THE DEVELOPMENT AND EVALUATION OF EFFECTIVE READING PROGRAMMES

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ABSTRACT

Theoretical constructs of reading and learner-controlled instruction were used to develop an Effective Reading Programme. Based on these concepts, instrument and non-instrument based techniques were applied to achieve its objectives.

Evaluation of the Effective Reading Programme was conducted through an Evaluation model, comprised of Theoretical Constructs, Programme Design and Programme Results. The six stages of its development were individually described and evaluated, moving from courses conducted in South Africa, to those conducted in New Zealand. The conclusion at the end of its developmental stages, was a professional programme, which offered a guarantee within its results. Implications and recommendations were made for areas of further investigation.

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DEDICATED to my husband and my parents.

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CHAPTER ONE

INTRODUCTION

The objective of this thesis is to evaluate the development of an Effective Reading Programme.

Chapter Two provides an historical and theoretical background to the reading concept. Various aspects of reading are discussed, including the misconceptions and barriers which surround reading. Distinction between efficient and effective readers is also made.

Chapter Three presents the theoretical, conceptual and practical framework surrounding learner controlled instruction. The implications this concept provides, form the basis of all design in the Effective Reading Programme.

In Chapter Four instrument and non-instrument based techniques are discussed in relation to the training of participants' reading habits. A comparison of their charachteristics, principles and types is also presented to show the difference in contribution each makes to the improvement of reading skills.

An Evaluation Model is developed in Chapter Five to assess the effectiveness of reading programmes. This is comprised of three categories, namely theoretical constructs, programme design and programme results.

Evaluation of the six stages of the Effective Reading Programme's development is conducted in Chapter Six, through the Evaluation Model previously developed. Assessment of results at the end of each stage indicates the development of the programme, which is summarized in the conclusion.

Implications and recommendations of the Effective Reading Programme is finally presented for further research and study.

CHAPTER TWO

THE READING CONCEPT

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2.1. Historical Background

Research in the reading field is a recent phenomena.
As reviewed by Smith (1961) and Pugh (1978), very few
studies were conducted in this area before the middle
of the nineteenth century.

With the increase in interest and popularity of silent
reading, however, a need for a more scientifically-based
orientation to the subject was identified (Pugh 1978).
This approach led to a two-fold enquiry into reading,
the first involving the measurement of eye-movement which
takes place in reading, and the second involving the
concept of measuring reading speed.

2.1.1. Eye-Movement Enquiry

In 1878, Javal published the first report on the physical
components of the reading process. Through direct obser-
vations, it was revealed that the reader's eye moved
along a line of print in quick jerks, with pauses between
the movements. This inspired further studies, and the
development of other measuring techniques resulted.
Amongst the earliest of these were methods involving
the ordinary camera, mirrors, telescopes and even peep-
holes (Miles 1928). Various efforts were made to use a
kymograph (an instrument that records movements on a
smoked drum) and spectacles with side mirrors (to reflect
eye-movements to an observer standing behind the reader),
but these were all found uncomfortable and inaccurate.
Judd, McAllister and Steele (1905) employed a motion
picture technique for studying the eye-movements by
attaching a small flake of Chinese white to the cornea
as a point of reference. This, however, did not eliminate
the problemsof inconvenience and subjectivity in the
measurement technique.

Subsequently, a list of conditions for the use of measure-
ment techniques was drawn up by Dodge and Cline (1901).

This led to a new line of experimental design in the equipment. Thus, in 1901, Dodge devised the corneal reflection method which involved bouncing a beam of light off the reader's eyes, so that every movement was recorded accurately onto a moving film. Modification of this led to the construction of Tinker's (1931) Minnesota Eye-Movement Apparatus. As a research device, this was instrumental in discovering most of the basic facts about eye-movements. By 1932, Taylor designed the Ophthalmograph which was a semi-portable version of the Minnesota Eye Apparatus. Due to its feature for greater mobility, the state of eye-movement measurement technology has since made impressive progress.

By 1960, the first completely portable Reading Eye was designed (Taylor 1960), and by 1969, an improved version, the Reading Eye II, was offered. It replaced the corneal reflection technique with a photocell monitoring procedure and replaced the photographic film previously used,by heat-sensitive graph paper. The latter eliminated all lag time between testing and diagnosis. Since then, developments in this field have extended into the art of computer technology making the measurement of eye-movements precise and specific. (McConkie 1979). Thus, overall, the techniques associated with reading eye-movement have advanced geometrically,to result in a much better understanding of the reading process and the theoretical-conceptual aspect of it.

2.1.2. Reading Speed

The first researcher to indicate an interest in this matter was probably Romanes (1883) when he studied the subject of 'reaction time'. Although this is not equivalent to the concept of reading speed as it is known today, it generated views that speed of reading was indirectly related to comprehension and unrelated to intelligence.

Huey (1908), studied the relationship of this with comprehension and intelligence. While no direct claims were made about their relationship, it was observed that faster readers tended to have better recall than slower ones. Also, it was noted that subjects who read aloud were slower than silent readers. This initiated the debate that subvocalisation and inner speech was detrimental to increasing reading speeds. Huey, supported by Dearborn (1906), claimed that subvocalisation was almost involuntarily universal in all readers, and that reading speed could be increased by establishing rhythmical movements in reading.

Eventually, direct experiments were conducted, which correlated the movement of eyes with reading speed. The first of these was carried out by Buswell (1920) who proved that because our eyes moved in short increments or steps, so our reading speed was determined by the number of eye-shifts per line. It was suggested that by reducing the number of eye-shifts on a line, it was thus possible to increase our reading speed. The implications of this experiment and subsequent ones relating to speed of eye-movement, have since become wide-spread. This has extended into the relationship between the physical components of reading (i.e. fixations, regressions, durations and spans of recognition) and reading speed. By 1929 thus, Pitkin published the first adult improvement programme. This area of reading speed continued to generate interest in America, while the British concentrated on reading comprehension (Pugh 1978). The result of these two lines of emphasis has been that of a variance in objectives for programmes offered to improve reading efficiency. The author tends to agree with Pugh (1978) that there are a greater majority of programmes concentrating on speed than there are on comprehension. Thus, most courses offered today are of

two forms - published or tutored. According to Pugh
(1978) published courses or book oriented courses are
frequently printed versions of tutored courses. They
involve a minimal usage of equipment and frequently
involve a programme of self-study techniques. Examples
of some of the courses are:- Dudley (1964) : Rapid
Reading; Spache & Berg (1966) : The Art of Efficient
Reading; Anderson (1963) : Improve Your Reading Effic-
iency; Waldman (1958) : Rapid Reading Made Simple and
DeLeeuw & DeLeeuw (1965) : Read Better, Read Faster.
Tutored courses vary from published ones in that the
student develops his reading skills with direct instru-
ctional aid, e.g. from a tutor.

The prom-
inent objective tends to be a focus on speed of
reading rather than other aspects. Some examples of
these courses are:- Evelyn Wood Reading Dynamics Pro-
gramme; Carborundum Effective Reading Course (1966) and
the Harvard Film Courses (1948). However, despite the
existence of more accurate reading measurement instru-
ments, misconceptions and fallacies still surround
effective reading. Therefore, it is especially important
to be aware of the principles of reading before embarking on
a programme to develop effective reading.

2.2. Theoretical Orientation
2.2.1. Definitions
Different definitions of reading have been proposed by
various specialists of the subject; Gray (1937), Gates
(1949), Walcutt (1967), Tinker and McCullough (1962),
Fries (1963). Despite the fact that none are identical,
an underlying agreement exists with regard to the aspects
involved in reading.

Monroe & Rogers (1964), Denchant (1964), Hildreth (1958) and Stauffer (1969) are only some who define reading as a complex process involving sensory and perceptual skills. Stauffer (1969), for instance, describes reading as a complex process which includes a means to get information from the printed page; the ability to pronounce and comprehend the printed word; the ability to interpret signs, letters, or symbols by assigning meanings to them; and receiving ideas and impressions from an author via the printed word. Tinker and McCullough (1962) present a more refined definition, in which they view reading as encompassing visual and psychological factors. It involves "the recognition of printed or written symbols which serve as stimuli for the recall of meanings built up through past experiences, and the construction of new meanings through the manipulation of concepts already possessed by the reader. The resulting meanings are organised into thought processes according to the purposes adopted by the reader". Thus, apart from being a physical and mental process, reading includes the interpretation of the material read, coloured by the purposes involved. A third definition, by Kennedy (1974), explains how reading is a combination of various skills, involving "the ability of an individual to recognise a visual form, associate the form with a sound and/or meaning he has learned in past experience, and to understand and interpret its meaning". Thus, reading is perceived as a complicated process which involves both physical and mental components.

2.2.2. Components of the Reading Process
2.2.2.1. Visual Aspect

Reading requires the function of seeing before comprehending. Through an examination of the experiments conducted by Huey (1898), Buswell (1920), Dodge (1901)

and Tinker (1931), it is clear that certain basic eye-movements take place while reading. These fundamental reading skills include fixations, durations, regressions and spans of recognition. Return sweeps and saccades, also form parts of the visual process involved in reading. An impression of these eye-movements when photographed by an Eye-Camera, is presented below.
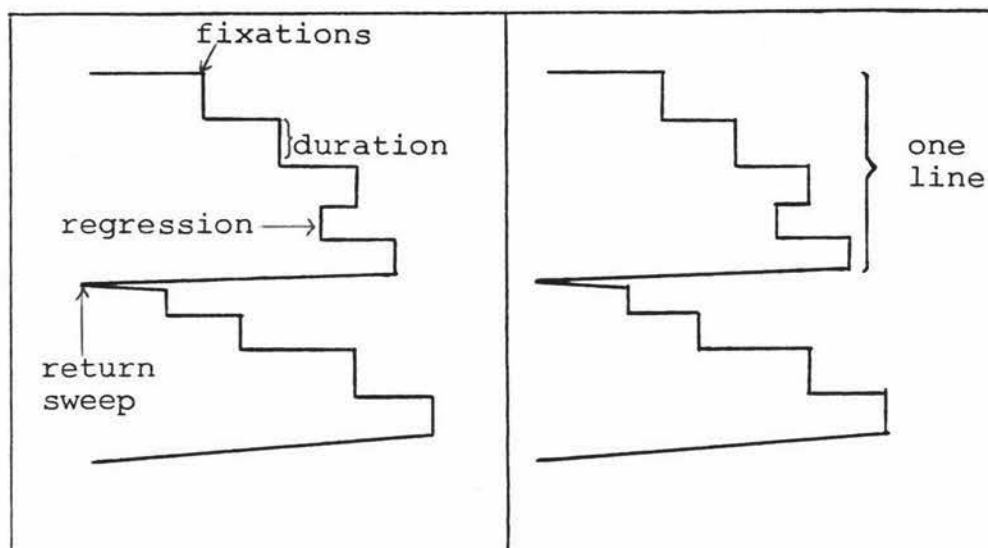
Figure 1. Eye-movements in reading, as photographed on an Eye Camera.

Fixations

These are the stops and starts the eyes make, as they move along a line of print. Illustrated on the Eye Camera film, they are indicated by the step corners, which occur regularly.

Fixations are a necessary aspect of the reading activity as they allow the reader to recognise and identify the print being covered. The stops are so automatic and quick ($\frac{1}{3}$ to 1/5 second), that one has no conscious awareness of the flicking movements!

1. An Introduction to Eye-Movement Analysis.
   EDL / McGraw Hill (1971) p 2.

Duration

This is the length of time the eyes pause, for recog-
nition and absorbtion of printed symbols into the mental
processes. Illustrated on the Eye Camera film, it is
indicated by the height of each step.

Research has shown that durations reduce with the age
of the reader (⅓ second for first graders, to ¼ second
for college students), and that in general, better
readers require less pause time than poor readers.[2]

Regressions

Fixations made in a reverse (right to left direction)
are called regressions. They are the reversed steps
seen on the Eye Camera photograph, and occur when there
are inaccuracies in seeing.[3] Regressions are mostly
habitual and are made by almost all readers. Regressions
are distinct from re-reading. Re-reading involves the
act of returning to a previously read sentence, passage,
paragraph or page, to gain a better understanding than
before. It is undesirable when it results from a lack
of confidence, organisation or attention, but is useful
when used for literary and critical appreciation, or,
content analysis.

Spans of Recognition

This involves the average number of words or word-parts
recognised every time the eyes stop. Spans of recog-
nition tend to increase with the age of the reader,
although the average span of an adult is between 1.5 to
2.5 words. Tachistosopic studies have shown that a
reader can see 4 - 5 words at every exposure, although
this span is reduced during reading.[4] This is because of
the continuous   perceiving, organising
and overlapping of images which takes place in the mind.

Return sweeps are the movements the eyes make from one
line to another, while saccades are the sweeping move-

2.3.4. <u>An Introduction to Eye-movement Analysis.</u>
         EDL/McGraw Hill (1971) p 3

ments the eyes make from one fixation to the next. Both are natural aspects of the visual activity and return sweeps in particular are determined by the way in which lines of print follow one below the other.

Thus, part of the performance of the reader is attributed to the physical aspects of reading. A more efficient reader is one who makes fewer fixations, regressions, has shorter durations and a wider span of recognition.

2.2.2.2. Mental Aspect

Research conducted by various investigators, e.g. Kennedy (1974) and Harris and Smith (1972), have ident- ified certain mental processes as being contributions to the reading process. Despite variances in their theories a fundamental principle prevails. This is that reading comprehension is related to the mental processes in reading. In particular these elements are mental capacity, language ability and background knowledge.

Mental Capacity

This involves the basic intelligence and mental potential of the reader. Mental capacity also involves the psych- ological maturity of the reader, which determines his readiness to learn from what he reads.

Language Ability

Both Harris and Smith (1972) and Kennedy (1974) view this as a vital component in the mental processes of reading. Language ability includes the skill of word recognition in which words are readily discriminated, associated, retained and applied. It also refers to the reader's command of the language in aspects like grammar, morph- ology, syntax and range of vocabulary.

Background Experience

This includes the wide range of knowledge the reader accumulates through the types of experiences he has daily. These experiences tend to be the main determinants of his beliefs, attitudes, interests, concepts and type of vocabulary; which in turn sets the framework for his comprehension while reading. Kennedy (1974) argues that experiences which have been direct, tend to make a greater impact on their subsequent comprehension, while vicarious experiences have a more subtle influence on reading.

Apart from these three elements, Harris and Smith (1972) suggest that reading comprehension is affected by the reader's thinking skills and his purpose in reading. Some qualities included in the thinking skills are the ability to discern between cause-effect or part-whole situations. Also, thinking skills require the ability to make generalisations from a specific situation.

Purpose in reading is another vital contributor to the comprehension gained. Having a purpose allows for a focus on the answer being sought, and regulates the rate and scope of the reading-thinking process. Reading purposes usually involve one of the following types:-
to gain main ideas, supporting details, organisational plan, sequence format, information required for evaluations, or to merely enjoy the material being read.

External factors can also influence reading comprehension. Especially noted are the difficulty of material, or physical factors like lighting, fatigue, or page layout. Familiar material, which is usually easily comprehended, may, because of bad lighting result in unnecessarily low comprehension.

A "good" reader, as perceived from the mental orientation is likely to be one who possesses a high mental capacity, good language skills and a wider more direct range of experiences. Finally, thinking skills and use of reading purposes play a major role in determining comprehension levels.

Therefore, reading as a process must involve both the physical component of eye-movements, as well as the mental component of comprehension abilities. Through an analysis of the recorded pattern of an individual's eye-movements, the reading diagnostician is able to obtain direct information about the reader's efficiency - that is the time and energy expended in the visual aspect. Comprehension testing provides information about his effectiveness, i.e. the ability to meet expected comprehension goals.

2.3. Misconceptions and Barriers Surrounding Reading
2.3.1. Misconceptions

Despite the abundance of evidence in the physical and mental components affecting in reading, there are fallacies surrounding the reading concept. Some of these have been reviewed by Taylor (1965). They mostly relate to the physical/visual aspect in reading.

How much can the eye see?

Studies through the Eye Camera indicate that the eye can only see 1.5 to 2.5 words per fixation. Although 4 to 5 words immediately around the fixation point are seen with 100 percent acuity, this is reduced to half with the continuous perceiving and organising of thoughts in reading. (Taylor 1957). The average college student has an average span of recognition of approximately 1.11 words. (Taylor et al 1960).

Do we see only when our eyes are stopped, or is it
possible to absorb print while our eyes are in motion?
An experiment conducted by Thomas (1962), indicated
that it is not possible to absorb print while our eyes
are in motion. This is because vision during movement
is so reduced that recognition is not possible.

In reading, is it necessary to see all the words?
All the words should be seen for an accurate understanding
of the author's purpose. The reader cannot reliably
decide which words are important until he sees them all.
Efficient reading is thus accomplished by developing
ocular-motor skills. This involves sufficient exposure
to each and every word, long enough for identification
and recognition. (Taylor 1965)

Can oculo-motor activity be changed through the
conscious control and self disciplining of the reader?
The fact that 3 to 5 eye movements take place every second
while reading, tends to make this impossible. (Carmichael
& Dearborn 1947). Any attempt to control these movements
must require such high concentration that the reader loses
thread of thought.

Can one be taught to take in a phrase or more at each
eye-stop?
To date, no studies have shown that training to widen
reading span has resulted in the ability to see in phrases
during continuous reading (Feinberg 1949). Much of this
confusion is due to the lack of differentiation between
span of apprehension and span of recognition (Taylor 1965).

<u>Can the eye be trained to move down the centre of a</u>
<u>column or page of print, to make only a few fixations</u>
<u>per page, permitting reading rates of thousands of</u>
<u>words per minute</u>?

If reading is taken to mean that almost every word is seen, then doing it at thousands of words per minute is impossible. This is because the fundamental components of reading require a minimum time span. Thus, the most efficient reader possible, with the shortest fixation and widest span of recognition, still cannot read at much more than 800-900 words per minute. (Taylor 1965). This misconception is often the result of a poor distinction between selective reading (i.e. skimming and scanning) and reading. The former involves a process of looking and reading, so that speeds of thousands of words per minute are in fact possible.

These are some of the misconceptions which surround reading. An awareness of them ensures that the techniques and strategies applied for reading improvement are realistic and theoretically sound.

2.3.2. Barriers

Although reading is a learnable skill, there are certain situations and circumstances which hinder improvements in this area. These range from physical, mental, emotional to environmental factors. (Harris & Sipay 1972, Bond & Tinker 1973).

a) Physical

<u>Eye-Strain</u>

This may be a temporary barrier, if it is caused by fatigue or external factors, e.g. illumination. Persistent eye-strain, however, may be an indication of myopia or hyperopia, which should be corrected with appropriate lenses.

Poor Physical State

An individual who is physically below par will reflect poor reading performance, as reading is both a physical and mental ac tivity. Undernourishment, lack of sleep and thyroid dysfunction are some examples of poor physical states.

Fatigue

Overexhaustion will tend to result in a lowering of reading performance. Again, this is because the reading activity is one which requires a certain threshold in one's mental and physical state.

b) Mental

Low Intelligence and/or Low Comprehension of Verbal Materials in any form.

Substantial correlation has been shown to exist between speed of comprehension and intelligence.[5] This is linked to the ability to understand indirect and subtle relation- ships between ideas and concepts. Thus, individuals with lower IQ may encounter problems in attempts to increase their reading speed.

Unsuitable Reading Levels

Material which is beyond the reader's maturity, forms a barrier to high speeds, since a longer time is needed for adequate mental assimilation, and also comprehension.

Limitations in Reading by Thought-Units

Skill in recognising familiar combinations of thought- units at a single glance is an essential basis for efficient reading. Individuals who are able to recog- nise single words only *i.e. word-read or vocalise* are at a disadvantage when trying to increase their efficiency.

5. Spache GD. (1968) *Toward Better Reading* p.249.

Deficiencies in the Technique of getting thoughts from
Connected Material.

