

TREATMENT OF VISUAL SKILLS DISORDERS

Kit Malia, MPhil.

Cognitive Therapy, Headley Court, Epsom, Surrey, KT18 6JN, England

Kristin Bewick, MS

Dept. of Neuropsychology/Cognitive Services,
John Heinz Institute of Rehabilitation Medicine,
Wilkes-Barre, PA

In this brief article, we will discuss the treatment of visual skills disorders. First we will describe the five stages in the treatment process and then provide examples of exercises in the *Visual Skills Module* (Malia, Bewick, Raymond, & Bennett, 1995).

The stages in the treatment process are as follows:

Stage I: Treatment should begin with an initial diagnostic evaluation since effective treatment planning requires understanding of the underlying reasons for a difficulty, as well as delineation of the conditions that influence performance (Toglia, 1989).

Stage II: Treatment should then aim to minimize the sensory deficit by introducing assistive devices such as eyeglasses, prisms, patching, large telephone dialers, increased illumination, large print books and magnifiers (Cohen and Soden, 1981; Warren, 1992), or through corrective surgery (Schlageter et.al., 1983).

Stage III: Treatment should then progress on to an educational component with the aim of teaching the patient what is wrong with their visual skills (Schlageter et.al., 1983).

This is important, since without good awareness of problems the patient will not be motivated to try to overcome them. This can be done by providing immediate feedback whenever problems occur and through teaching self-monitoring techniques (Warren, 1992).

Stage IV: Treatment should then include exercise and retraining activities with consistent, systematic practice, in order to increase function. There are two broad approaches to treatment of visual skills disorders (Neistadt, 1990), and effective treatment programs need to use a combination of these (Warren, 1992):

- *Remedial training exercises*, in which the aim is to promote recovery or reorganization of impaired brain function.
- *Adaptive training*, which is provided in activities of daily living.

Remedial training exercises are concerned with treating the cause, whereas adaptive training is more concerned with treating the symptom.

Practice on training tasks is used by many professionals involved in rehabilitation, yet its effectiveness for improving visual skills or facilitating independence in activities of daily living has not been established. However, Weinberg et.al. (1977, 1979, 1982) reports improved visual scanning skills following a training program consisting of three elements: *basic scanning training, size estimation training, and complex visual perceptual training.*

In this training stage, there is a need to deal with visual field, acuity, and oculomotor control functions first since they form the foundation for all higher visual skills (Warren, 1993). Despite the general belief that visual field deficits are untreatable, Gianutsos and Matheson (1987) report that the contour of the visual field defect relates to the ability to compensate for the losses; if it is abrupt (i.e., the boundary between seeing and non-seeing is sudden), spontaneous compensation is unlikely, but if it is gradual, then some compensation can occur.

Other skill areas which need to be incorporated in a treatment program include visual attention, scanning, pattern recognition, visual memory, and visual cognition (Warren, 1993).

It should be noted that generalization needs to be planned for by practicing each skill in real life contexts as well as using a variety of clinical tasks (Warren, 1992; Gordon et.al., 1985). The literature is inconclusive about whether training generalizes to other areas of a person's life.

Stage V: The final phase is to actively promote compensation and self-management so that the patient can predict situations of potential difficulty and adjust behavior accordingly (Gianutsos and Matheson, 1987; Toglia, 1989).

There are two broad types of strategy: *self-monitoring strategies* which include anticipation, checking outcomes, prediction of problems, pacing (e.g., by asking patients to name each letter or word when reading), and stimulus reduction (e.g., covering text which is not being viewed or by increasing the size of letters and the gaps between them), and *situational strategies* which include scanning, visual imagery, emphasizing conscious attention to detail, visual analysis, anchoring cues used to draw attention to the left visual field and broadening the visual field to require the patient to turn his/her head or change body position to complete the task, and organization (Weinberg et.al., 1977, 1979, 1982). Self-monitoring strategies are effective on many tasks, whereas situational strategies are effective only on selective tasks.

