some showing further improvement. Comprehension skills were also maintained and in some cases improved. The review also revealed the value of vision training skills, the use of appropriate lighting and reading boards.

Further work could be done to encourage the use of residual vision to improve skills such as writing for the visually impaired.

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