Individuals whose minds are narrowly tuned to accurate
recognition of words, correct pronounciation and other
mechanical phases of reading, tend to have greater
difficulty in propelling their reading speeds. Training
to increase their tolerance and flexibility in these
aspects is one solution to this barrier.

c) Emotional

Sub-Vocalisation

This is the mouthing of words when reading silently. It
is often caused by the continuation of habits encouraged
in school, but which are no longer desirable.

Poor Concentration

This may be caused by either a temporary and superficial
distraction, or it may be a symptom of a deeper set
emotional one.

Compulsive Personality

The temperamental make-up of a reader may influence his
reading ability. An individual with a compulsive person-
ality for instance might need to look at every word a
second time before he is satisfied. Thus, this will lower
his reading rate down considerably. (Berger 1970)

Word Identification and Recognition Difficulties

Individuals who have poor sight vocabulary have problems
recognising words quickly and accurately. They   maybe
       caused by either physical or emotional conditions.

d) Environmental

Limited Vocabulary

Poor knowledge of word meanings, results in poor compre-
hension and rate of reading. Inaccuracies in the

understanding of phrases may cause confusion and lead to the need for a second reading before better comprehension is obtained.

Lack of Interest in Subject

This tends to result in lapses of concentration, which thus presents a barrier to efficient reading.

Physical Conditions

Environmental factors, e.g. illumination, noise and ventilation will influence a reader's performance. Poor conditions in these areas will result in concentration gaps, which thus affect speed and comprehension.

Using a Finger or Pointer to lead the eye in Reading

This may result in a habitual and inflexible speed which counter efforts of skimming and scanning. (Berger 1970).

These are some of the barriers related to reading improvement. An understanding of these issues is required if more effective strategies are desired to improve reading performance.

2.4. Distinction between Efficient and Effective Reading

Efficient reading has been described in the previous sections as relating to better fundamental reading skills and comprehension ability. This involves both the visual and psychological aspect discussed previously. An efficient reader is therefore one who makes fewer fixations, regressions, has shorter durations and has a wider span of recognition; while gaining the maximum level of comprehension based on his mental capacity, language ability, background knowledge, thinking skills and reading purpose. Effective reading on the other hand, is one involving the use of the appropriate reading style to suit the situation concerned. Four different reading styles

have been identified by experts in the field. These
include careful, usual, accelerated or selective reading.[6]

Careful Reading

This involves the slow and alert perusal of complicated
and technical material. In work situations it is best
used for mastering the content for details, evaluation,
sequential procedures, outlining, summarizing or para-
phrasing, analysing an author's presentation and problem
solving. When applied in recreational reading, it is
especially useful for material with unusual vocabulary
or style, or when reading to memorise, or to judge
literary values.

Usual or Casual Reading

This is the most commonly used style of reading, empl-
oyed most frequently when reading novels, magazines and
other light material. They do not require any deep
understanding and are especially appropriate in work type
situations when answering familiar questions, linking
relationships of known details to main ideas. Used in
recreational reading, this style is especially approp-
riate when appreciating beauty of literary style and
reading with the intention of retelling.

Accelerated Reading

Alternatively called speed reading, this is most frequently
used where pressure for time exists. It is useful in work
situations for reviewing familiar material to get a
central thought or idea, and where memorising is not
required. In recreational situations, it is best used
with narrative material, read primarily for the plot.

Selective Reading

This is not reading in the true sense of the word. The
technique applied here involves "looking and reading",

6. Skimming and Scanning : EDL. Directions in
   Learning. 6. (1968) pp 2-3

more specifically called skimming and scanning. Skimming involves covering the material very quickly to get a gist of it, while scanning involves searching for a specific piece of information in it. They are appropriate techniques where the general idea or specifics (not details) are required. These techniques are also useful for sorting material in priority before actually reading it.

These four categories provides an indication of the flexibility a reader can have within reading. The style actually used should depend on the type of material being read and the purpose of reading it. The ability to apply this range of techniques determines the maturity, flexibility and hence effectiveness of the reader.

Bond and Tinker (1973) propose a list of qualities which forms the "hallmark" of a good reader. Some of these include:-

1. The mastering of the essential techniques of word identification and recognition.
2. The possession of an extensive vocabulary.
3. The application of purpose to comprehension.
4. Flexibility in adjusting reading habits to suit different material and purpose.
5. The presence of an attitude in which the reader demands of himself, an understanding of what is read, and
6. The ability to interpret, evaluate and reflect on what has been read.

They encourage an interaction of the qualities of efficient and effective reading, since the former is fundamental to the existence of the latter.

Summary

Research into reading took on a more specific approach after the acceptance of silent reading. This led to a series of investigations into the reading concept, which resulted in a better understanding of its components and the development of reading improvement programmes. Analysis of the reading concept also identified the misconceptions and factors influencing reading. Such an awareness has led to a distinction being made between the two reading approaches, namely reading efficiency and effectiveness. This coverage of the fundamentals of reading will serve as a basis for the later investigations of the reading programme.

CHAPTER THREE

LEARNER CONTROLLED INSTRUCTION

3.1. Definitions and Characteristics

3.1.1. Definitions

Learner-Controlled Instruction (LCI) may be defined as
a technique of instruction, where the learner has some
control over his learning. As Laird (1972) suggests,
it is a learning-teaching system which involves the
learner in a number of key decisions about his learning.
It provides the learner with a quality of personal
involvement including both emotional and cognitive
aspects.

3.1.2. Characteristics

Some characteristics of this technique are that:

1) the learner is provided with a clear statement of
the objective to be achieved.
2) he is provided with an explanation or sample of
evaluation that will be used to determine whether he
has achieved his objective.
3) he is provided with a list of resources, and he
will decide on how he will achieve the required
standards of performance. (Laird 1972).

As Bebb (1973) points out, learner controlled situations
are never either/or. Instead, the degree to which it is
learner controlled, is determined by the type of
instructional decisions which have been made, and by
whom they were made. Highly learner-controlled systems
are thus ones where the trainer/teacher makes the dec-
isions about <u>what</u> the student is expected to achieve,
while the trainee/student decides <u>how</u> he will achieve
these objectives. This encourages the student to
utilise his background and existing skills, so that
motivation and needs become intrinsically based. As
Rogers (1969) observes, when learning is self-initiated,
the sense of comprehending (and achieving) comes from
within. This impacts on the behaviour, attitude and
even personality of the learner.

A situation which is learner-controlled is thus one where students:-

1) are aware of the content objectives and terminal behaviour at the beginning of the programme.
2) are provided with a variety of resources to help achieve their objectives.
3) have control over their learning sequence.
4) work at their own pace.
5) decide when they are ready to be tested. (Laird 1972)

As Bebb (1973) suggests, a highly learner-controlled system is one which will provide the following answers to the corresponding questions.

Are instructional objectives written on paper?	YES
Are content objectives given to the student?	YES
Are all students expected to achieve the same objective?	NO
Do all students use the same instructional material?	NO
Are all students expected to follow the same procedure while in the classroom?	NO
Do all students work on each subject for the same amount of time?	NO

What these observations imply is that LCI is character-ised by objective setting, self-pacing, sequence control, variable resources and measurement control.

1) Objective Setting

Depending on the degree to which a situation is learner controlled, objective setting is not normally conducted by one party alone. Frequently, terminal objectives are determined by the trainer on the organisation, while subordinate objectives are set by the learners them-selves. As Esbensen (1970) points out, "Individualising

objectives (then) means varying the goals of learning for students, depending on what seems to be needed in each case". (Laird 1976).

In situations where no immediate agreement exists, negotiations of contracting are applied, to arrive at a consensus.

2) Self-Pacing

Individuals learn best at their own pace. Studies have indicated that learning achieved through self-pacing and other features of individualised instruction are better, and more enduring (Weitman & Gruber 1960). This element of individuality is especially relevant to the adult learner. This is because he observes fewer threats and is able to concentrate more positively on acquiring knowledge and skills for the programme's objectives.

3) Sequence Control

Participants in learner control (LC) systems are encouraged to control the sequence of their learning. This facilitates the discovery of a programme structure that is most sensible to them. The traditional rationale that people learn best when they go from the simple to the complex, cannot always apply. What is simple to one individual may be complex to another, based on differences in background experiences.

4) Variable Resources

Control over the resources to their learning is another feature in a LC system. The resources available usually range from activities, to material, to people. This presents an opportunity for learners with different needs, motives and aptitudes, to gain optimally from them.

5) Measurement

Students in a LC system normally decide when they are ready for their performance test. The best evaluator of their skill is usually themselves, especially as they are aware of the desired performance at the end of their training. Samples of the evaluation format are frequently presented with the objectives, so as to eliminate doubts on what they need to be proficient at.

3.1.3. Advantages and Disadvantages to LCI

These have been addressed by such authors as Hinton (1978), Mager & McCann (1961) and Wydra (1975).

Advantages

1) Performance

Students of LCI systems have been observed to learn more, gain higher grades, save time and perform better at their jobs. This is mainly attributed to the enhancement of their self-concept and confidence in learning.

2) Student Attitudes and Reactions

These are usually favourable, especially with regard to the programme itself, the instructional technique and reactions between students themselves. In particular, students tend to feel very positive towards the use of learning modules, the concepts of self-pacing and sequence control. Students also tended to work harder because of the intrinsic rewards they attained.

3) Teaching Strategy

The setting of behavioural objectives eliminates doubts as to what is desired at the end of their training. Frequent outcomes of this strategy are that of significant increase and retention in learning.

4) Student-Staff Relationships

Since teachers of LC systems are not policing agents of instruction, but are instead sources of reinforcement, an increased degree of openness and trust is usually observed in the student-staff relationships. Contact times are frequently used for feedback and instructional purposes, which thus provides a further opportunity for increased learning.

Disadvantages

The major disadvantage relating to LCI tends to be associated to students who lack discipline and initiative. As these individuals have a tendency to procrastinate a variety of strategies need to be applied, to help maintain their pace.

Other 'problems' associated with LCI tend to be more 'inconveniences' to the training staff, than to the students themselves. These include:-

1) Extra Work

Due to the need for a rich and varied resource pool, the training staff is kept constantly occupied with collecting, developing, altering or improving resources.

2) Unusual Classroom Situations

There are basically no classroom situations in LCI systems as students are encouraged to experience as much freedom and flexibility in their learning. Thus although beneficial and in keeping with the principles of the technique, new training staff can sometimes find it confusing and trying.

Thus, on the whole, LCI has a great deal more to offer in terms of advantages and benefits. Much of this is due

to the fact that LCI is a person-centered technique of instruction, which is so appropriate for the subjects it deals with.

3.2. Conceptual Development
3.2.1. From Programmed Instruction (PI)

Programmed Instruction, the technology from which the LCI concept developed, has been defined as "any form of pre-prepared, pre-sequenced instructional material, based on effective principles of learning, and directed towards specified educational or training objectives". (Bebb 1973). It is characterised by features such as:-

i) individualised instruction, where each student learns at his own pace.
ii) active participation, requiring interaction between the student and the programme.
iii) "small" step learning, involving material presented in optimally sized increments.
iv) knowledge of results, where the student learns by observing the consequences of his learning.
v) operationally defined objectives, which are presented as first steps in any programme, and
vi) validity, which involves the accomplishment of objectives based on the instruction presented.

From these features the major points of emphasis on a PI system are the student and the material. However, despite this apparent similarity between LCI and PI, the most outstanding difference is that the latter restricts the freedom and degree of involvement students gain in a learning system. For instance, participants on a LC based programme have the choice of learning in a sequence most appropriate to themselves; whereas PI linear

based systems have modules set out in small incremental steps. As a technology, PI contributed significantly to the development of LCI. By acting as a vehicle for practical applied research, PI encouraged programmers to develop a methodology for producing learning or arranging the conditions which facilitate learning. Simultaneously a need was also recognised for focusing on clearly centered objectives in programmes. These conditions resulted in courses where students were allowed to select resources which would help them meet their course objectives, and in environments suitable for most efficient learning. This formed the essence of LCI, which set it apart from PI. (Bebb 1973).

3.2.2. Underlying Theories

Rogers (1969) was a main proponent for the use of LCI in the applied field. He argued that the basis for its success was the acceptance of certain rationale regarding the individual as a learner. These were summarised as:-

1) human beings have a natural potential for learning.
2) significant learning occurs when the subject matter is relevant to the student's purpose.
3) learning which involves a change in self-organisation is threatening and tends to be resisted.
4) self-threatening learnings are most easily perceived and assimilated, when external controls are at a minimum.
5) much significant learning is acquired through doing.
6) learning is facilitated when the student participates responsibly in the learning process.
7) self-initiated learning which involves feelings, as well as intellect, is more lasting than other kinds of learning.
8) independence, creativity and self-reliance are facilitated when self-criticism and self-evaluation are basic and evaluation by others is secondary.

9) the most socially useful learning consists in learning the process of learning, developing a continuous openness to experience and incorporating into oneself the process of change. (Laird 1976).

The suggestion being proposed by Rogers is thus, students who are given freedom and an opportunity to participate in their learning and are supported by an appropriate student-teacher relationship, tend to result in more effective and successful learning.

Parallel to Rogers' theory are Knowles' principles of androgogy. As another proponent of personal involvement, Knowles (1969) argues that adults learn more effectively when their learning experience involves the commitment, responsibility and control of the learner. This is ensured when:-

1) adults see themselves as owners of a unique learning experience.
2) there is an immediate application of the learning, and
3) learning is self-directed.

The major implications of these features are that the attitude of instructors or teachers have a major influence on the performance of the students.

Two proponents who support this student-teacher environment are McGregor (1960) and Hall (1972) with their respective theories X and Y, and T and L. Both McGregor and Hall exhort the need for positive attitudes in the treatment of learners. This is because every act by management or teachers is flavoured by their attitude towards their subordinates or students. Consequently,

the latter groups respond in accordance to the disguised
expectations of the dominating parties. (Davies 1971).

Theory X and Y

In relation to management-subordinate situations, McGregor
states that there are basically two types of managers, as
determined by their assumptions of their staff.

Theory X denotes managers who hold the traditional view
that man must be assumed to be one who is lazy, shirks
responsibility and has to be coerced, controlled, directed
and threatened for results.

Theory Y describes the other extreme of managers who
attempt to integrate individual and organisational goals.
Managers of this category regard their workers as indivi-
duals who may find work a source of satisfaction and
reward. Performance in their work would be the result
of self-direction and self-control in the service of
objectives to which they are committed.

Theory T and L

Parallel to McGregor's theory is Hall's theory, which
relates to the educational context.

Theory T is oriented towards the teachers, and advocates
of this theory tend to maintain that for learning to take
place:-
·a man must be taught.
·training must be conducted by someone with superior
skills and knowledge.
·the trainer must be a master of his subject in order to
teach.
·training is something done to a person.

Terms which Theory T exponents tend to use include "teaching, explaining, imparting knowledge, covering the subject, feeding information to, teaching them their jobs, putting the stuff across". The philosophy resembles a passive one-sided relationship between teachers and students.

Theory L contrasts with the former and bases education and development on such principles as:-

.whatever the student learns, he must learn for himself.

.training is concerned with motivating and cultivating the learner's desire and capacity to create, discover and learn for himself.

.learning is not synonymous with being taught.

.skill and creativity in designing learning situations are the most important attributes of the trainer.

.we learn best by doing.

.the day to day practical experience is so much more powerful than what can be learnt in other settings.

Thus, the focus of concern for Theory L proponents is in creating a learning climate where a comparable relationship of inter-dependence between trainer and learner can thrive. The challenge is for the trainer to create as many and varied learning opportunities so that the learner is free to exercise self-direction and self-control. In so doing the learner increases his commitment and extends his potential to achieve maximum results. (Hall 1972). As Davies (1971) points out, through the self-fulfilling policy, the instructional approach can be a major determinant of learning which occurs in students. As proposed by Theories T and L, the outcomes of student learning are determined by the expectations teachers have of them. A LCI system is most appropriate since it promotes a conducive approach to learning, as well as positive expectations of learners.

3.3 . Practical Developments

While it was not until the 1920's that any systematic
approach to LCI took place, the technique had always
been used in some form or another in various European
Universities. Oxford, notably provided its students
with some control over when and what they studied.

Originated by Helen Parkhurst in 1923, the Dalton Labor-
atory Plan was the first attempt at scientific experi-
ments involving LCI. All class teaching methods and
time-tabling were revoked in favour of individual and
voluntary work and class attendance. Contracting was
applied at the start of the experiment to ensure the
achievement of set objectives. The Dalton Plan was again
examined by Esbensen in 1968 where the verdict arrived
at was that the plan had successfully reached a stage of
maturity, and was able to reaffirm its original promises,
associated with learner and programme benefits.

Further experiments were conducted by other researchers
over the same period, each one assessing the value of the
technique. (Milton 1959, Duke 1959). Duke conducted a
study on adult learners, which implied that the presence
of an instructor could, in certain circumstances, con-
stitute to being a significant hindrance to students'
progress. (Duke 1959). This was given further support
by Weitman & Gruber (1960) when their study revealed
that students learning via self-study techniques, learnt
and retained more than their counterparts who had an
instructor to guide them.

These studies supported what the learner controlled advocates
like Knowles and Rogers had promoted. This was based
around the fact that a sense of personal involvement and
self-control tended to increase students' commitment
responsibility and results.

1. Babb M. (1973) : The Psychology of Learning pp 25-26

The Varian experiment by Mager & McCann (1961) was
another prominent study which revealed the benefits
LCI had to offer. The purpose of this experiment
was basically to obtain information on the instruc-
tional effectiveness of two variables in the LCI
technique. They were:-

1) learner control of curriculum.
2) instructional objectives.

The experiment was conducted in two phases. The first
involved a group of students who were given complete
control over what they learned and how they learned it.
Instruction was given to them on request and they
could ignore it when it was not wanted.

The second phase of this programme involved another
group of students who were presented with control over
their curriculum as well as detailed course objectives
which described the required terminal behaviour. As
a result of this additional feature, students knew how
they had to perform at the end of the programme, which
enabled them to discriminate between what they already
knew and what else they had to learn. The results of
both groups proved very positive. The first, who were
given control of their curriculum completed the pro-
gramme in half the time (three months), the original
programme took (six months). The second group took only
an average of eight weeks ($\frac{1}{3}$ of the usual programme) when
issued with detailed objectives as well as control
over their curriculum.

Several other major benefits were also noted, with most
of them relating to the cost of training or not training.
The most outstanding conclusion drawn at the end of the
Varian study was that adult learners were likely to

enter a learning situation with a significant amount of relevant knowledge. The application of clearly stated objectives would enable them to determine the gap that lay between their existing performance and the desired, so that training time and costs were reduced. Further, this took place without any shortfalls in performance and frequently with positive reactions to the training. This was shown in a summary of the benefits by Bebb (1973).

1) Training costs were reduced by an average of 65%. These were mainly attributed to time savings once the students knew what else they had to learn.
2) Graduates of the LC based programmes demonstrated more confidence, initiative, responsibility and knowledge in their jobs.
3) Reactions between students remained positive throughout the programme since they were no longer competing among themselves, but against an external criterion. This resulted in student co-operation to overcome individual areas of weaknesses.

Other studies since the Varian experiment have continued to provide similar evidence to support the LC techniques as a method of instruction. The Allied Supermarket programme developed by Wydra (1975) holds particular interest, as it involved another skills training programme.

The main objective of the Allied Supermarket Management Programme, was to ensure that the various manpower requirements would be met, as the company began its programme of expansion. Two sets of objectives were drafted. The first accrued to the overall parameters of the entire programme, while the second detailed the

specific performance of trainees at the end of the programme. A 6-step learner-controlled oriented process was applied in the training programme.

1) Defining what it was the learner had to do.
2) Defining a criteria by which the learner would determine if he had achieved it.
3) Identifying the resources that were available to learn the skill.
4) Developing some rewarding consequence which would accrue to people who could perform or demonstrate the task.
5) Sharing all the information from the previous steps, with the learner.
6) Giving the student the freedom to learn.