The following treatment activities are taken from the *Visual Skills Module*, which is one of several components on the BPAINWAVE-R Rehabilitation Program (Malia, Bewick, Raymond, & Bennett, 1995). This

program has been designed for the cognitive rehabilitation of brain injured patients. The *Visual Skills Module* contains a triad of booklets (introduction to visual skills, clinician manual, and patient workbooks) which provide a ready-made package of information, instructions, tasks, grading scales, and visual feedback graphs. This module incorporates an educational component (Stage III), systematic training exercises and generalization tasks (Stage IV), and ideas for promoting compensation and self-management (Stage V).

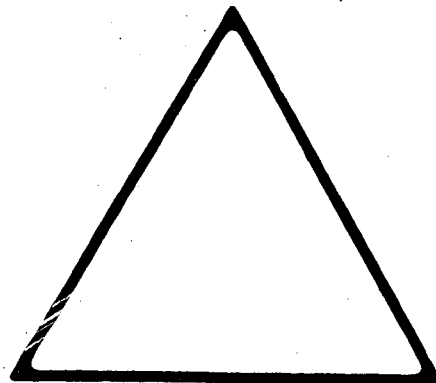
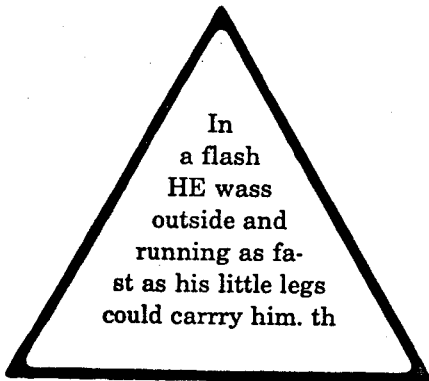
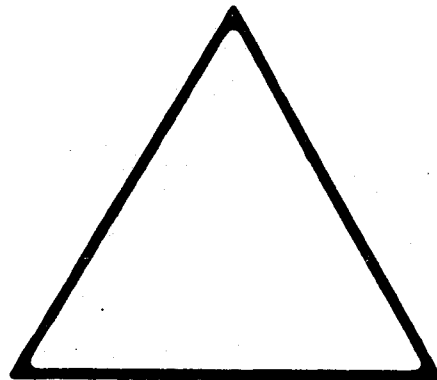
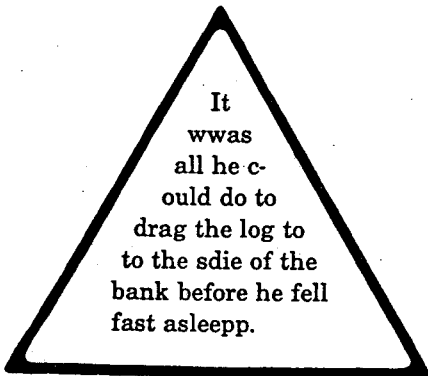
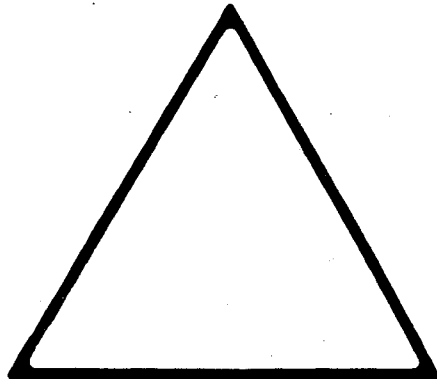
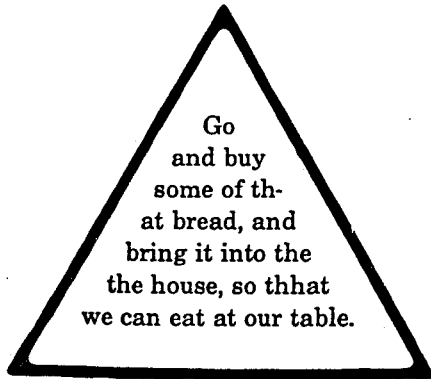
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EXERCISE 19*

Copy the writing exactly as shown in the triangle, into the second triangle.
Do this as quickly as you can. Remember to copy in all the mistakes as well.

EXERCISE 19, DAY 1



TOTAL WORDS COPIED EXACTLY = _____

*From the *Visual Skills Module*.

EXERCISE 33*

Check how many of the words on the left of the worksheet have been copied correctly on the right side of the worksheet. Some words have been deliberately misspelled. These should be copied exactly in the right hand column; otherwise, you count it as wrong. Circle each one which is correctly copied.