Certain 'rules' were presented at the start of the programme,so that a free and open environment was established for the learning to take place in. These included:-

1) Situations as close to the actual were established, so that the trainee managers could relate directly from their training after the programme.
2) During training, all work situations were considered laboratories, where participants could experiment and hypothesise using a systematic and analytical line of approach.
3) Objectives were used to identify the residual training needed, after students' existing abilities and knowledge has been taking into consideration.
4) Students were responsible for the pace at which they worked through the programme.
5) The training manager was to be a feedback agent rather than an evaluator for the trainee. The trainees were themselves frequently their own evaluators.

6) Unlimited access to the resources of the company was allowed to students on request.

The results of the programme were impressive. In meeting the overall programme's objectives:-

1) The training programme surpassed the objective by 10% in training 110 instead of the projected 100 graduates annually.

2) Seventy two percent of the graduates were rated in the top 25% of non-graduates' performance, with 89% being rated in the top 50% of their peer group. This was compared with the programme target of "the average graduate performance would be at least equal to the performance of the top 25% on non-graduates in similar positions". A reflection of the trainees' performance was most noticeable through the advanced rate at which trainees were being promoted to positions of greater responsibility.

3) The actual cost incurred per trainee was $2400 compared to the $8000 allowed. The main reason for this cost saving was the accelerated learning rate of students. By monitoring their own programmes, trainees reduced training time from the previous standard of 52 weeks to an average of 7.6 weeks.

Other benefits of the programme were reflected in the ease with which students achieved their objectives and the positive relationships which prevailed throughout the programme. The performance of the trainees was better than expected, and recognition of this was through requests by untrained managers to undertake the programme. Thus, what the Allied programme revealed was that:-

1) Learners learn better on their own, removed from any threats or anxieties created by instructors.

2) LCI enhanced the level of adaptability of students, so that new situations which resulted in tension were dispelled much faster than otherwise possible.

3) Knowledge of performance objectives tended to result in time savings.

4) Self-pacing accelerated the rate of learning.

5) Positive reactions were maintained throughout the programme.

6) Learning was directly transferrable and more enduring also. (Wydra 1975).

There is therefore evidence that LCI can be a successful technique of instruction. The extent of its effectiveness is influenced by the programme structure, involving the programme design, the instructor and the students.

CHAPTER FOUR

INSTRUMENT AND NON-INSTRUMENT

BASED TECHNIQUES

OF INCREASING SPEED OF READING.

4.1. Definitions and Characteristics of Instrument and Non-Instrument Based Techniques

As the terms imply, the main difference between instrument based and non-instrument based techniques is in the use of equipment or machines. Instrument based techniques are hence those which involve the use of mechanical aids or material to improve the performance of readers. Non-instrument based techniques on the other hand, are those which avoid the use of mechanical aids and instead rely on the use of printed materials and self-study techniques.

An illustration of the two categories on a continuum is presented below:-

Instrument Based Techniques	Non-Instrument Based Techniques
Equipment-oriented e.g. Tachistoscopes, Controllers, Pacers, Selective Reading Devices.	Book-centred. Theoretical explanations on:- assimilation, accommodation, selective reading processes. Reading speed and comprehension tests.

The objective of both categories of techniques is to improve reading efficiency and effectiveness. Instrument based techniques relate more closely to the physical aspect of reading while non-instrument based techniques possess a stronger psychological orientation. Instrument based techniques approach the visual skills of reading, that is, fixations, regressions, durations and span of recognition more directly than non-instrument based techniques. Proponents of the first category are more

likely to argue that changes in eye-movement habits will
result in changes in speed, while exponents of the latter
are more likely to claim that concentration, assimilation
and accommodation skills are the key to faster reading.

Few programmes are entirely instrument based or non-
instrument based. The majority involve a combination of
the two strategies, although there may be a greater
emphasis on one.[1,2] This provides the student with an
opportunity to improve his skills from both a visual
and a psychological dimension.

4.2. Principles and Strategies Underlying Instrument Based and Non-Instrument Based Techniques.
4.2.1. Instrument Based Techniques

The underlying principle of this category is that reading
is a physical process. The reader's efficiency is
determined by the state of his visual movements. An
efficient reader, compared to an inefficient one, is a
person who makes fewer fixations and regressions, has
shorter durations and a wider span of recognition, under
this orientation. The strategies which instrument based
techniques apply are hence those which make direct attempts
to influence eye-movements. Readers are trained through
the use of equipment like controllers and pacers to make
more efficient eye-movements. Controllers, for instance,
direct and control eye-movements so that a more efficient
left-to-right directional attack results. Pacers, on
the other hand, are especially useful with already com-
petent eye-movement readers. It contributes to establ-
ishing high speeds and maintaining them.

Proponents of controllers and pacers claim that elimin-
ation or reduction in the number of regressions or back-
ward movements of the eyes, result in higher speeds and
thus, more efficent reading. (Spache 1976).

1. Warren M B.   1962
2. DeLeeuw M and DeLeeuw E. 1965

4.2.2. Non-Instrument Based Techniques

The major principle underlying non-instrument based techniques is that poor eye-movements are NOT the cause, but the result of poor reading habits. These reading habits in turn are determined by the psychological processes of a reader. This would include his concentration, assimilation and organisational skills. If an individual was weak in these aspects, it would be expected that he was an inefficient reader. Proponents of non-instrument based techniques and programmes believe that a reader can only read as fast as he can think. Thus the only way to improve a reader's efficiency would be to develop the mental qualities involved in reading.

An example of a non-instrument based programme is DeLeeuw & DeLeeuw's publication of "Read Better, Read Faster" (1965). In it, explanations of basic aspects related to reading are presented first, so that students will apply these principles in the exercises which follow. The topics covered in the textual sections of this manual include those of concentration, reader's attitudes, assimilation and selective reading processes. The reading exercises after each chapter are constantly directed at developing speed and comprehension skills with the additional emphasis of the topic which preceeded it. Reading improvement under the non-instrument based premise is thus based on a better understanding of the reading process, as well as practice exercises in reading.

4.3. Types of Instrument Based and Non-Instrument Based Techniques.

4.3.1. Instrument Based Techniques

There are four main types of instrument based techniques. They include tachistoscopes, controllers, pacers and selective reading devices. (Taylor 1962). Although based on the same principles, each type of instrument is different in its approach and purpose.

a) Tachistoscopes

The direct meaning of "tachistoscope" is quick view. It involves the sighting of letters, words or numbers in brief timed exposures. These exposures may range from 1/100 to 1½ seconds, although most training is conducted at the higher speeds.

Tachistoscopes are based on the principle that improving the reader's span of recognition will improve the reader's efficiency. It's primary purpose is to develop the "intake" or initial impression stage of the perceptual process. Some of the goals described by Witham (1966) include the development of "accurate form perception and increased discrimination, rapid visual perception (the ocular and mental intake of visual material), organised retention for a stronger visual memory, better direction-al attack, and an awareness of components as parts of the whole; and finally, such by-products as increasing attention, concentration, eye-hand co-ordination and so on." Taylor (1962) argues that by being allowed only one fixation, the reader develops a more aggressive sight, which encourages him to see more rapidly and with greater attention.

These skills, although developed, do not apply to reading as such. Studies have indicated that direct tachistoscopic training has little lasting effect on reading performance.[3] Also there was little indication that an increase in speed of perceiving isolated phrases would result in an increase in the speed of reading.

This is explained by the fact that a tachistoscopic exposure permits a prolonged undisturbed processing period, which allows the assimilation of a greater amount of material (span of apprehension). Reading, on the other hand, involves a continuous activity of perception, complicated by over-lapping images. The processing time is also comparatively brief. This is why the tachistoscopic span is usually 3 - 4 times greater than the actual reading span of recognition.

Despite the lack of transfer between tachistoscopic viewing and reading, the instrument is still widely used to improve "seeing skills", as a foundation to better reading. As Taylor (1962) suggests, it should be used to initiate efficient perceptual skills and to increase recognition ability. Thus, it is frequently employed as a preliminary phase to rapid reading exercises.

b) Controllers

Controllers are sometimes called directional attack control techniques because of the way in which the material is presented. Print is usually projected onto a screen, in a line-by-line manner, with two variables applied in the process. These include the span and the duration of the presentation. The former involves a width of light-span which moves horizontally across the projected material, thus exposing certain parts of the

3. Taylor S.E (1962) _Reading Instrument Usage_ p.5

line. Regular use of this guiding span helps the reader acquire a more efficient left-to-right directional attack when reading. As the student's skills develop, this span is usually widened, until a whole line is exposed.

The duration for which each line is projected determines the rate at which a student reads the projected material. Shorter durations result in higher speeds, while longer durations result in slower speeds. Increments in rate are usually gradual as differences between notches in the speed dial are small, e.g. 35 words per minute on the EDL-MN Series of filmstrips. Comprehension checks are applied throughout the student's progress, to ensure that the speed increases are being coped with. Results obtained through the use of controllers have been categorised under visual-functional skills, perceptual accuracy and efficiency and comprehension fundamentals. (Taylor & Frackenpohl 1968, Bottomly 1961).

1) Visual-Functional Skills

A major outcome of controller practice is the significant development of binocular co-ordination (the ability to use the two eyes together efficiently) and ocular mobility (ease and facility in making ocular rotations). This is caused by the left-to-right visual control, which conditions a more directional attack and eliminates excessive fixations, regressions and visual wandering.[4]

2) Perceptual Accuracy and Efficiency

This directly involves the more efficient left-to-right and sequential attack the reader develops. The moving span which covers the print at a slightly higher speed than the reader is accustomed to, encourages him to

4. Taylor S.E. and Frackenpohl H. (1968)
   Controlled Reading Teacher's Guide. p 16

move his eyes with or ahead of the light. This means that
he has to reduce the number of fixations and regressions,
shorten the durations and widen the span of recognition,
even without consciously doing so.

3) Comprehension Fundamentals

This is an indirect category of benefits, as readers are
not actually taught, to improve their comprehension skills
on controllers.

The first of these benefits is the heightening of attention
and concentration while reading. This is mainly because
students learn that re-reading is not possible and so
greater concentration and attention for comprehension is
needed. The fact that controllers are automatic instru-
ments also contributes to this.

Students also gain greater experience in forming thought-
units. This is caused by an increase in accuracy and
rapidity of word perception and a better visual directional
intake.

Greater alertness, more rapid thinking and improved ret-
ention are other benefits. They are created by the
condition of no re-reading, as well as the increasing
rate at which material is read. The latter is caused by
the increased number of impressions received per unit of
time, thus creating the potential for more meaningful
retention.

Another outcome of controller training is the enhancement
of vocabulary. The exercise of clarifying the meaning
of difficult words teaches the students a technique for
unlocking new words through context clues and provides
an opportunity for them to become familiar with
multiple meanings of words.[5]

5. Taylor S.E. and Frackenpohl H. (1968)
   Controlled Reading Teacher's Guide p. 22

Depending on whether a frame of reference is used before the reading selection, the student can also develop the ability to approach reading with greater organisation. The preliminary "glimpses" he gains on the structure or style of a story, enhances his habit for more organised and complete comprehension.

As a result of this wide range of benefits, controllers are one of the more popular instrument-based techniques applied.

c) Pacers or Accelerating Devices

These usually employ the use of a shutter, shadow or a line marker of some kind to guide the reader according to a pre-determined rate. Ordinary reading material is placed in the machine in such a position that the guiding marker or shadow moves down the page.

Pacers offer no directional attack control and assume that the individual is already a competent reader. They do, however, have provisions for timing e.g. a visual or audible "prompt" which urges the reader to maintain a higher attention level. This dissuades him from re-reading, and encourages him to read at increasingly higher rates.

As these instruments have no directional attack control, they are not used to improve the performance skills of functionally inefficient readers. To do so can cause tension and discomfort, and may result in actual increases in fixations and regressions as the inefficient reader strives to cope with reading material under pressure.

Superficial readers are another poor population for these devices. This is because rate motivation does not serve to stimulate greater accuracy and thoroughness, but can, in many cases, create less accuracy. (Taylor 1962).

However, once an individual has been trained to read efficiently, pacers become an effective means of maintaining the rates at which he was trained.

d) Selective Reading Devices

Selective reading is best described as a process of 'looking and reading', where the reader looks for the more significant parts or facts and stops to read them inclusively. The equipment used for this purpose is usually a constant speed device, which provides the reader with a reminder of elapsed time, thus ensuring that the reading rate remains within the selective reading range. The device should not exercise control, nor specifically direct the reader down the page.

The Skimmer, developed by the Educational Development Laboratories is one such device. It involves an instrument which projects a bead of light that moves at a constant speed down the centerfold of a text. Its purpose is to "hustle" the reader at a pace which is neither too fast nor too slow. Regular practice instils a rhythm for "floating" over the text, so that an alertness for picking out key words and thoughts is developed.

Selective reading devices are directed at disciplining the reader to look and read, where the temptation to see every word is great. It should develop in the reader the ability to attend perceptually and organisationally at the highest possible level.[6] This involves floating and looking with an alertness and receptiveness to thoughts and ideas at hundreds of words per minute.

6. Taylor S.E. (1962) Reading Instrument Usage. p.8.

Thus, the four types of instrument based techniques described appear to have much to offer to reading improvement. An additional feature linked to them, but which does not relate to the physical aspects of reading is that of their motivational impact. Perry & Whitlock (1954) argue that reading improvements gained with machines are only temporary, as the latter may inspire self-confidence, concentrate attention and provide a set or attitude towards comprehension at higher rates. The environment is viewed as the major factor for improvements so that once removed from it, students will return to their previous status of reading.

Spache (1958) and Westover (1946) tend to agree that while no great modification may take place in eye-movements, the improvement in reading ability may stem from changes in habits of perception and organisation, or to the reduction of cues needed for word recognition. This has been reinforced by investigations into the Controlled Reader and other instrument based techniques (Bottomly 1961, Gelzer & Santore 1968, Warren 1962 and Witham 1966).

Furthermore, the continuous system of goal setting, feedback and reinforcement facilitated by use of instrument based techniques, tends to result in greater improvements in reading. As Locke et al (1968) proposes, specific goals result in a higher level of performance, than not having any goals or having only the generalised goal of "do your best". Since reading goals are set precisely before the task, e.g. Controlled Reading, feedback and reinforcement becomes immediate and the positive cycle continues, attempting to instil permanent change in the readers' habits.

Thus, while the debate of motivationally inspired gains related to instrument based techniques continues indefinitely, there is sufficient research evidence to conclude that relatively permanent gains are achieved via this method of reading.

4.3.2. Non-Instrument Based Techniques

The methods which are applied in this category tend to be book-centered ones. Theory and the psychology of reading are used as the prerequisite to the programme content of these techniques. Training itself usually comprises of reading exercises with speed charts and comprehension checks.

An example of a non-instrument based programme is Eric and Manya DeLeeuw's publication of "Read Better, Read Faster". Comprised of four sections, the authors apply a text and exercise type approach throughout the manual. The first aspect presents information and knowledge which is directed at establishing a broad foundation for improved reading skills. The second aspect provides a source of practice for reading speed and comprehension.

As propopents of non-instrument based techniques the DeLeeuws present a critical assessment of mechanical aids to training. One of the obvious advantages book-centered practices have over instrument based techniques is the inexpensiveness of the former. Also, they are more likely to be individualised, while instrumental techniques tend to be group-oriented, for economic reasons.

As greater emphasis is given to the psychology of reading it provides superficial readers with references when confronted with different types   — of material.

Another advantage of non-instrument based programmes is that there is an unlimited source of reading material which students can use for practice. Although this in itself is not a major problem for equipment based users, the question of training transfer is eliminated in book-centered situations.

There are certain disadvantages which pertain to non-instrument based techniques, however. One is that they are more likely to have a higher drop-out rate than instrument based programmes. Unless a student is strongly disciplined, the problems which confront the book-centered learner are similar to those of a correspondence student's. Furthermore, studies have indicated that such programmes lack the motivation readily available in instrument based courses.[7,8] As training techniques, instruments frequently present a new and fresh outlook to the reading process.

Finally, self-study is more likely to induce tunnel vision. Lack of knowledge and facilities to identify specialised limitations, e.g. dyslexia, can result in the build up of frustrations and doubts in one's own ability. Thus, the input obtained from an external source like an instructor could prove very useful.

With instrument based and non-instrument based techniques as with all systems, there are advantages and disadvantages. As each tends to emphasise one of the two reading aspects more than the other, an ideal reading programme would be one where a balance of both influences are taken into account. A course designed to incorporate the major advantages of both approaches should result in participants achieving permanent changes to their reading style and habit.

7. Spache G. D. (1968) : Toward Better Reading. p. 258

8. Spache G D. (1976) : Eye-movement Photography in Reading Diagnosis. p. 78

CHAPTER FIVE

EVALUATION

5.1. Definitions

Bebb (1978) defines evaluation as the "provision of information through formal means, such as criteria, measurement, statistics, to serve as a rational bases for making judgements in decision situations". This means that while it involves a framework for assessment, evaluation is also orientated towards decision making. In this sense, evaluation is distinguished from research, because the latter is aimed at assessing a situation, while the former is aimed at improving it. Evaluation applied as a diagnostic tool is directed at problem solving, and not so much at being a comparative technique. The main functions of evaluation are collection, organisation and analysis of data. (Bebb 1978).

Kirkpatrick (1976) provides a similar definition to Bebb, in that evaluation involves the determination of the effectiveness of a programme using specific criteria, namely reaction, learning, behaviour and results. An expansion of these are:-

Reaction - involves finding out how much the students liked the programme - it is the measurement of the participants' feelings. As Mager (1968) notes, the more positive a learner's attitude is about his learning, the more likely is he to retain and learn more.

Learning - involves the measurement of the facts, principles and skills the student has learnt during the programme. It is usually determined by tests within the course itself.

Behaviour - is the extent to which the learner applies his skills and knowledge after he has completed the

programme. This may be assessed by observations and tests on the job, and comparisons with the pre-course performance.

Finally, Results involve an assessment of the programme in terms of students' performance before and after the course. It also includes aspects like cost efficiency and dollar returns per participant. It is more of an evaluation of the course managers and designers.

Ebel (1974) defines evaluation as involving a sequence of collection, organisation, analysis and reporting. It is successfully achieved if made in relation to goals of instruction. These are categorised into three main headings.

1) Those concerned with knowledge and understanding.
2) Those concerned with attitudes, values and feelings.
3) Those concerned with intellectual skills.

Ebel advocates that measurement of these goals is critical for continuation of good evaluation.

Thus, in summary evaluation may be concluded as a process of quantitative and qualitative assessment; directed at further improvements in the programme.

5.2. Evaluation Models

Bebb (1978) provides a comprehensive review of educational evaluations models. He describes an evaluation model as "a plan or a guide, to study a not so well defined, and often large and complex event such as an educational programme or product evaluation." Evaluation models tend to be maplike in purpose, so that even though evaluators strive to construct models that are precise, specific and verifiable, the end result often falls short of what would be expected in other disciplines. Bebb suggests

three reasons for this. Firstly, evaluators are prevented from using too specific a model because of the complexity of events which surround educational evaluation. Secondly, the variance and wide range of inputs, makes it difficult to precisely describe a model. Finally, it is the nature of evaluators to spend more time using the model other than verifying it. Thus, at best, an evaluation model is a framework for which a systematic means of data gathering, organising and analysing can be conducted for further recommendations to be made on the programme itself.

Thomas (1976) suggests that there are certain aspects of a programme which evaluation models should address:-

1. Teacher performance and effectiveness.
2. Student learning procedures and achievement.
3. Student work loads.
4. Assessment procedures.
5. Course organisation.
6. Content
7. Instructional aids.
8. Student expectations.
9. Attitudes.

These aspects are fairly similar to the categories of examination noted by Kirkpatrick and Ebel. However, Thomas' breakdown provides greater insight into the specific aspects which should be examined. It should thus be used as a guide line for the development of every educational evaluation model.

5.3. The Development of an Evaluation Model for the
Effective Reading Programme.

5.3.1. Objectives of the Effective Reading Programme

Although the structure of the Effective Reading programme
has changed from time to time, the objectives of a typical •
programme have been basically two-fold.

1) To improve the reading speed of participants while
maintaining, if not improving, their comprehension.
2) To improve the skimming and scanning skills of
participants.

Due to the fact that the programme was originally developed
in South Africa, another long term objective was to see if
the Effective Reading programme could be altered to suit
the local population in New Zealand.

5.3.2. Structure

Throughout its evolution, since 1965, the programme has
retained a basic course structure, involving three stages
of Pre-Course, Reading Skills Development and Post Course.
Tests to diagnose the reading speed and comprehension of
students were the main feature on the pre- and post-course
stages. The stage of student development involved the
training of students' reading skills, through a series of
activities. These activities included Tachistoscopic
Training, Controlled Reading, Assigned Reading and Flexible
Reading. A majority of the material and equipment has
dominated throughout the phases except for the introduction
of an updated version of the Controlled Reader in 1980.
Various pieces of document were also designed and altered as
the programme evolved. Finally, the technique of
instruction in the Effective Reading programme so far
developed has been Learner Control based. This includes
the application of features such as self-pacing, objective
setting, variable resources, sequence control and self-
measurement.

5.3.3. An Evaluation Model for the Effective Reading Programme

Evaluation involves the determination of the effectiveness of training programmes, via an orientation towards diagnosis and improvement. An evaluation model consequently provides the establishment of a framework for this to take place. It should include the criteria of reaction, learning results and behaviour. (Kirkpatrick 1976).

The major principles on which the Effective Reading programme is based, stem from the concepts of reading and learner-controlled instruction. Reading provides a knowledge foundation to the course, which thus determines the content and structure of the programme. LCI presents a basis for the design of the programme, as the instructional technique to be applied.

Thus by assimilating these aspects with the evaluation criteria proposed by Kirkpatrick, a three stage model is developed. It includes Theoretical Constructs comprising of the reading and LCI concepts, Programme Design, which involves the structure and design, of the Effective Reading programme, and the Programme Results dimension, which includes both quantitative and qualitative results. The diagram overleaf illustrates this.

Theoretical Constructs	
Reading	Learner-Control Instruction

Programme Design	
Effective Reading Programme	
Objectives Structure Design	

Programme Results	
Quantitative ·Learning ·Results ·Behaviour	Qualitative ·Student Reaction

Feedback
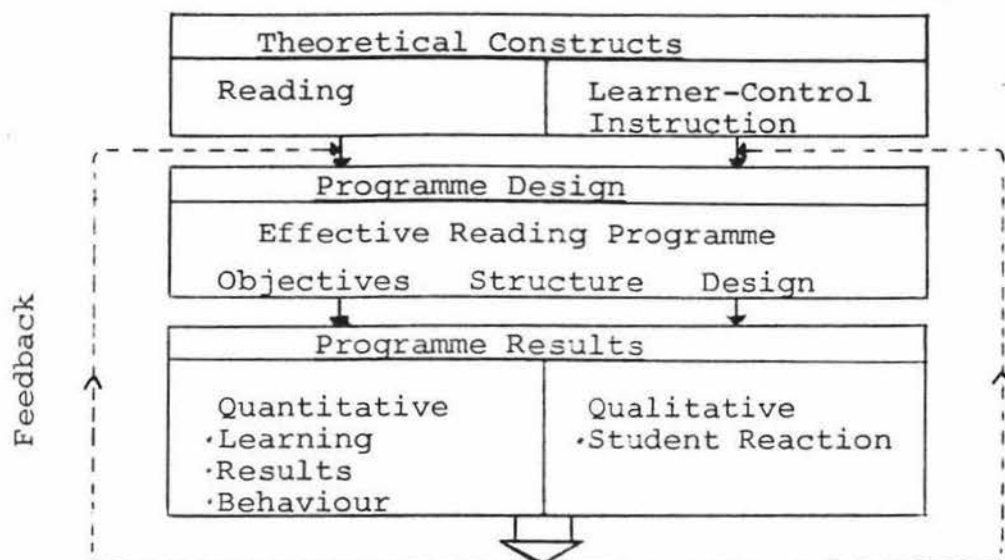
Figure 2.   Evaluation Model for the Effective Reading
Programme.

As a frame-work of evaluation, this model indicates the
directions and flow of movement from the conceptual to
the results. It also presents an analysis of what each
dimension consists of. It is clear that theoretical
constructs determined the features of the Programme
Design. This in turn includes aspects like course
objectives, structure and design. Finally, an assess-
ment of the programme itself is judged in the Results
dimension, where quantitative and qualitative data is
presented.

5.3.3.1. Theoretical Constructs
i) Reading
The application of the reading concept basically revolves
around the fact that it is a two-part process - visual
and psychological. The visual aspect of reading involves
the eye-movements of the reader, while the psychological
aspect involves the interaction of the mental factors
which are applied in reading.

Research into the reading act, and its state of art, has
derived an association between the visual aspect of reading
and instrument based techniques; and similarly between the
psychological aspect and non-instrument based techniques.

ii) Learner Controlled Instruction

The major contribution this concept makes to the Reading Programme is the determination of the design and instructional technique on which the programme is conducted. The basic philosophy behind LCI is that a student will learn better if he is allowed to genuinely participate in his learning.

This is achieved through five major characteristics, namely, objective setting, self-pacing, variable resources, sequence control and self-measurement. Objective setting encourages discussion between course managers and students to determine an appropriate goal for the learner. Self-pacing involves the right for the students to work at their own pace without being rushed or hampered, as they would be in most classroom situations. Application of sequence control means encouraging students to work in any order within and between the training activities. Variable resources is indicated by the choice available within each activity and different job-aids. Finally, self-measurement involves the student's decision on when they wish to be tested, and by whom they wish it done.

Thus, the function of these theoretical concepts is to form an underlying foundation for the entire programme. The extent to which the knowledge and principles are recognised and applied indicates the degree to which Reading and Learner Controlled Instruction are basic to the programme.

5.3.3.2. Programme Design

This is basically a derivative of the principles dis-
cussed in the Conceptual Category. It involves the
development of the objectives, structure and design
of the programme.

As noted previously, the objectives of the programme
have centered around the improvement of students'
reading speeds and comprehensions, and the skimming
and scanning skills. Programme structure involves
the sequence of phases the courses apply, the length
of the various programmes, the number and level of
film-strips used, the period allowed per session and
the range of activities applied in the programme.
Design in the programme dimension involves the degree
to which LCI is applied in the courses conducted.

Thus, this dimension is mainly descriptive of the
structure or design of the programme.

5.3.3.3. Programme Results

This dimension basically starts at the end of the training
programme. It involves the assessment of the effective-
ness and efficiency of the programme, which determines
how successful it was.

Comprised of quantitative and qualitative categories, the
results dimension involves the measurement of learning,
results and behaviour in the first category; and the
students' reaction, in the second. Learning involves
the extent to which skills and knowledge have been
acquired while ON the course; results involve the amount
of learning acquired through the course, which is deter-
mined by pre and post course test performances and

finally, behaviour which is the standard and degree to which the learned skills are applied AFTER the programme, usually "on-the-job". Since the emphasis of this evaluation is on the training programme itself, the aspects of Results relating to time savings, cost savings, return per hour will not be examined in this study.

Two aspects were mainly concentrated on in the category of Student Reaction. This included students' feelings towards the course itself and to the Course Manager. The criteria of student reaction serves very well as a reminder on the need to establish and maintain a positive and supportive atmosphere. The latter is best achieved through the creation of a trustful and open relationship between the student and the Course Manager. Thus, the dimension of Programme Results is of utmost importance in the assessment of the programme's success.

To complete the Evaluation model, the final facet of the feedback loops must be applied. These trace the input of information from the Results dimension to the development stages of the programme. The recommendations and suggestions made are viewed in conjunction with the principles of reading and LCI.

From this point the programme begins another course, and the cycle continues until its over-riding objectives and criteria are achieved.

CHAPTER SIX

THE EVALUATION OF THE SIX STAGES OF
THE EFFECTIVE READING PROGRAMME

6.1. Background to the Evaluation of the Effective Reading Programme

At the time of writing this thesis, the Effective Reading Programme had been in existence for 16 years. Known under different titles and managed by various individuals, the programme has a unique history of development which holds it distinct from other reading programmes.

Since its conception in 1965 the Effective Reading Programme has undergone six stages of development. The first of these was initiated by Bebb, Cogill and Dickerson, as the Eleven Hour Effective Reading Course. Being the fundamental stage to its existence, this programme determined the objectives, course structure and instructional design, which prevailed throughout all developmental stages. The second stage of the Effective Reading Programme's development began in 1976, when students of the Higher Diploma in Personnel Management, from the University of Witwatersrand, conducted a reading programme, based on the proto-type of 1965. Following this, a trial run of the Effective Reading Programme was carried out on students at Massey University in New Zealand in 1979. Various modifications resulted in a series of courses which were commenced in April 1980. Improvisations to the programme's structure and design, and greater experience in course management, prepared the Effective Reading Programme for the fifth stage of development. This involved the implementation of the course in a national finance organisation in November 1980. By May 1981, sufficient evidence existed, to indicate that the Effective Reading Programme could become a viable business, which meant that it could be offered commercially. This existing status of the Effective Reading Programme symbolises the fusion of the theoretical constructs of reading and learner controlled instruction into a professionalism matched with guarantee of results.

6.2. Theoretical Constructs

All stages of the Effective Reading Programme are based on the concepts of reading and learner-controlled instruction. The theoretical constructs of the evaluation model is thus a central body of knowledge which other dimensions draw their structure and design from. Comprised of systematic principles derived from research into both reading and instruction, it remains a relatively static dimension.

Therefore, rather than to repeat it for each stage, only one presentation is made to assess the contribution these concepts make to the Effective Reading Programme.

6.2.1. Reading

The contribution that the reading concept has made to the Programme centres mainly around its training methods and techniques. By applying a research-based approach to the process of reading, the programme's structure and design have been scientifically and factually developed. This ensured that the most effective and efficient training methods were being applied in the programme.

Research indicating a correlation between the visual aspect of reading and instrument based techniques, and similarly the psychological aspect and non-instrument based techniques, have resulted in the employment of both categories of techniques in the Programme.[1,2] The methods within the instrument based category include, tachistoscopic training, controlled reading and metronome timing. The tachistoscope used throughout the Programme is that of the Educational Development Laboratories (EDL) Flash-X, while the EDL Controlled Reader was used for training that particular aspect of the course. The timing instrument applied for skimming was basically a tape which sounded beeps at regular intervals, e.g. ten seconds or 30 seconds. The principle underlying these techniques is that improvement of eye-movements will increase reading speed, hence efficiency.

1. Bond GL and Tinker MA. (1973) : Reading Difficulties: Their Diagnosis and Correction p. 377

2. Harris L.A and Smith CB. (1972) : Reading Instruction Through Diagnostic Teaching pp. 241-242

The only activity which was non-instrument based in the Programme, was the Assigned Reading activity. This involved a series of timed exercises with speed charts and comprehension checks. The premise for this category of techniques is that practice and improved skills in comprehension will result in improved reading efficiency.

Thus the major contribution of reading has been the determination of these techniques which are directed at improving the overall performance of the reader. The measure used to assess this general performance has resulted in the application of the Reading Efficiency Index. It involves a combination of speed and comprehension and is determined by a multiplication of the two. In this way, a more realistic and balanced picture is obtained of the reader. The abbreviation of REI is commonly used to signify this value.

6.2.2. Learner Controlled Instruction

The contribution of LCI to the Programme is the development of the appropriate environment and atmosphere for learning to take place in. According to Laird (1976), students tend to increase their learning ability in situations which they feel more comfortable and relaxed in. Features like joint objective-setting, self-pacing, variable resources, sequence control and self-measurement, contribute to increasing the independence participants have in their learning.

Thus, both reading and LCI form the foundation stones of the programme. The former contributes the technical know-how, while the latter presents guidelines to the instructional technique of the programme.

6.3. The Evaluation of the Six Stages of the Effective
Reading Programme, under the Programme Design and
Results Dimensions

6.3.1. Stage 1 - South African Breweries' Effective
Reading Course

6.3.1.1. Programme Design

i) Objectives

Located in Johannesburg, the Effective Reading Programme
evolved to meet the needs of managers and reading staff
in the South African Breweries. The objective of this
programme was to improve the reading skills of partici-
pants so that "measurable, effective and lasting results"
were obtained. (Bebb et. al. 1970)

ii) Structure

The course was basically comprised of two parts which
took place within 11 hours spread over five weeks. Part
One was called the "Controlled Reading Section" while
Part Two was the "Reading Flexibility Section". The
Controlled Reading section involved Tachistoscope Training,
Controlled Reading and Assigned Reading practice. It
was structurally composed of three phases, namely Pre-
Course Preparation, Group Orientation and Development.

The Reading Flexibility section, on the other hand, involved
the training of skimming and scanning skills, and was
conducted after the completion of Part One.

Figure 3 overleaf outlines the sequential framework of
these components.
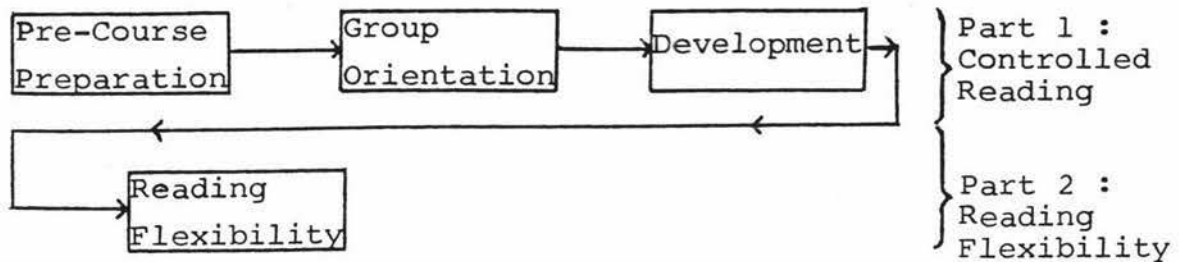
Figure 3 - The sequential phases of the South African Breweries' Effective Reading Programme.

Part One

Pre-Course Preparation

This comprised of a diagnosis of participant's pre-course reading skills, as well as the presentation of an Induction booklet. Students' existing reading skills were determined through an Eye-Camera and a silent reading test. The former resulted in a film of recorded eye-measurements during reading, while the latter determined the readers' speeds and comprehension while reading a text. The information obtained, enabled course managers to develop individualized programmes to meet the specific needs of each participant.

The Induction booklet served as an introduction to the programme, by outlining the course objectives and procedures, its benefits and the students' responsibilities on the programme.

Group Orientation

This involved a meeting where the objectives, procedures and use of equipment were explained to participants.

Development

This phase was completed in twenty, half hour sessions. Tachistoscopic training, Controlled Reading and Assigned Reading were practised in each session. A maximum of up to five minutes was allowed on the Flash-X, while a maximum of up to five filmstrips was allowed on the

Controlled Reading per session. The Guided Slot was used
in the initial stages of the course, but this was changed
to the Open Slot once the student reached a speed of 450
words per minute. Speed increases were made, by achie-
ving 70% comprehension on two successive filmstrips. This
ensured that speed increases were not being achieved at
the expense of comprehension. Both the EDL filmstrip
series of LK and MN were used.

Stabilization of speeds, which is the reading of filmstrips
at the same speed regardless of comprehension, was applied
in the last quarter of the course. The purpose of this
consolidation practice, was to ensure greater permanence
of gains. (Bebb et. al. 1970). The Assigned Reading
manual which comprised of 20 passages, was applied after
the Controlled Reading section, to maximise transfer of
training. A recorded tape of ten second interval beeps
was used to pace the reader on this.

Results from these two reading activities were plotted
onto Progress Charts at the end of each session.

On the completion of this phase, post course tests were
issued to determine the degree of improvement students made
from the training. These tests were usually of equal
standard to the pre-course diagnostic ones.[3]

Part Two
Reading Flexibility
This was the skimming and scanning section of the course,
involving the use of a prepared booklet, work book and
timing cassette. Being a self-study programme, partici-
pants marked their own results and determined their
progress through a series of timed exercises and compre-
hension tests.

3. We were informed that these tests were standardized by
   Educational Development Laboratories, Huntington. New York.
   Furthermore. the range of tests used were randomised in the
   programme. See Appendix XIV for an example.

Follow-Up

Six months after the completion of the course, a follow-up was conducted, to measure the degree to which partici-pants had managed to retain their skills. In the group studied, no follow-up reading exercises were issued after the course. Hence maintenance and retention of skills was largely left to the student.

iii) Design

The theme of instruction throughout the programme was LCI. This was introduced at the point of diagnosis, through skills development, to final evaluation. Determination of readers' individual speeds enabled their programmes to be individualised. Self-pacing was also encouraged, and this was made possible through the system of individual learners to a Controlled Reader. Attendance times were self-chosen to suit the convenience of the individual and his organisation. Communication between students and course managers was maintained through a system of recorded comments and written feedback.

Immediate feedback and reinforcement was also obtained through the use of multi-choice comprehension checks with their respective Answer Keys and Progress Charts. These EDL Progress Charts which corresponded to the Controlled Reader speed dial, had special shading and markings which made recognition of one's progress much faster and easier to understand. A student's typical Progress Chart is shown in Appendix I.

6.3.1.2. Programme Results

i) Learning

This category of programme results concentrates on the progress students made during the course. It is deter-mined by comparing the initial and final performances of students on the Controlled Reader.

As the author has not managed to obtain the related information for this stage, this aspect of results cannot be analysed.

On the other hand, a photographic analysis of the students' reading habits was available. This is shown in Table I.1.

Table I.1 - Table showing the analysis of students' average pre- and post-course reading skills. (Adapted from Bebb et. al. 1970. p.18)

	Fixations per 100 words	Regressions per 100 words	Average span of recognition (words)	Average duration of fixation (words)
Pre-Course	92	14	1.12	0.24
Post-Course	62	4.5	1.71	0.22
Improvement	32	9.3	0.59	0.02
% Improvement	+34	+66	+52	+8

Table L.1 shows that the most significant change was in the reduction of the number of regressions made per 100 words. This indicates that the Guided Slot was a fundamental technique in altering the reading habits of participants. The Guided Slot could have also been a major influence on the reduction of fixations and the average duration, even though this change was small. The increase in the span of recognition could have been contributed by the Flash-X as well as the Controlled Reader.

ii) Results

This category of results in the Results dimension involves the comparison of students' performance between the Pre- and the Post-Course tests. Results of the two groups studied by Bebb et. al (1970) are shown in Table I.2.

Table I.2. - Table showing the pre- and post-course
speeds of students.

Group	Average Pre-Course (wpm)	Average Post-Course (wpm)	Average Gain (wpm)	Average % Improvement
A	282	458	+176	+63
B	275	451	+175	+64
A and B combined	279	455	+176	+63.5

This table shows that significant improvements were made
with the best result for both groups, being a learner who
made a gain of 179% improvement in speed (215 wpm to
600 wpm).

iii) Behaviour

This category of results is concerned with the performance
of participants some time after the completion of the
programme. The information for this aspect, therefore, is
usually obtained through the use of follow-up studies.

The follow-up study in the South African Breweries'
programme was conducted six months after the course, on
Group A only. Table I.3. shows the average change in
speed between the post-course and the follow-up result.

Table I.3. - Table showing the Post-Course and Follow-Up
             speeds of students.

Group	Average Post-Course (wpm)	Average Follow-Up (wpm)	% Change
A	458	427	-7

Table I.3. shows that there was a drop in speed between the
post-course and the follow-up result, although this was
not great.

iv) Students' Reaction

No particular student reactions were noted in Bebb et. al's
paper, although discussions with its author indicated that
these were obtained and found to be very positive. This is
supported by evidence of the strong retention in skills in
the follow-up. As Mager (1968) suggests, the more positive
attitudes the learners have about their learning, the
more likely is it for them to retain and practise the skills
learnt. Thus it may be inferred from this that students
on the South African Breweries' programme did have positive
feelings about the course.