THEMSELVES	THEMSELFES
SHREWDEST	SHREWDEST
CHARACTER	CHARACTER
PERMISSION	PERMISSION
MEMORABLE	MEMORABLE
COMMANDED	COMMANDED
MIDNIHGT	MIDNIGHT
AVAILABLE	AVAILABLE
ETHERBAL	ETHERBAL
ASTONISHING	ASTONISHING
CEREMNBOY	CEREMNBOY
SOAKED	SOAKED
CIRCUMSTANCES	CIRCUMSTANCE
TELEGRAM	TELEGRAM
CONSEQUENCES	CONSEQUENCE
BATTERED	BATTERED
MORTALLY	MOTRALLY
CONSTRAINED	CONSTANED
EXTRAORDINARY	EXTRAORIDNARY
OBLITERATED	OBLITERATED
APPALLING	APPALING
WHISTLING	WHISTLING

TOTAL NUMBER OF WORDS IDENTIFIED BY THE STUDENT AS COPIED CORRECTLY = _____

*From the *Visual Skills Module*.

EXERCISE 40*

Look through the local paper and write down the answers to the following questions:

HOW MUCH DOES IT COST TO ADVERTISE IN THE PAPER?

WHAT EVENTS ARE HAPPENING LOCALLY IN THE NEXT WEEK?

ARE ANY LOCAL CELEBRITIES MENTIONED? WHAT ARE THEIR NAMES?

WHAT CRIMES HAVE BEEN COMMITTED LOCALLY?

HOW MANY PEOPLE HAVE DIED IN THE LAST WEEK?

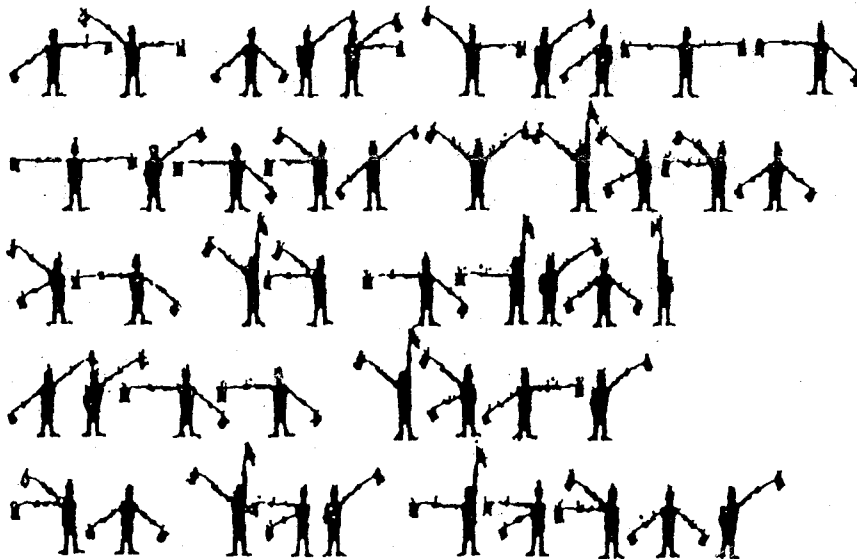
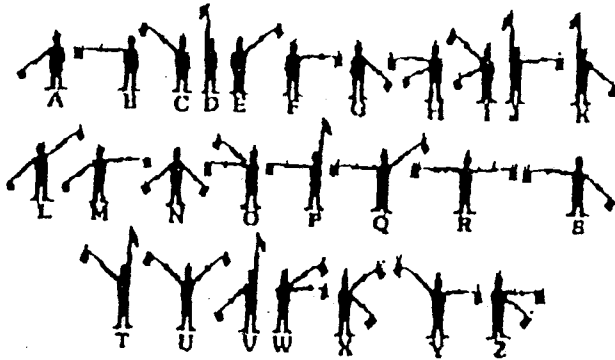
HOW MANY JOBS ARE BEING ADVERTISED?

*From the *Visual Skills Module*.

EXERCISE 46*

Decode the flag message using the code shown at the top of the worksheet.

EXERCISE 46, DAY 2



TOTAL LETTERS CORRECTLY DECODED = _____

GRADE _____

*From the *Visual Skills Module*.