6.3.1.3. Discussion and Conclusions

As the fundamental course to the Effective Reading Programme
the South African Breweries' Effective Reading programme,
proved that considerable improvements in reading skills
could be achieved through the programme structure and
design thus developed. This was shown through comparisons
of the Pre and Post Course test results (see Table I.2.),
and the Post Course and Follow-up results (see Table I.3.).
The eye-movement analysis shown in Table I.1. further sub-

stantiates this. What this means is that there is a real
change in the physical reading habits of participants.
Thus, the existing techniques of Flash-X, Controlled
Reading and Assigned Reading have been indicated as being
contributory to the programmes' success.

Retention of gains was an intended result of stabilization.
This was indicated in the Follow-Up study. Furthermore,
the Assigned Reading did ensure better transfer of skills,
as shown through the various results.

Student reactions to the programme were positive, thus
indicating that the instructional technique being applied
was conducive to better learning. Also the continuous
process of goal-setting and reinforcement, via the
Controlled Reader, were likely contributors to the excel-
lent results and favourable attitudes.

Therefore, the Effective Reading Programme as conducted
in the South African Breweries Company was a success. Its
development from this stage basically involves an
orientation towards determining a most appropriate pro-
gramme to suit the target population concerned.

6.3.2. Stage 2 - Business School Effective Reading
Course (South Africa)

6.3.2.1. Programme Design
i) Objectives
Eleven years after the first Effective Reading Programme
was conducted, a group of students from the Higher Diploma
in Personnel Management, (University of Witwatersrand)
carried out an experiment based on the South African
Breweries' proto-type. The objective of this course was
to increase the rate of reading, while maintaining a

comprehension level of not less than 70%. (Chorn 1976).
The target population of this programme comprised mainly
of university post-graduates with a smaller number from
the business community.

ii) Structure

This programme was comprised of three phases, namely
Pre-Course Test, Development Stage and Post-Course Test.
Figure 4 below illustrates this.

| Pre-Course Test | → | Development Stage | → | Post-Course Test |
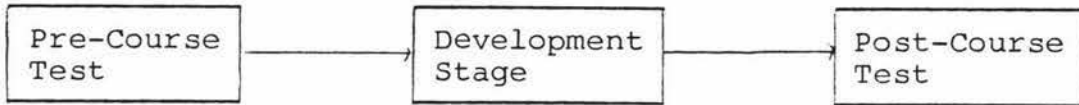
Figure 4 - The sequential phases of the Business School
Effective Reading Course. (South Africa).

Pre-Course Test

This was obtained from an EDL Efficiency Check, to deter-
mine the students' pre-course reading speeds and compre-
hensions.*

Developmental Stage

This was comprised of 12, 45 minute sessions (total of nine
hours), spread over six weeks. During each session, an
average of two filmstrips were viewed from the EDL - MN
series. Twenty five filmstrips were needed to complete
the course. A 70% comprehension criteria was applied for
any increases in speed on the Controlled Reader, and stab-
ilization was implemented in the last fifth of the filmstrip
series. Students were allowed to choose their presentation
style on the Controlled Reader, although course managers
tended to recommend use of the Guided Slot in the initial
stages and lower speeds. Contact between students and course
managers was maintained through the voluntary use of
comment sheets and personal interviews. The latter was

* Refer to footnote on page 62.

particularly useful with students encountering problems on
the course. Results were plotted onto Controlled Reading
Progress Charts (Chorn 1976, Appendix 4), which were
kept in the students' personal file.

Post-Course Test
On the completion of the Developmental Stage, a post-course
test was issued from the same source as the pre-course
test.

Throughout Chorn's (1976) report, no mention was made of
Tachistoscopic Training, Assigned Reading or Flexible
Reading. Thus it may be assumed that these were not carried
out.

iii) Design
Chorn (1976) noted that effort was made to conduct the pro-
gramme on as much of a learner controlled system as poss-
ible. Hence, various documents were developed to encourage
this method of instruction. Included in this was a Course
Manual, projector guide and filmstrip study guides. The
Course Manual was directed at teaching the student to con-
duct a session in a step-by-step approach. The projector
guide showed the student how to operate the equipment with
the help of illustrations and photographs.

Finally, the study guides were basically the printed page
version of the filmstrip's contents. Students could read
part of the text, to gain a better perception of the film-
strip to be viewed. The use of these job-aids was avail-
able to the students at their own discretion. Thus, if
they felt that they knew how to thread the Controlled
Reader without looking at the Projector Guide, they could
readily do so.

Session times were booked on a weekly basis and this was
done through the availability of timetable charts. Thus,
times were chosen for the students' personal convenience.

Finally, since job-aids were present throughout the pro-
gramme, students were able to work at their own pace,
which ensured maximum learning.

6.3.2.2. Programme Results
i) Learning
From the study Chorn (1976) reported, an average improve-
ment of 110% was achieved in students' Controlled Reading
speeds. The average initial speed noted was 255 words
per minute, while the average final speed noted was 525
words per minute, on the Controlled Reader (Chorn 1976,
page 28).

ii) Results
Based on the results of 38 students, Chorn (1976) reported
an improvement of 96% between the pre- and post-course
tests. The average pre-course speed reported was 270 words
per minute, while the average post-course speed reported
was 516 words per minute. (Chorn 1976, page 28).

iii) Behaviour
As no record was made of a Follow-Up in the Business School
programme, this category of results does not apply. Scarce
resources regarding this programme also make inferences
difficult.

iv) Students' Reaction
a) To the Course
Analysis of the Evaluation Form issued at the end of this
programme (Chorn 1976 Appendix 13), indicates that students
were mostly satisfied with their progress on the course

and showed a favourable reaction towards their learning
experience. The most positive aspect students noted was
the way in which the course was conducted. The least
positive aspect students noted was the extent to which
the course helped them to achieve their personal ends.
On a five-point scale (where (1) is poor and (5) is
well), the former scored an average of 4.1, while the
latter scored an average of 2.9.

b) To the Course Managers

The two questions relating to the effectiveness of course
managers in Chorn's Evaluation Form indicated a mixed
reaction to them. Although students felt that the course
managers did help them to a fairly large extent, the
latter were not always available when they were needed.
On a five-point scale (where (1) is poor and (5) is well)
the course managers were rated 4 on the first aspect and
2.7 on the second. Thus, it may be questionable the
degree to which the course managers contributed effectively
to the course.

6.3.2.3. Discussion and Conclusions

Although based on the original programme developed by
Bebb, Cogill and Dickerson in 1965, the Business School
Effective Reading Course did not exhibit the same range
of techniques seen in the proto-type. Despite this, the
results obtained were better here than in the previous
programme. (96% compared to 64%). This indicates that
the technique of Controlled Reading has a definite impact
on improving participants' reading speeds. Other variables
between the two programmes seem to have made an impression
on students' reading habits also. These were the shorter
total number of hours (nine in the Business School pro-
gramme, compared to 11 in the Breweries' programme) and
the longer period of weeks in which it was conducted (six
weeks in the former, compared to five in the latter).

A preview of students' comments noted in Chorn (1976),
showed that, although students did made substantial
increases in speed, the sole concentration on Controlled
Reading left many students doubtful of the degree of
transfer in reading. Thus this indicated a need for some
kind of assigned reading practice to satisfy this query
and   to promote better transfer.

The reaction to course managers in this programme sugge-
sted that the presence and degree of contact students had
with them was an important determinant of the students'
attitudes. More frequent communication was desirable and
this indicated the need for a more regulated system of
Comments and Feedback. Thus, these were some suggestions
which future programmes in the Effective Reading series
could benefit from.

6.3.3. Stage 3 - Business Studies Effective Reading Course (New Zealand).

6.3.3.1. Programme Design
i) Objectives
The objective of this programme was to "increase the
reading rate of students, while maintaining, if not im-
proving their comprehension levels". Conducted by two
Masterate students in Massey University (Wong 1979), the
programme was a pilot-study, to examine the success of
the Effective Reading Programme, within the New Zealand
universities and, more widely, within the New Zealand
population. The target population for this course was
eight post-graduate students from the Massey University,
Business Faculty. Within this group, six participants
were foreign students, while the remainder were New
Zealanders.

ii) Structure

Comprised of six phases, this programme was conducted over
a total of 11½ hours, spread over three weeks. Figure 5,
illustrates the sequence of these phases:-
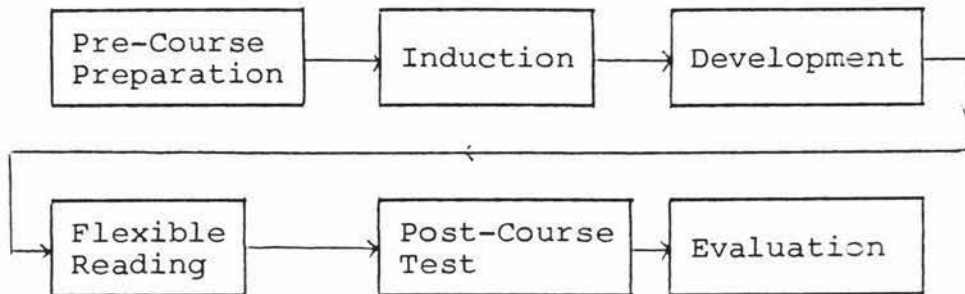
Figure 5. The sequential phases of the Business Studies
           Effective Reading Course. (New Zealand).

Pre-Course Preparation

This basically involved the presentation of the Programme
Manual, which explained the objectives, procedures and
techniques of the course. A silent reading test*, obtained
from the EDL - MN Efficiency Check, was also issued, to
determine the pre-course reading status of participants.

Induction

This was the group orientation in which students were
taught the use of equipment and techniques of the course.

Development

This involved the Controlled Reading and Assigned Reading
training which was conducted over 13, 45 minute sessions,
spread over two and a half weeks. The EDL - MN Series
of filmstrips were used, with a 60% comprehension criteria
applied for all speed increases. This criteria was found
to be more appropriate, as the foreign students had diffi-
culty in meeting the 70% comprehension score. However,

* Refer to footnote on page 62

the latter was still applied when students indicated that they could cope with it. The Guided Slot was used initially, but was changed to the Open Slot when a speed of 450 words per minute was achieved.

All Assigned Reading training was conducted immediately after the Controlled Reading activity in each session. It was comprised of short, business oriented articles, with individual speed charts and comprehension checks. Records of all results from the Controlled and Assigned Reading sections were plotted onto the progress charts (see Appendix 1). The Assigned Reading Progress Chart did not include the dial markings, even though it maintained similar speed and comprehension graphs.

Consolidation of Controlled Reading speed was enforced in the last five filmstrips of the series, unless a plateau was arrived at before that. A plateau involves a stagnation of speed, due to the student's inability to meet the comprehension criteria.

Flexible Reading
On the completion of the Controlled Reading and Assigned Reading sections, two more sessions remained in which the students learnt some techniques of skimming and scanning. This was achieved through the completion of a Flexible Reading manual which students conducted on their own. Course managers were contacted if there were any queries.

Post-Course Test
This involved the administration of a test equal to the pre-course test. A comparison of results determined the degree of improvement students made through the performance.

Evaluation

An Evaluation Form, shown in Appendix II, was issued to
every participant to determine their reactions to the
programme after completing it.

iii) Design

Being a Learner Controlled programme, students were pro-
vided with a common booking chart on which they could
sign up for attendance times, most convenient to them.
Operation of equipment and conduct of procedure was
simplified through the use of job aids in the form of
procedural steps and check lists. This ensured that
the programme was being conducted in the correct and
most efficient manner possible. Individual progress
charts were used for plotting Controlled and Assigned
Reading results, and communication between students and
course managers was maintained through a daily completion
of Comment and Feedback sheets. (Appendix IIIa and IIIb)

6.3.3.2. Programme Results
i) Learning

The average initial speed of students on the Controlled
Reader was 149 wpm, while their average final speed was
315 wpm. (Wong 1979). Table III.1 shows the average
percentage change in students' speed and REI on the
Controlled Reader.

Table III.1 Table showing the average percentage change
             in speed and REI on the Controlled Reader.

	Number of Students	Lowest % Change	Average % Change	Highest % Change	% Students Improved
Speed	8	+ 50	+109	+225	100
REI	8	+157	+244	+400	100

Statistical analysis of the gains made on the course indicate that these are significant at the 1.0% level (t_o .01, 7 = 2.998, with t_o = 4.26, t_o = 6.22 for speed and REI respectively).

ii) Results

An assessment of the pre- and post-course test showed that the average pre-course speed was 173 wpm while the average post-course speed was 273 wpm. Table III.2 shows the average percentage change in students' speeds and REI as determined on the pre- and post-course tests.

Table III.2 Table showing average percentage change of speed and REI on the pre- and post-course tests.

	Number of Students	Lowest % Change	Average % Change	Highest % Change	% Students Improved
Speed	8	0	+57	+157	88
REI	8	-80	+65	+319	50

The t-test applied to paired comparisons of individual pre- and post-course speeds show that the differences are significant at the 1.0% level (to .01, 7 = 2.998, t_o = 3.05). The same t-test applied to paired comparisons of the individual pre- and post-course REI show that the differences are significant at the 10% level. This suggests that the +65% average change is not a real improvement.

These results imply that while the students gained significant increases in speed, this was achieved at the expense of comprehension. Thus the increases in REI were not highly significant.

iii) Behaviour

As no official follow-up was conducted, it was difficult to judge the participants' performance after the programme was completed. However, due to the existing circumstances surrounding the course, and the lack of experience in course managing, the post-course test was conducted only four months after the course. Therefore, the result from this test may be taken as an indication of the behaviour of participants after the course.

iv) Students' Reaction

a) To the Course

Using the Evaluation Form shown in Appendix II, it was concluded that students felt generally positive about the course. Table III.3 shows the average responses of the students under the various aspects.

Table III.3. Table showing the average response to the various aspects of the Evaluation Form. (Appendix II).

Using a five-point scale where (1) is Very Dissatisfied and (5) is Very Satisfied

Subject	Average Response
1. Your orientation to the course	3.75
2. The degree to which the course objectives were specified	3.75
3. How well the course objectives were met	3.5
4. The standard set for the course	3.5
5. The general administration of the course	4.0
6. The effectiveness of the course manager	3.87
7. The pace set for the course	3.75
8. How well the course provided skills needed to improve your reading	3.62
9. The course as a whole	3.62

n = 8

The average reaction to the whole Evaluation Form was
3.7, which indicated a positive response from the
students. In comments made by students, it was interesting
to note that many experienced difficulty in understanding
the filmstrips from the EDL - MN Series. This was attri-
buted to a lack of vocabulary, especially in the foreign
students. A suggestion to solve this problem was the
development of a Vocabulary Preview so that difficult
words were clarified and understood before starting on a
filmstrip.

Some criticism was also made of the 'Americanism' of the
filmstrips, since it tended to result in a lack of interest
when reading them. This was noted by both the ethnic and
foreign students. However, it must be recognised that the
material applied on this course was identical to the ones
applied in the two previous stages. Hence it was too soon
to arrive at a conclusion on this matter.

Students noted a marked difference in the standard of con-
tents between the Controlled Reading and Assigned Reading
exercises. Many felt that the latter was too easy, and
a more comparable set of Controlled Reading exercises was
recommended.

b) To the Course Manager
A generally positive response was made with regard to the
two course managers. (see Table III.3, Question 6). A
recommendation, however, was that more time and personal
contact be given to participants who lacked steady pro-
gress on the programme.

6.3.3.3. Discussion and Conclusions
Being the first pilot study of the Effective Reading
Programme conducted in New Zealand, the Business Studies
Course resulted in the identification of certain weaknesses

in the programme's structure, contents and administration.

One of the first problems facing this programme was the inexperience of course managers in conducting the programme. Inadequate and ineffective feedback was implied through students' reactions at the end of the course. General administration of the course could have also been improved as shown by the lateness in conducting the Post-Course test.

The fact that 50% of the participants failed to improve in their REI by the end of the programme (see Table III.2) indicated that there was a major inadequacy in the programme. As identified by the majority of the foreign students, this was the lack of vocabulary they experienced in the Controlled Reading section. The comparative simplicity of the Assigned Reading section, further compounded this problem as students could not compromise their poor Controlled Reading results with the comparatively good Assigned Reading results.

Thus, obvious changes were needed and these were implemented in the next stage of the Effective Reading Programme's development.

6.3.4. Stage 4 - Revised University Programme

6.3.4.1. Programme Design

i) Objectives

This phase in the Effective Reading Programme's develop-
ment is unique in that variations were made during this
one stage to the programme's structure. The result was
three models which differed in session length and
course duration.

Despite these differences all three models maintained the
primary objective of increasing participants' reading
speed, while maintaining, if not improving, reading
comprehension. The three models were conducted through
a series of courses held at Massey University. Since
these were opened to the entire campus, the target popu-
lation for all programmes was mainly university students,
as well as some teaching staff.

ii) Structure

Despite variations, the programme structure remained the
same throughout the three models of its existence. It
comprised of five phases shown in Figure 6.
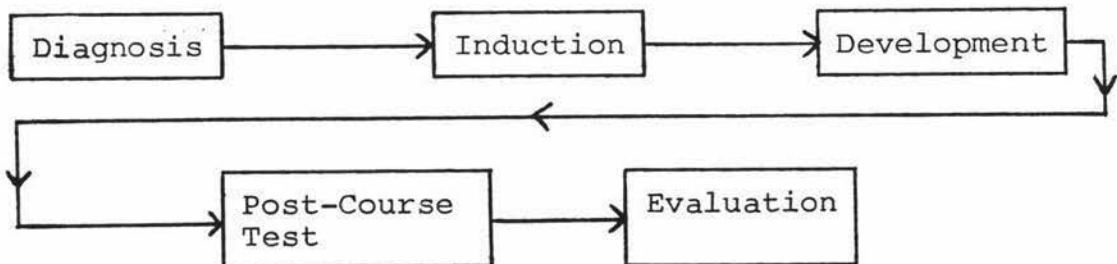
Figure 6. The sequential phases of the Revised University
Programme.

NOTE: The Author trained Course Participants in
Stages 3, 4, 5 and 6; while Course Managers
were trained in Stages 4 and 5.

Diagnosis

This involved the administering of a silent reading test, from the EDL - MN Efficiency Check, and an Attitude Scale (Appendix IV). The test determined the pre-course reading status of the student, while the Attitude Scale provided an insight into how the students felt about the course, before commencing it. Issued at this point the latter served as an indication of the mental set and expectations held by students.

Induction

The purpose of this phase was to train participants to operate the equipment and to correctly use the material on the course. It was carried out in two stages.

The first stage involved a group orientation where the Course Manual containing the necessary information about the programme, its objectives, procedures and techniques was issued. The course manager outlined the contents of the manual, taking the opportunity to demonstrate the use of equipment. As the Induction was the only occasion where the students met as a group, the course manager encouraged discussion regarding misconceptions and doubts about the reading concept and the programme. This sharing of opinions and clarification of doubts served as an excellent anxiety reduction technique. It helped students feel more aware and relaxed about the forthcoming experience.

Booking charts were presented to students for determination of attendance times. Session swapping was also encouraged to promote greater flexibility.

The second stage in this Induction phase was when students arrived individually for their first session. By encouraging the student to relate the actions of the course manager to the various job-aids, e.g. Projector Guide, the necessary confidence was instilled in students for handling a session on their own. This teach-and-show approach was maintained throughout the first and the second sessions.

Development

Despite variations within this stage, the four basic techniques of training were applied throughout the programmes involved. These were Tachistoscopic Training, Controlled Reading, Assigned Reading and Flexible Reading. The EDL Flash-X was used with X-9 level cards for a maximum of five minutes in each session. Its main purpose was that of a warm-up tool.

This was Controlled Reading which utilized the LK and MN Series of filmstrips. A Vocabulary Preview consisting of a list of difficult words in each filmstrip was introduced to help overcome any vocabulary problems. By using a multiple choice type system, meanings of these words were determined prior to viewing the filmstrips. Increases in speed on the Controlled Reader were determined by a 70% comprehension criteria. The Guided Slot was applied until a speed of 450 words per minute was reached. At this point, the Open Slot was applied to orientate participants to a more realistic reading condition. Finally, stabilization was implemented in the last quarter of filmstrips viewed. The Assigned Reading material was mostly obtained from DeLeeuw and DeLeeuw's Manual, "Read Better, Read Faster". Progress Charts were used in the Controlled and Assigned Reading Sections, to record participants' results. The Flexible Reading was adapted from the EDL Skimming and Scanning Text and Workbook, which participants completed on their own.

Contact between students and course managers was maintained through a newer version of the Comment and Feedback Sheet. (Appendix V). These were completed daily by the parties concerned.

An up-dated version of the Controlled Reader, called the Combo-8, was introduced into the programme after the third course in this series. While it did not alter the training effectiveness of this section, it resulted in time savings, especially with regard to threading and rewinding the film. Also the extra protection which surrounded the film-cassette provided additional security and confidence when using the material.

Therefore, these were the main aspects of the programme which remained constant throughout this stage of its development.

The variations which the programme incurred were mainly related to the duration of each session and length of each course. Model 1 consisted of courses 12¾ hours long, spread over 17 sessions of ¾ hour each. Model 2 reduced the total time to 9¾ hours, spread over 13, ¾ hour sessions. Finally, Model 3 comprised of ten, one hour long sessions. Thus a gradual reduction in the length of the courses was experienced, that is, from 17 to 13 to ten sessions. Daily attendance was required on all programmes. The result of these variations in length was a corresponding reduction in the total number of filmstrips completed. Thus Model 1 saw the completion of 50 filmstrips, while Models 2 and 3 saw the completion of approximately 25 filmstrips by the average student.

Post-Course Test
This involved the administration of an equal standard test, to the pre-course one. Comparison of the two results determined the degree of improvement made, as a result of the course.

Evaluation

This final stage involved the completion of an Evaluation Form and an Attitude Scale. The former involved assessment of the course and the course manager, (Shown in Appendix VI), while the latter was identical to the one presented at the Diagnosis Stage. Both these items determined the students' reaction, which reflected on the programme's success.

ii) Design

As a Learner Controlled based programme, multiple job-aids were applied throughout the course. These included Controlled Reader Procedural Steps, Vocabulary Preview, Comment and Feedback sheets, Session and Equipment Checklists, Students' list of names and addresses and Projector Guide.

More frequent contact and personal counselling was encouraged. This was promoted through once-a-week meetings with students, and resulted in greater trust and openness between the students and course managers.

Students learnt to control their own progress through the system of Comprehension Checks, criteria and Answer Keys. Knowledge of the programme's objectives enabled participants to work at their own pace and control their own sequence of learning. While session swapping was encouraged, students had to ensure that not more than two sessions were allowed per day. Furthermore, an interval of four hours was required between them. This was to avoid the fatigue factor from setting in, as it would have been counter-productive to the student's progress.

6.3.4.2. Programme Results

i) Learning

An assessment of the students' results on the Controlled
Reader showed an average initial speed of 180 wpm, while
the average final speed was 500 wpm. Table IV.1 shows
the average percentage change in speed and REI on the
Controlled Reader.

Table IV.1. Table showing the average percentage change
             in speed and REI on the Controlled Reader.

	Number of Students	Lowest % Change	Average % Change	Highest % Change	% of Students Improved
Model 1 Speed	35	+180	+255	+273	100
REI	35	- 10	+ 78	+187	85
12¾ hours 17 sessions					
Model 2 Speed	25	+ 50	+147	+223	100
REI	25	- 25	+ 93	+209	80
9¾ hours 13 sessions					
Model 3 Speed	40	+ 59	+123	+183	100
REI	40	- 15	+100	+170	85
10 hours 10 sessions					

Statistical analysis of the individual results (average
results shown in Table IV.1) show that the average gains in
speed and REI for the student on the Controlled Reader for
all three models were highly significant. The t_0 values
for speed and REI for the various models are shown in
Table IV.2

Table IV.2.   Table showing the t_O values for the various
models in the Controlled Reading results.

		Number of Students	t_O	Significance Level
Speed	Model 1	35	19.2	< 0.1%
	Model 2	25	22.8	< 0.1%
	Model 3	40	15.6	< 0.1%
REI	Model 1	35	7.7	< 0.1%
	Model 2	25	3.9	< 0.1%
	Model 3	40	11.4	< 0.1%

ii) Result

The average pre-course and post-course speeds determined
on the Pre- and Post-Course tests of all three models was
211 wpm and 360 wpm respectively.   Table IV.3 shows the
average percentage change in the students' speeds and REI
on the pre- and post-course tests.

Table IV.3.   Table showing the average percentage change
in speed and REI on the Pre- and Post-Course
Tests.

	Number of Students	Lowest % Change	Average % Change	Highest % Change	% of Students Improved
Model 1 Speed	35	− 3	+ 82	+165	85
REI	35	− 9	+ 89	+204	89
$12\frac{3}{4}$ hours 17 sessions					
Model 2 Speed	25	− 6	+ 49	+127	80
REI	25	+31	+103	+202	100
$9\frac{3}{4}$ hours 13 sessions					
Model 3 Speed	40	+27	+ 51	+ 85	100
REI	40	+38	+101	+148	100
10 hours 10 sessions					

Statistical analysis of the individual results (average
results shown in Table IV.3) shows that the average gains
made in speed and REI for the pre- and post-course test
for all three models were highly significant. The t_o
values for speed and REI for the various models are
shown in Table IV.4.

Table IV.4. Table showing the t_o values for the
various models in the pre- and post-course
results.

		Number of Students	t_o	Significance Level
Speed	Model 1	35	4.86	< 0.1%
	Model 2	25	4.9	< 0.1%
	Model 3	40	5.0	< 0.1%
REI	Model 1	35	6.58	< 0.1%
	Model 2	25	3.9	< 0.1%
	Model 3	40	4.9	< 0.1%

The results on Table IV.3 indicate that little average
change was found when altering the duration of the courses
between 13 to 10 sessions. In fact more difference was
found between these and the longest course of 17 sessions.
The latter showed the smallest average percentage increase
in REI, although the average percentage speed gained was
the highest. This suggests that students acquire most of
their skills in the first 10 hours of the course. Beyond
that, it appears that the improvement in REI stagnates,
and is, in fact, likely to drop, as seen in Model One.
Thus, even though speed does increase with training time,
the drop in REI does not seem to warrant this practice. It
implies that beyond a certain speed, more comprehension is
lost at the expense of the former.

Decrease in motivation levels could have also been a major influence on the results obtained in Model One. This is possibly since Model One was the longest programme of the three. (17 sessions compared to 13 and 10 sessions). Thus, this suggests that the ideal programme is one completed in two weeks, (with a maximum of up to 2½ weeks).

iii) Behaviour

As no follow-up was conducted in any of the courses of the three models, this category of results does not apply.

iv) Students' Reaction
a) To the Course

A summary of the evaluation conducted after the course indicated that students had a fairly positive response to the programme. Tables IV.5 to IV.8 show the average responses from each of the three models, on the various aspects of the course.

Table IV.5. (overleaf) Table showing the average pre-
and post-course responses on the Attitude
Scale. (Appendix IV).

Using a seven-point scale, e.g. (1) Interesting
(7) Boring

Models	Adjectives Range	Pre	Post	Difference
1 2 3	Interesting - Boring	1.4 2.4 1.8	2.4 2.4 1.2	-1 0 +0.6
1 2 3	Dynamic - Mechanistic	3.0 3.0 2.6	3.8 2.6 3.0	-0.8 +0.4 -0.4
1 2 3	Attainable - Unattainable	2.6 2.2 2.2	2.8 3.0 1.2	-0.2 -0.8 +1.0
1 2 3	Relaxed - Tense	5.2 3.8 3.0	3.2 2.8 2.0	+2.0 +1.0 +1.0
1 2 3	Original - Conventional	2.8 3.0 2.2	2.6 2.8 2.2	+0.2 +0.2 0
1 2 3	Flexible - Rigid	3.0 2.4 3.0	2.6 2.2 2.4	+0.4 +0.2 +0.6
1 2 3	Intensive - Shallow	1.8 2.0 1.8	2.0 2.8 1.2	+0.2 -0.8 +0.6
1 2 3	Systematic - Haphazard	1.0 2.0 2.0	1.6 2.4 1.4	+0.6 -0.4 +0.6
1 2 3	Challenging - Routine	1.6 2.0 1.2	2.4 2.6 1.2	-0.8 -0.6 0
1 2 3	Informal - Formal	4.2 2.4 2.8	2.4 2.2 1.8	+1.8 +0.2 +1.0
1 2 3	Supporting - Hostile	1.6 1.6 2.0	2.4 2.8 1.6	-0.8 -1.2 +0.4
1 2 3	Efficient - Inefficient	1.8 1.6 1.2	1.8 3.2 1.2	0 -1.6 0

continued

Models	Adjectives Range	Pre	Post	Difference
1	Participative - Passive	1.6	2.2	-0.6
2		1.6	2.4	-0.8
3		1.0	1.4	-0.4
1	Ambitious - Unambitious	2.0	2.2	-0.2
2		2.2	2.8	-0.6
3		1.4	1.8	-0.4

```
n = Model 1    35
    Model 2    25
    Model 3    45
```

Table IV.6.   Table showing students' average responses to
             the Evaluation Form (Appendix VI).
             Question 1: My Reaction to the Course.
             Using a scale of (1) to (9) , (1) being
             Fully Rewarding (9) being Totally Unrewarding

	Average Response
Model One	2.2
Model Two	3.2
Model Three	2.4

Table IV.7. Table showing students' average responses
to the Evaluation Form. (Appendix VI).
Question 2 (i): My Reaction to Other
Aspects of the Course.
Using a seven point scale, e.g. (1) Fully
Satisfied (7) Totally dissatisfied.

Models	Aspects	Average Response
1		2.6
2	Induction	3.0
3		1.4
1		1.4
2	Course Structure	2.4
3		1.4
1		1.4
2	Controlled Reading Section	1.4
3		1.4
1		3.2
2	Assigned Reading Section	2.6
3		3.4
1		2.8
2	Flexible Reading Section	2.0
3		3.0
1		1.6
2	Flash-X Section	2.2
3		1.2
1		2.4
2	Pace of Course	3.0
3		1.4

continued

Models	Aspects	Average Response
1		2.6
2	Learner Controlled Aspect	2.4
3		2.2
1		3.4
2	Room Layout	1.4
3		3.4

```
n = Model 1    35
    Model 2    25
    Model 3    45
```

Table IV.8.   Table showing the students' average responses
             to the Evaluation Form. (Appendix VI).
             Question 2 (ii): Usefulness of Documents.

             Using a scale of (1) to (5), (1) being
             Very Useful, (5) being Not Useful at all.

Models	Subject	Average Response
1 2 3	Procedural Steps for Controlled Reading Section	1.8 2.2 2.4
1 2 3	Timetable Sheet for Course	1.0 1.8 1.6
1 2 3	Comment Sheet	1.6 2.4 1.8
1 2 3	Feedback Sheet	1.6 1.8 1.6
1 2 3	Vocabulary Preview	2.4 2.2 2.6
1 2 3	Students' list of addresses and telephone numbers	3.6 3.8 3.6
1 2 3	Equipment Checklist	2.6 3.4 4.4
1 2 3	Session Checklist	2.0 2.0 1.8
1 2 3	Projector Guide	2.6 3.2 3.6

      n = Model 1   35
          Model 2   25
          Model 3   45

Table IV.5 shows that the average differences between the pre- and post-course attitudes were -0.02, -0.3, 0.24 for Models 1, 2 and 3 respectively. This indicates that students' attitudes deteriorated on Models 1 and 2, albeit very slightly, while it improved on Model 3.

Table IV.6 indicates that, in general, all courses were felt to be rewarding in all models.

Table IV.7 shows that the aspect viewed most favourable in the programme was the Controlled Reading section (with all three models averaging 1.4 on the scale), while the aspect viewed least favourable was the Assigned Reading section (with all three models averaging 3.1 on the scale). The latter confirmed that insufficient emphasis was being placed on the exercises conducted outside the session.

Table IV.8 indicates that the range to which the various documents were being viewed in usefulness. A summary of the three models indicates that the Timetable Sheet was the most useful (1.5 on the scale), which the students' list of addresses and telephone numbers was felt to be least useful (3.7 on the scale). The latter may have been attributed to the low frequency of session-swapping.

b) To the Course Manager

A summary of the evaluations conducted on the Course
Manager at the end of the programme indicated that students
had a very positive reaction to them. Tables IV.9 and
IV.10 show the average responses to the different aspects
of course managing.

Table IV.9.   Table showing the students' average responses
             to the Evaluation Form. (Appendix VI).
             Question 3A : Effectiveness in terms of the
             three roles.

             Using a nine-point scale of effectiveness,
             i.e. (1) being Fully Effective, (9) being
             Completely Ineffective.

Models	Role	Average Response
1		1.2
2	Manager	2.2
3		1.6
1		2.0
2	Motivator	2.0
3		1.4
1		1.6
2	Resource Person	2.0
3		2.4

n = Model 1   35
    Model 2   25
    Model 3   40

Table IV.10. Table showing the students' average responses
              to the Evaluation Form (Appendix VI).
              Question 3B : How well the Course Manager
              conducted the Programme. Using a seven-
              point scale, e.g. (1) Committed, (7) Uncommitted.

Model	Adjectives Scale	Average Response
1 2 3	Committed - Uncommitted	1.2 2.0 1.6
1 2 3	Dynamic - Mechanistic	2.8 3.2 1.8
1 2 3	Relaxed - Tense	2.2 2.0 1.4
1 2 3	Flexible - Rigid	1.2 2.2 1.6
1 2 3	Open-minded - Opinionated	1.4 1.8 1.8
1 2 3	Helpful - Unhelpful	1.2 1.6 1.2
1 2 3	Decisive - Vague	1.8 2.2 1.8
1 2 3	Sound Humour - Humourless	2.0 2.4 2.4
1 2 3	Accessible - Aloof	1.6 2.2 1.4
1 2 3	Sincere - Insincere	1.2 1.6 1.4
1 2 3	Confident - Lacks confidence	1.4 2.0 1.4

continued

Model	Adjectives Scale	Average Response
1 2 3	Frank - Guarded	2.0 1.8 1.6
1 2 3	Tactful - Tactless	1.6 1.8 1.4
1 2 3	Patient - Impatient	1.4 1.8 1.2
1 2 3	Accepting - Rejecting	1.8 1.8 1.6
1 2 3	Formal - Informal	5.6 5.0 3.4
1 2 3	Enthusiastic - Unenthusiastic	1.6 2.4 1.4

n = Model 1 35, Model 2   25, Model 3, 40.

Table IV.9 points out the three roles a course manager plays in the programme. As a manager, he was responsible for the general administration of the programme. As a motivator he was responsible for reinforcing participants through various strategies on the programme. Finally, as a resource person, the course manager was responsible for instructing and guiding the student through the programme, based on his knowledge of reading and LCI.

From Table IV.9 thus it was shown that the course managers were viewed favourably in their effectiveness. These were three individuals who undertook the roles of course managers, almost correspondingly to the occurrence of the different models.

Table IV.10 showed again that the three course managers conducted the programmes very well. The experience of being students themselves, prior to becoming course managers served to make an impact on their effectiveness. Furthermore, an appreciation of the theoretical concepts underlying the programme added to their ability in dealing with students.

6.3.4.3. Discussion and Conclusions

This stage of the Effective Reading Programme showed the important fact that a majority of the skills which the average student acquired took place in the first 10 hours of the programme. Beyond that point, a continuing invest-ment on time, resulted in a diminishing return on compre-hension levels.

This programme also stressed the importance of the use of the REI as opposed to the result of speed only. As the latter was a partial aspect of the reading process, it was sometimes quite deceptive, as shown in the results of the first model. (Table IV.3).

Greater experience in conducting the programme resulted in more efficient and effective handling of the programme. This was shown in the students' reaction to the course and the course managers.

The Attitude Scale showed that, in general, students found the programme a positive experience. However, stricter discipline and monitoring was required in areas of Assigned and Flexible Reading. The Evaluation forms also suggested that some of the job-aids had become redundant in the programme. The Vocabulary Preview implemented for the first time in this programme revealed that most of the ethnic students did not require this job-aid, although it proved very useful to the foreign students.

In general, however, this stage of the Effective Reading Programme was a success, especially in the increased knowledge it added to the programme.

6.3.5. Stage 5-Finance Reading Programme

6.3.5.1. Programme Design
i) Objectives
Held towards the end of 1980, Stage 5 of the Effective Reading Programme's development consisted of a programme conducted at a national finance organisation. It involved middle and lower management executives, whose objective in the programme was to improve their reading speed by at least 40%, without impairing their existing levels of comprehension.

ii) Structure
The programme was comprised of six phases, Diagnosis, Induction, Development, Post-Course Test, Evaluation and Folow-Up. This is illustrated in Figure 7.
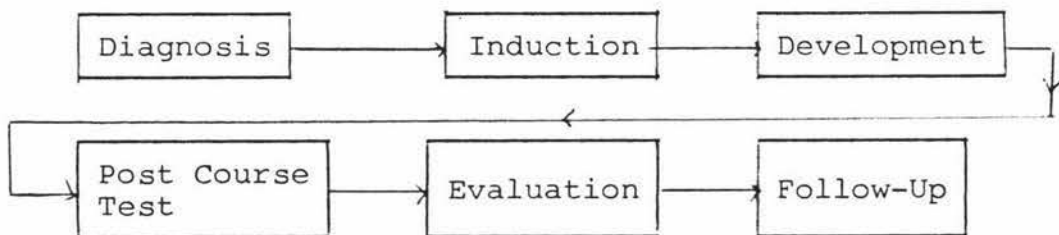
Figure 7. The Sequential Phases of the Finance Reading Programme.

Diagnosis
This comprised of the silent reading test issued to determine the students' existing reading skills in terms of speed and comprehension.

Induction

This involved the presentation of the Induction booklet and Programme Manual to students. The former contained information on the programme's objectives and benefits, while the latter explained the procedures and use of equipment on the course. A brief introduction of the reading concept was also included in the Induction Booklet.

This was followed by a Group induction, to clarify the programme's objectives, and to reduce the anxiety in students by answering doubts and queries about the programme. Since this was conducted in-house, the participants were found to be generally more open and relaxed which thus facilitated discussions.

At the end of the Induction session, two types of Attitude Scales were presented for students to complete. One was to determine the general feelings about the course (see Appendix IV), while the other was to determine the students' pre-course feelings about the reading effectiveness concept (Appendix VII).

Demonstration of equipment operation and session procedure was repeated when the students arrived for their first course session. Other aspects of the programme techniques were also explained, with the use of job-aids and check-lists. As the course manager was based in the same room as the course itself, queries were answered immediately, and students' correct actions were reinforced frequently.

The first session of students' programmes were also opportunities for the course manager to examine students' reading habits and mannerisms. This frequently identified the presence of poor reading habits, which went unnoticed in the initial diagnosis.[4]

Development

This phase comprised of ten, one hour sessions, which were completed in five days. Students thus attended two sessionns a day, while ensuring that four hours prevailed between any two sessions.

The four activities of Tachistoscopic training, Controlled Reading, Assigned Reading and Flexible Reading were used in this programme. The related material applied for each activity remained identical to that of the Revised University Programme. The time limit for Flash-X practice was five minutes at the start of every session, although this became optional as the student progressed.

The EDL - LK and MN Series of flimstrips were used in Controlled Reading although a minimum of 25 filmstrips were required for completion of the course. A comprehension level of 70% was applied as the criteria for speed increases, but the challenge of an 80% comprehension criteria was also encouraged. The Guided Slot was used from the start, but changed to the Open Slot once the speed of 450 words per minute was achieved. Stabilization was applied in the last quarter of the filmstrips viewed.

The Assigned Reading and Flexible Reading sections were conducted as homework, with Progress Charts used in the former, to measure the degree of transfer from the Controlled Reading section.

4. See Appendix IX : Question 5

Post-Course Test

This was issued to students on completion of the Development stage. Comparison of its results, to the Pre-Course one, determined the degree of improvement in reading efficiency.

Evaluation

This involved the administration of the two Attitude Scales presented in the Induction stage, as well as two Evaluation forms. Comparison of the pre- and post-course responses in the Attitude Scales, and an analysis of the Evaluation Forms indicated the impact of the programme on the students' feelings. The additional Evaluation Form presented was that of Students' Evaluation of the Effective Reading Programme. (Appendix VIII). It was issued to students to gain a more detailed insight into the efficiency and effectiveness of the programme.

A general discussion between course managers and students was also held to summarize their opinions of the Effective Reading Programme.

Follow-Up

This was conducted four months after the programme was completed. It consisted of a test similar to the pre- and post-course ones. Comparison of the results reflected the degree to which the reading skills had been retained by the students.

iii) Design

Similar to the previous stages of the Effective Reading Programme, the fundamentals of the LCI concept were applied to maximise students' learning on the course. Objectives were clearly set at the start of the course,

and participants were encouraged to work at their own pace. The job-aids included in the programme were similar to that of Stage 4 - Revised University Programme. Due to the continuing presence of the course manager in the course room, students took the opportunity to draw as much knowledge and information from her. Personalised reinforcement and counselling was also made possible through this arrangement. The result was a more open and warm atmosphere, which students thrived in.

6.3.5.2. Programme Results

i) Learning

A summary of the Controlled Reading sections indicated that students had an average initial speed of 259 wpm and an average final speed of 608 wpm. Table V.1. shows the average percentage change in Controlled Reading speed and REI of these students.

Table V.1. Table showing the average percentage change in speed and REI on the Controlled Reader.

	Number of Students	Lowest % Change	Average % Change	Highest % Change	% of Students Improved
Speed	7	+60	+143	+216	100
REI	7	+87	+213	+337	100

The results from Table V.1. indicate that the increases made on the Controlled Reader in terms of speed and REI are highly significant, with all participants encountering an increase in these areas.

iii) Results

A summary of the results on the Pre- and Post-Course tests
indicated an average pre-course speed of 293 wpm, while
the average post-course speed was 535 wpm. Table V.2
shows the average percentage change between the pre- and
post-course test in terms of speed and comprehension.

Table V.2.   Table showing the average percentage change
             in speed and REI between the pre- and post-
             course test.

	Number of Students	Lowest % Change	Average % Change	Highest % Change	% of Students Improved
Speed	7	+40	+ 86	+142	100
REI	7	+67	+125	+192	100

The t-test applied to paired comparison of individual pre-
and post-course speeds shows that the differences are sig-
nificant at the 0.1% level (t_0 .001, 6 = 5.208, t_0 = 5.94).
This means that the percentage change between pre- and post-
course speeds is a real improvement.

Similar results were obtained for the t-test applied to
paired comparison of pre- and post-course REI (t_0 = 5.75).

iii) Behaviour

An assessment of the follow-up study conducted on the
seven participants showed an average reading speed of 454
wpm.

Table V.3 shows the average percentage change in speed and REI between the post-course test and follow-up study conducted on the participants of the programme.

Table V.3.   Table showing the average percentage change in speed and REI between the post-course test and follow-up study.

	Number of Students	Lowest % Change	Average % Change	Highest % Change	% of Students Improved
Speed	7	-27	-15	+13	14
REI	7	-29	- 6	+26	29

The t-test applied to paired comparison of the individual post-course and follow-up speeds shows that the differences are significant at the 5.0% level. (t_o .05, 6 = 1.943, t_o = -2.55). This result indicates that there may have been a real drop between students' post-course and follow-up speeds. The same t-test applied to paired comparison of individual post-course and follow-up REI, shows that the differences are significant at the 10% level. (t_o .1, 6 = 1.44, t_o = -1.53). This result suggests that there is no real drop between the students' post-course and follow-up REI.

iv) Students' Reactions
a) To the Course
Reaction to the course was obtained from four documents, namely the general Attitude Scale (Appendix IV), Reading Effectiveness Attitude Scale (Appendix VII), general Evaluation Form (Appendix VI), and Student's Evaluation of the Effective Reading Programme (Appendix VIII).

Tables V.4 to V.11 show the average response of partici-
pants to the programme.

Table V.4.   Table showing the average pre- and post-course
             responses on the Attitude Scale. (Appendix IV)
             Using a seven point scale e.g. (1) Interesting
             (7) Boring.

Adjectives Scale	Pre	Post	Difference*
Interesting - Boring	2.2	1.7	+0.5
Dynamic - Mechanistic	4.0	2.8	+1.2
Attainable - Unattainable	1.9	2.2	-0.3
Relaxed - Tense	3.0	3.5	-0.5
Original - Conventional	2.7	2.5	+0.2
Flexible - Rigid	2.8	2.8	0
Intensive - Shallow	1.6	1.5	+0.1
Systematic - Haphazard	1.8	2.4	-0.6
Challenging - Routine	1.6	1.4	+0.2
Informal - Formal	2.1	2.0	+0.1
Supporting - Hostile	2.6	2.0	+0.6
Efficient - Inefficient	2.7	2.8	-0.1
Participative - Passive	2.0	2.4	-0.4
Ambitious - Unambitious	2.4	2.4	0

n = 7

*   The plus and minus signs indicate a positive and
    negative change in reactions respectively.

Table V.5.   Table showing the average pre- and post-course
             responses on the Reading Effectiveness Attitude
             Scale.   (Appendix VII).
             Using a seven point scale, e.g. (1) Important
             (7) Unimportant.

Adjectives Scale	Pre	Post	Difference*
Important - Unimportant	1.5	1.9	-0.4
Knowledgeable - Ignorant	3.2	1.2	+2.0
Interesting - Boring	2.2	1.5	+0.7
Versatile - Rigid	2.7	2.0	+0.7
Dynamic - Routine	3.5	3.0	+0.5
Challenging - Monotonous	2.0	1.25	+0.75
Complex - Simple	2.7	3.5	-0.8
Realistic - Unrealistic	2.5	1.7	+0.8
Useful - Useless	1.7	1.7	0
Integrated - Diverse	2.5	1.7	+0.8
Attainable - Unattainable	2.0	1.2	+0.8
Efficient - Inefficient	2.5	1.7	+0.8
Effective - Ineffective	2.7	1.2	+1.5

n = 7

* The plus and minus signs indicate a positive and
  negative change in reactions respectively.

Table V.6.　　Table showing students' average response
　　　　　　　to the Evaluation Form.　(Appendix VI).

　　　　　　　Question 1 : My reaction to the Course.

　　　　　　　Using a scale of (1) to (9),　(1) being
　　　　　　　Fully Rewarding, (9) being Totally
　　　　　　　Unrewarding.

　　　　　　　Number of students involved was 7.

　　　　　　　Average Response was 2.4.

Table V.7.　　Table showing students' average response
　　　　　　　to the Evaluation Form (Appendix VI).

　　　　　　　Question 2 (i) :　My reaction to other
　　　　　　　Aspects of the Course.

　　　　　　　Using a scale of (1) to (7),　(1) being
　　　　　　　Fully Satisfied (7) being Totally Dissat-
　　　　　　　isfied.

Aspects	Average Response
1. Induction	3.5
2. Course Programme	2.0
3. Controlled Reading Section	1.5
4. Assigned Reading Section	3.2
5. Flexible Reading Section	3.2
6. Flash-X Section	2.0
7. Pace of Course	4.2
8. Learner Controlled Aspect	2.0
9. Room Layout	3.6

n = 7

Table V.8.   Table showing students' average response
              to the Evaluation Form.   (Appendix VI).

              Question 2 (ii) : Usefulness of documents
              on the Course.

              Using a five-point scale, e.g. (1) Very
              Useful, (5) Not Useful at all.

Subject	Average Response
1. Procedural steps for Controlled Reading Section	2.6
2. Timetable Sheet	2.0
3. Comment Sheet	1.5
4. Feedback Sheet	1.5
5. Vocabulary Review	2.8
6. List of addresses and telephone numbers	3.8
7. Equipment Checklist	4.2
8. Session Checklist	1.5
9. Projector Guide	3.0

n = 7

Table V.9.   Table showing students' average response
to the Evaluation of the Effective Reading
Programme. (Appendix VIII). Course
Effectiveness Section.

Using a seven-point scale, e.g. (1) Irrel-
evant, (7) Very Relevant.

Question	Average Response
1. Relevance of objectives	4.67
2. Contribution to Self - develop- ment programmes	5.33
3. Programme's ability to increase reading effectiveness	5.67
4. Programme Design	4.67

n = 7

Table V.10.   Table showing students' average response to
the Evaluation of the Effective Reading
Programme. (Appendix VIII). Course
Efficiency Section.

Using a seven-point scale, e.g. (1) Very
Badly, (7) Very Well

Question	Average Response
1. Achievement of objectives	4.67
2. Suitability of techniques	5.67
3. Suitability of programme design	5.33
4. Usefulness of information in Pre-Course stage	4.67

n = 7

Table V.11.   Table showing students' average response to
the Evaluation of Effective Reading Pro-
gramme. (Appendix VIII). Concepts Know-
ledge Section.

Using a five-point scale, e.g. (-10) Too
Little, (+10) Too Much.

Question	Average Response
Knowledge about reading	+ 3.5
Knowledge about LCI	+ 2.5

Table V.4 indicates that students maintained a generally
positive attitude throughout the pre- and post-course
Attitude Scales. A positive change was also seen on more
of the attitudes at the end of the programme.

Table V.5 shows that highly significant improvements in
attitudes took place, regarding the concept of Reading
Effectiveness as a result of experiencing the programme.

Table V.6 shows that students felt that the programme was
rewarding to them.

Table V.7 indicates that some definite changes were
required in certain aspects of the programme. The most
unsatisfactory aspect was that of the pace of the course.
This was partly unavoidable since the organisation con-
cerned had requested for a one week programme. However,
it suggested the course was too tensed and haphazard,
as reflected by the Attitude Scale. (See Table V.4.)

Other points of dissatisfaction included the room layout, induction, assigned reading section and flexible reading section. However, the most satisfactory aspect was the Controlled Reading Section.

Table V.8 stressed the redundancy of the equipment check-list and the list of student addresses and telephone numbers. Apart from these, however, participants generally felt that the documents applied were useful to them.

Table V.9 indicates that after the course students felt positively about the programme's effectiveness.

Similarly, Table V.10 indicates that the programme was conducted very efficiently.

Finally, Table V.11 shows that the amount of knowledge imparted was significantly close to being just right, on the adequate side of the scale.

b) To the Course Manager

A summary of the evaluation conducted on the course manager at the end of the programme, indicated that students felt positively about this aspect of the programme. Tables V.12 and V.13 show students' average responses to the different aspects of the course manager's participation in the course.

Table V.12.   Table showing the average response to the
               Evaluation Form. (Appendix VI).

               Question 3A : Effectiveness in terms of
               the three roles.

               Using a nine-point scale, e.g. (1) Fully
               Effective, (9) Completely Ineffective.

Role	Average Response
a) Manager	2.3
b) Motivator	1.7
c) Resource person	2.3

n = 7

Table V.13.   Table showing the average response to the
              Evaluation Form. (Appendix VI).

              Question 3B : How well the course manager
              conducted the programme.

              Using a seven-point scale, e.g. (1) Committed
              (7) Uncommitted.

Adjectives Scale	Average Response
Committed - Uncommitted	1.2
Dynamic - Mechanistic	3.0
Relaxed - Tense	2.7
Flexible - Rigid	2.2
Open-minded - Opinionated	2.1
Helpful - Unhelpful	1.2
Decisive - Vague	2.5
Sound humour - Humourless	2.7
Accessible - Aloof	2.0
Sincere - Insincere	1.4
Confident - Lacks confidence	2.0
Frank - Guarded	2.1
Tactful - Tactless	1.4
Patient - Impatient	1.1
Accepting - Rejecting	1.2
Formal - Informal	4.8
Enthusiastic - Unenthusiastic	1.5

n = 7

Table V.12 shows that the course manager was very effective
in the three roles of manager, motivator and reinforcer.

Table V.13 shows that the course manager performed well in all aspects of conducting the course. The high score of 4.8 on the Formal - Informal aspect was a desirable one.

6.3.5.3. Discussion and Conclusions

As a programme, the Finance Reading course was a success. The results achieved in this programme were the highest up to this point of the Programme's development. Since no change was made to the programme design, it is the author's opinion that this was due to the in-house conditions under which the programme took place.

The familiar environment and the relaxed atmosphere enabled students to achieve high but realistic goals. Strong personal motivation levels were observed and this was another possible reason for the student's performance. Thus, these factors indicated the importance of the design of the programme.

Recommendations to the programme mainly involved a change in emphasis within the various activities and materials. Also while the course manager received positive responses from participants in the Evaluation Form, a greater degree of professionalism was required.

6.3.6. Stage 6 - Enterprise Reading Programme

6.3.6.1. Programme Design

i) Objectives

The major objectives of this programme were to improve participants' reading efficiency by increasing both speed and comprehension and to develop flexible reading skills of skimming and scanning. A guarantee of 40% improvement in the Reading Efficiency Index was offered as part of the programme's objectives.

As an adult reading improvement course, the minimum age of students was set at 16 years. A majority of the resultant target population was made, between the ages of 25 to 35 years. Many were from the commercial sector of society with academic qualifications ranging from secondary school to tertiary level.

ii) Structure

Six phases formed the structure of this programme. Figure 8 below illustrates their relationship and sequence.
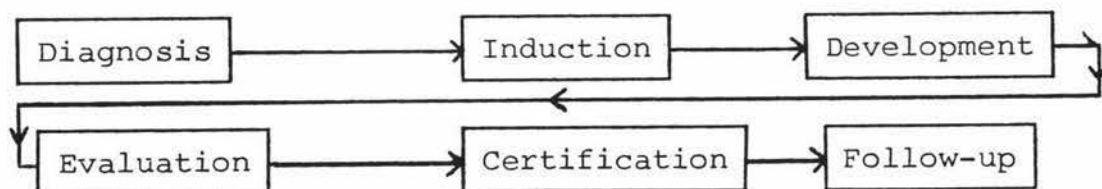
Figure 8. The sequential phases of the Enterprise Reading Programme.

Diagnosis

This involved a two part process to determine the participants' pre-course reading ability. The first part was a general pre-course rest, which determined the reader's speed and comprehension. The second part involved the

completion of a Personal Reading Habit Data Chart (Appendix
IX), which identified the positive and negative reading
mannerisms held by the reader. A brief interview was also
conducted, to determine the possibility of other training
problems. These related to areas of remedial reading or
poor language skills. Individuals having these and simil-
ar characteristics were screened out of the programme,
which ensured that the student population was being
capably catered for.

Induction

This was conducted in two stages. The first stage was when
accepted applicants were presented with a folder, contain-
ing the Induction Manual, a Flexible Reading booklet, a
Pre-Course Attitude Scale and Pre-Course Skimming and
Scanning Tests. The manual consisted of information on
the programme's objectives, structure and equipment oper-
ation. A section on goal-setting was included, so that
students could set a goal for their reading improvement.
This encouraged students to participate in their learning,
which formed the basis of the programme design. A Compet-
ency Check was included at the end of the Manual to test
the students' understanding of its contents.

The Flexible Reading Booklet was essentially an introduction
to the art of skimming and scanning. This comprised of
definitions and explanations of the procedures involved.
The tests which followed were used to determine the
students' existing ability in skimming and scanning.

Finally, the pre-course Attitude Scale provided an indic-
ation of the students' expectations before the start of
the programme.

The second stage of the Induction phase started with the
first of the ten sessions that students attended individ-
ually. During this session a re-introduction and explan-

ation of the programme's objectives, structure and design was made. Queries, anxieties and doubts were discussed and clarified.

A review of the goal set by the student was made to ensure that a realistic and attainable target was determined. Also by talking about it, greater commitment from the student was obtained towards the programme. A Learning Contract (Appendix X) was next discussed. This involved a document, aimed at clarifying the student's and course manager's responsibilities. The agreed-to goal was noted in this contract. Students were then directed to an acoustically padded cubicle which they could work in. A step-by-step teach and show demonstration of the course's activities was conducted, until the student became confident enough to carry out a session on his own. Job aids were referred to frequently, for better transfer of learning.

Development

This was another two-part phase involving Tachistoscopic Training, Controlled Reading and Flexible Reading on one hand, and Assigned Reading on the other.

Part One of the programme consisted of ten one hour sessions, during which time students practised the first three activities. The Flash-X was treated as a preliminary exercise, conducted for a maximum of three minutes. X-9 level cards for adults were used, and participants recorded their progress on set Record Sheets (Appendix XI).

Controlled Reading comprised of viewing a minimum of 25 filmstrips over ten sessions. The EDL Series LK, KL and MN were available, although participants usually started on the lower level series (LK or KL), moving onto the higher one (MN) when the first was completed. Depending

on the pace of the individual, the number of filmstrips
completed ranged between two to four per session. The
70% comprehension criteria was applied throughout the
programme, although some students were challenged to
meet a more difficult criteria if this benefited them
e.g. achieving 70% comprehension on two consecutive film-
strips, or an 80% comprehension in order to move up in
speed. The Guided Slot presentation style was applied
from the initial stages of the programme, until a speed
of 450 words per minute was obtained. The changeover to
the Open Slot presentation was also encouraged when a
remainder of three sessions was left without any possibility
of the participant achieving the speed of 450 words per
minute on the Controlled Reader. Stabilization was intro-
duced in the last quarter of the filmstrips viewed, thus
coinciding with the application of the Open Slot.

Flexible Reading was a more strongly emphasised activity
in this programme, especially where students identified a
greater need for these skills in the business world.
Skills trained were those of two types of skimming and
scanning. Thirty second interval beeps were used for the
skimming exercises, while stop watches were used for the
scanning sections. Special progress charts with plotted
graphs were provided for each type of selective reading
technique. These were obtained from the EDL - Skimming
and Scanning Workbook. The purpose of this was to enable
students to compare themselves against average reader's
progress. Completion of ten lessons was required by the
end of the programme, and it was carried out either before
or after the controlled reading activity.

Part Two of the programme involved the completion of 20 Assigned Reading exercises over the same period of session days. They were directed at maximising transfer of training by providing additional practice to the Controlled Reader, as well as exercises which were in normal print. Conducted outside session time itself, this activity required the same commitment from participants, in terms of speed and comprehension charts. The three sources from which these exercises were drawn, were Waldman "Rapid Reading Made Simple" (1958), DeLeeuw and DeLeeuw "Read Faster, Read Better (1965), and Spache and Berg "The Art of Efficient Reading" (1966).

Evaluation

This consisted of the administration of the post-course tests and the Evaluation and Attitude scale forms. The post-course tests were comprised of checks for reading, as well as skimming and scanning. The Evaluation form (see Appendix XII) was modified slightly, but the Attitude Scale was identical to those presented in the previous stages of the Effective Reading Programme. A comparison of the data from these documents provided quantitative and qualitative information, which indicated the degree of success of the programme.

Certification

This involved the presentation of a Certificate of Achievement which noted the student's improvement in the Reading Efficiency Index.

Follow-Up

This was conducted in the second and third month, after the programme's end. It comprised of two sets of exercises which checked the retention of students' skills, by providing exercises similar to the Assigned Reading section.

Each set contained 15 articles, which participants com-
pleted over three weeks. In this way, students became
aware of their existing ability which thus prompted a
more concerted effort for maintaining their skills.

iii) Design

As a professional programme, the Enterprise Reading course
developed and acquired more refined techniques and methods
of learner-controlled administration.

Firstly, commitment to the programme was instilled,
through the goal-setting section in the Induction Manual.
Next, the Learning Contract encouraged participants to
voice their preferences and areas of needs, which could
be concentrated on. As a result, programmes could be
designed to give their individual reading needs more emph-
asis. This direct involvement from the start, coupled
with constant encouragement for students to make their
own decisions, resulted in greater participation on the
course. The latter was especially noticeable in situat-
ions of resource variety and self-pacing. For instance,
a student could decide to leave the Vocabulary Preview
if he felt he knew the meanings of the words in a flim-
strip. The Flash-X was optional after the first week of
the programme. Or, the student could decide to view
four filmstrips instead of the recommended two, if he
felt that he could gain from it. Four filmstrips was,
however, the maximum allowed to avoid fatigue from
setting in.

As participants were required to attend the course at the
Programme centre, attendance was usually once a day, at
a time most convenient to them. Hours of office extended
from 7 a.m. to 8 p.m. daily, and five Combo-8's were
available at all times. Thus, students had sufficient
flexibility to choose a time to suit themselves and their
organisations.

Participants were also allowed to attend the programme
for more than the two weeks (10 sessions) allotted.
This occurred fairly frequently because of the character-
istic of the commercial-business population. In such
situations the course manager encouraged the reading of
additional Assigned Reading exercises, and promoted the
attendance of more than ten sessions.

Techniques of self-measurement identical to those of the
earlier editions of the Programme were used. In addition
a more organised and better documented method of progress
charting was introduced. This comprised of a booklet,
which held the record sheets and progress charts together.
It lessened the confusion with material in their files,
and thus helped save time. As the course manager was
present in the course-room most of the time, communication
became more direct and personalised. Improved versions
of Comment Sheets (Appendix XIII) were used, and the feed-
back on this proved to be an important reference for
instruction and reinforcement in the programme. Simple
real-life reinforcers, like coloured stars or stickers
painted with encouraging faces were also used, and these
were found to be very effective and popular with students.

6.3.6.2. Programme Results
i) Learning
Analysis of the Controlled Reading results showed that the
average initial reading speed was 179 words per minute,
while the average final speed was 506 words per minute.
Table VI.1 shows the average percentage change in students'
speed and REI on the Controlled Reader.

Table VI.1. Table showing the average percentage change in speed and REI on the Controlled Reader.

	Number of Students	Lowest % Change	Average % Change	Highest % Change	% of Students Improved
Speed	80	+52	+129	+330	100
REI	80	-58	+143	+650	95

Statistical analysis of the individual results (average results shown in Table VI.1) show that the average gains in speed and REI for the student on the Controlled Reader are highly significant, (t_0 = 12.2 and 9.7 for speed and REI respectively, t_0 .001, 79 = 3.18), with 100% of students improving in speed and 95% of students improving in REI.

ii) Results

The average pre-course speed of the students in this programme was 200 wpm while the average post-course speed was 350 wpm. Table VI.2 shows the average percentage change in students' speeds and REI on the pre- and post-course tests.

Table VI.2. Table showing the average percentage change of speed and REI on the pre- and post-course tests.

	Number of Students	Lowest % Change	Average % Change	Highest % Change	% of Students Improved
Speed	80	0	+ 76	+310	98
REI	80	0	+142	+477	98

The t-test applied to paired comparison of individual pre- and post-course speeds shows that the differences are significant at the 0.1% level. (t_0 .001, 79 = 3.18, t_0 = 13.1). This means that the percentage change between pre- and post-course speeds is a real improvement.

Similar results were obtained for the t-test applied to paired comparison of pre- and post-course REI. (t_0 = 8.9).

The same t-test applied to paired comparison of pre- and post-course REI, taking into consideration a 40% guarantee in improvement shows that the differences are still significant at the 0.1% level. (t_0 = 4.5). This suggests that the programme confidently surpassed its guarantee of 40%. Of the students so far trained, only 3% have not met this guarantee.

Since Flexible Reading was more strongly emphasized in this programme, results from the pre- and post-course test on skimming and scanning are available. The average initial speed on skimming and scanning was 412 and 489 words per minute respectively. The average final speed on skimming and scanning was 559 and 648 words per minute respectively.

Table VI.3 shows the average percentage change in speed and REI on the pre- and post-course skimming and scanning tests.

Table VI.3. Table showing average percentage change in
speed and REI on the pre- and post-course
skimming and scanning tests.

		Number of Students	Lowest % Change	Average % Change	Highest % Change	% of Students Improved
Speed	Skim	80	−52	+ 77	+432	68
	Scan	80	−24	+113	+518	73
REI	Skim	80	−60	+ 66	+239	72
	Scan	80	−69	+107	+518	74

Statistical analysis of the individual results (average
results shown in Table VI.3) shows that the average gains
in speed and REI on skimming are significant ($t_o = 3.09$,
$t_o = 2.92$, for speed and REI respectively, t_0 .01, 79
= 2.39). However, the same analysis conducted on the
individual results shows that the average gains in speed
and REI on scanning are not significant at the 1.0% level.
($t_o = 1.85$, $t_o = 1.57$ for speed and REI respectively,
t_o .01, 79 = 1.671).

iii) Behaviour

An assessment of the follow-up programme results obtained
from eight students, showed an average reading speed of
515 wpm. Table VI.4 shows the percentage change in speed
and REI between the post-course test and follow-up study.

Table VI.4.   Table showing percentage change in speed
and REI between the post-course test and
follow-up programme results.

	Number of Students	Lowest % Change	Average % Change	Highest % Change	% of Students Improved
Speed	8	-22	+8.6	+29	63
REI	8	+ 8	+33	+72	100

The t-test applied to paired comparison of individual post-course and follow-up speeds shows that the differences are significant at the 10% level. (t_o .10, 7 = 1.415, t_o = 1.42). This suggests that the +8.6% average change is not a real improvement.

The same t-test applied to paired comparison of individual post-course and follow-up REI shows that the differences are significant at the 1.0% level (t_o .01, 7 = 2.998, t_o = 4.64). This suggests that the students did not merely retain, but improved their REI, after the completion of the Effective Reading Programme.

iv) Students' Reaction
a) To the Course
A summary of the course evaluation conducted at the end of the programme indicates a very positive reaction from the students.   Tables VI.5 to VI.10 show the average responses of students to the programme.

Table VI.5. Table showing the average pre- and post-course
responses on the Attitude Scale (Appendix IV).

Using a seven-point scale, e.g. (1) Interesting
(7) Boring.

Adjectives	Pre	Post	Difference*
Interesting - Boring	1.55	2.0	-0.45
Dynamic - Mechanistic	3.5	2.85	+0.65
Attainable - Unattainable	1.65	1.5	+0.15
Relaxed - Tense	2.35	2.1	+0.25
Original - Conventional	2.4	2.3	+0.1
Flexible - Rigid	1.9	1.45	+0.45
Intensive - Shallow	1.9	1.5	+0.4
Systematic - Haphazard	1.3	1.45	-0.15
Challenging - Routine	1.5	1.4	+0.1
Informal - Formal	3.1	1.75	+1.35
Supporting - Hostile	1.65	1.4	+0.25
Efficient - Inefficient	1.65	1.45	+0.2
Participative - Passive	1.55	1.45	+0.1
Ambitious - Unambitious	1.75	2.0	-0.25

n = 80

*The plus and minus signs indicate a positive and negative
change in reactions respectively.

Table VI.6. Table showing students' average response to
the Evaluation Form (Appendix XII).

Question 1 : My Reaction to the Course

Using a scale of (1) to (9), where (1) is
Fully Rewarding (9) is Totally Unrewarding

Average Response was 2 - Almost fully rewarding

n = 80

Table VI.7.   Table showing students' average responses
to the Evaluation Form (Appendix XII.)

Question 2 (i) : My Reaction to Other
Aspects of the Course.

Using a seven-point scale, e.g. (1) Fully
Satisfied, (7) Totally Dissatisfied.

Aspects	Average Response
1. Induction	1.7
2. Course Structure	1.5
3. Controlled Reading Section	1.5
4. Assigned Reading Section	2.2
5. Flexible Reading Section	2.2
6. Flash-X Section	2.5
7. Pace of Course	2.1
8. Learner Controlled Aspect	1.5
9. Room Layout	1.5
10. Timing Cassette	1.4

n = 80

Table VI.8.   Table showing students' average responses
to the Evaluation Form (Appendix XII).

Question 2 (ii) - Usefulness of Documents.

Using a five-point scale, e.g. (1) Very
Useful, (5) Not Useful at all.

Subject	Average Response
1. Procedural steps for Controlled Reading Section	1.55
2. Timetable sheet for Course	1.95
3. Comment and Feedback Sheet	1.25
4. Vocabulary Preview	1.8
5. Projector Guide	1.35

n = 80

Table VI.5 shows that the students improved their attitudes
about the course after experiencing it. The average diff-
erence between the pre- and post-course reactions was
+0.23.

Table VI.6 indicates that students felt very positively
about how rewarding the programme was at the end of it.

Table VI.7 indicates that all aspects of the course were
viewed very positively by the students. The average
degree of satisfaction, taking all ten aspects into consid-
eration, shows a score of 1.7 on the scale.

Table VI.8 indicates that all documents on the course were
viewed fairly positively by the students. The average
response taking all documents into consideration was 1.66
on the scale.

b) To the Course Manager

A summary of the evaluation conducted on the Course Manager at the end of the programme, indicates a very positive reaction from the students. Tables VI.9 and VI.10 show the average responses to the different aspects.

Table VI.9.   Table showing students' average responses to the Evaluation Form (Appendix XII).

Question 3A : Effectiveness in terms of the three roles.

Using a nine-point scale of effectiveness, e.g. (1) being Fully Effective, (9) being Completely Ineffective

Role	Average Response
a) Administrator	1.35
b) Motivator	1.16
c) Resource person	1.5

n = 80

Table VI.10. Table showing the students' average responses
to the Evaluation Form (Appendix XII).

Question 3B : How well the Course Manager
conducted the programme.

Using a seven-point scale, e.g. (1) Committed
(7) Uncommitted.

Adjectives Scale	Average Response
Committed - Uncommitted	1.3
Clear - Vague	1.5
Relaxed - Tense	1.35
Flexible - Rigid	1.4
Open-minded - Opinionated	1.35
Helpful - Unhelpful	1.1
Decisive - Indecisive	1.45
Sincere - Insincere	1.25
Confident - Lacks confidence	1.25
Frank - Guarded	1.55
Tactful - Tactless	1.25
Patient - Impatient	1.15
Accepting - Rejecting	1.12
Informal - Formal	1.3
Enthusiastic - Unenthusiastic	1.1

n = 80

Table VI.9 indicated that the course manager performed the
three roles of administrator, motivator and resource per-
son extremely well. The average reaction to the course
manager, taking all aspects into consideration, shows a
score of 1.33.

Table VI.10 indicates that the course manager conducted the course very well. The average response, taking all features into consideration, shows a score of 1.3 on the scale.

6.3.6.3. Discussion and Conclusion

The results of this Enterprise Reading Programme clearly indicate that the objectives of the Programme's development have been met. This was to improve the reading efficiency and effectiveness of students in New Zealand. The percentage improvement gained in reading REI was the highest ever achieved (see Table VI.2) and its permanence was shown in the follow-up results (see Table VI.4). This was further reinforced by the fact that the 40% guarantee was surpassed by a majority of the students.

However, one area in need of more research appears to be the Flexible Reading section, which achieved only minor improvement in skimming and scanning.

Responses from participants also indicated that the Effective Reading Programme had by this stage achieved the professionalism it desired, in terms of the course itself (see Tables VI.5 to VI.8) and the course manager (see Tables VI.9 and VI.10).

Therefore, it may be concluded that the Effective Reading Programme did successfully achieve its objective after 16 years of development and evaluation.

6.3.7. Conclusion

Using the Evaluation Model developed in Chapter 5, the Effective Reading Programme was assessed under three major categories. The first of these, Theoretical Constructs, was presented only once since it formed the knowledge foundation for all the programmes. The six stages of the programme's development were next evaluated under Programme Design and Programme Results. This indicated the changes which took place in the programme and the results each achieved. A summary of the six stages, pre- and post-course results is presented in Table VI.11.

Table VI.11. Table showing the average percentage change in speed and REI on the pre- and post-course tests of its six stages.

Average % Change

Stages	1	2	3	4*	5	6
Speed	+64	+96	+57	+61*	+86	+76
REI	-	-	+65	+98*	+125	+142

*Combination of Models, 1, 2 and 3.

Table VI.11 suggests that the programme did improve as it developed through the stages. This was substantiated by corresponding results from the Controlled Reader sections and eventually, the follow-up studies. Students' reactions also indicated a general positiveness throughout the courses, and this was markedly improved in the final stage of the programme's development.

Therefore it may be concluded that the Effective Reading Programme did successfully evolve and develop to a professional programme, to meet the characteristics of the New Zealand population.

CHAPTER SEVEN

IMPLICATIONS AND RECOMMENDATIONS

7.1. Implications

Specific Implications.

a)   Note-taking, editing, report-writing, vocabulary building, comprehension development, speaking or listening, are learnable skills. The Effective Reading Programme may be used as a model for developing such ; programmes.

b) Through the use of Learner Controlled instruction, as the design of the Programme, it was found that many participants were successful in meeting and surpassing their own goals. In addition, the experience was found to be very refreshing, satisfying and confidence-building. This implies that other courses may be conducted under the same approach, to gain similar benefits.

Wider Implications

a) With the increased competition and setting of higher standards in educational institutions, the reading ability has become a fundamental skill required throughout the different aspects of it. Improved reading habits and skills can only facilitate the enhancement of one's performance in this area.

7.2. Recommendations for Further Investigation

a) Through the implementation of the programmes, it was found that while older students did not always improve as much in speed as the younger ones, they tended to maintain a high improvement in comprehension over the latter. Thus an investigation correlating the emotional maturity with the increase in comprehension levels is recommended.

Other aspects which should be studied, include age, sex, race, intelligence, education, occupation, etc.

b) Variations in the length of the Reading Programme indicated that most of the skills were acquired in a short period of time. Beyond this point of optimum learning (two weeks in this study), a situation of negative and diminishing returns was observed. This interesting phenomena may apply to other skills oriented courses, which thus suggests the need for investigations into this area of time.

CONTROLLED READING PROGRESS CHART

Session No.

Date

Selection No.

Dial setting (lines per minute)	Rate (words per minute)
130	910
125	875
120	840
115	805
110	770
105	735
100	700
95	665
90	630
85	595
80	560
75	525
70	490
65	455
60	420
55	385
50	350
45	315
40	280
35	245
30	210
25	175
20	140
15	105

Comprehension
100 90 80 70 60 50 40 30 20 10 0

LOW

Index

Source : Controlled Reading Study Guide   MN - EDL
Taylor et al (1963)

APPENDIX II.

EVALUATION FORM

The aim of this effective reading course was to increase your reading rate, while maintaining a satisfactory level of comprehension.

We are interested in your evaluation of the course. Evaluate each aspect of the course in terms of your degree of satisfaction.

1. Very dissatisfied
2. Dissatisfied
3. Neutral
4. Satisfied
5. Very satisfied

1. Your orientation to the Course   (   )

2. The degree to which the course objectives
   was specified   (   )

3. How well the course objectives were met   (   )

4. The standard set for the course   (   )

5. The general administration of the course   (   )

6. The effectiveness of the course managers   (   )

7. The pace set for the course   (   )

8. How well the course provided skills needed to
   improve your reading   (   )

9. The course as a whole   (   )

Some suggestions that may help to improve the course are:-

_____

_____

_____

_____

_____

APPENDIX III a)

<u>STUDENT'S IN-COURSE COMMENT SHEET</u>

NAME _____   DATE _____

1. Controlled Reading
   Film Nos. just completed _____

   Comments:
   I felt _____

   _____

   _____

   _____

2. Assigned Reading
   Reading Units just completed _____

   Comments:
   I felt _____

   _____

   _____

   _____

APPENDIX III b)

COURSE MANAGER'S FEEDBACK SHEET

Date	Session No.	Comments	Course Manager

ATTITUDE SCALE

Please use the adjectives below to describe your attitude
towards the Effective Reading Programme.

If the adjective on the left indicates your feelings,
circle (1). If the adjective on the right is correct,
circle (7) or select intermediate numbers.


```
                 1    2    3    4    5    6    7
Interesting     *....*....*....*....*....*....*   Boring
Dynamic         *....*....*....*....*....*....*   Mechanistic
Attainable      *....*....*....*....*....*....*   Unattainable
Relaxed         *....*....*....*....*....*....*   Tense
Original        *....*....*....*....*....*....*   Conventional
Flexible        *....*....*....*....*....*....*   Rigid
Intensive       *....*....*....*....*....*....*   Shallow
Systematic      *....*....*....*....*....*....*   Haphazard
Challenging     *....*....*....*....*....*....*   Routine
Informal        *....*....*....*....*....*....*   Formal
Supporting      *....*....*....*....*....*....*   Hostile
Efficient       *....*....*....*....*....*....*   Inefficient
Participative   *....*....*....*....*....*....*   Passive
Ambitious       *....*....*....*....*....*....*   Unambitious
```

EFFECTIVE READING COURSE

STUDENT'S COMMENTS   Date _____ Session No. _____

Flash-X (if applicable) I felt _____

_____

_____

Controlled Reading
   Filmstrip No.   I felt _____

_____

_____

   Filmstrip No.   I felt _____

_____

_____

   Filmstrip No.   I felt _____

_____

_____

Other comments on Session _____

_____

Other comments on Session _____

_____

COURSE MANAGER'S FEEDBACK

APPENDIX VI.

<u>EVALUATION FORM</u>

NAME _____   COURSE No. _____

      Your evaluation of the course can aid us in
seeing how to improve it. You are asked to
make a judgement on each question, and after
each question your own comments are also
invited. These comments help us to under-
stand your thinking.

1. <u>MY REACTION TO THE COURSE</u>

(Circle the number best describing your reaction)

I found the learning experience:

      1. Fully Rewarding

      2. Almost fully Rewarding

      3. Quite Rewarding

      4. Somewhat Rewarding

      5. Neither Rewarding not Unrewarding

      6. Somewhat Unrewarding

      7. Quite Unrewarding

      8. Almost fully Unrewarding

      9. Totally Unrewarding

<u>COMMENTS</u>

_____

_____

_____

_____

_____

2. MY REACTION TO OTHER ASPECTS OF THE COURSE

(i) Please mark in the appropriate box to the right of each item whichever best describes your reaction.

	Fully Satisfied	Somewhat Satisfied	Quite Satisfied	Neutral	Quite Dissatisfied	Somewhat Dissatisfied	Totally Dissatisfied
1. Induction							
2. Course Programme							
3. Controlled Reading Section							
4. Assigned Reading Section							
5. Flexible Reading Section							
6. Flash-X Section							
7. Pace of Course							
8. Learner Controlled Aspect							
9. Room Layout							

COMMENTS

_____

_____

_____

_____

_____

(ii) How useful did you think the following documents
were to the Course?

Please circle the point that best describes your reaction.

	Very Useful				Not Useful at all
	*	*	*	*	*
1. Procedural steps for Controlled Reading Section.	*	*	*	*	*
2. Timetable sheet for Course	*	*	*	*	*
3. Comment Sheet	*	*	*	*	*
4. Feedback Sheet	*	*	*	*	*
5. Vocabulary Preview	*	*	*	*	*
6. Student list of addresses and telephone numbers	*	*	*	*	*
7. Equipment Checklist	*	*	*	*	*
8. Sessions Checklist	*	*	*	*	*
9. Projector Guide	*	*	*	*	*

COMMENTS

_____

_____

_____

_____

_____

3. MY REACTION TO THE COURSE MANAGER

Course Managers constantly search for ways to improve
their effectiveness. Your critique can enable them to
strengthen the efforts.

A. In terms of the following roles held by the
Course Manager:-

    (a) Manager
    (b) Motivator
    (c) Resource Person

I felt the Course Manager was:-

Rate each by placing (a), (b), (c) against your rating
below:-

    1. Fully Effective
    2. Almost fully effective
    3. Quite effective
    4. Somewhat effective
    5. Neither effective nor ineffective
    6. Somewhat ineffective
    7. Quite ineffective
    8. Almost completely ineffective
    9. Completely ineffective

COMMENTS

_____

_____

_____

_____

_____

B. Circle the appropriate point between the adjectives
that best describe how the Manager conducted the Course.

```
              1    2    3    4    5    6    7
Committed     *....*....*....*....*....*....*  Uncommitted
Dynamic       *....*....*....*....*....*....*  Mechanistic
Relaxed       *....*....*....*....*....*....*  Tense
Flexible      *....*....*....*....*....*....*  Rigid
Open-minded   *....*....*....*....*....*....*  Opinionated
Helpful       *....*....*....*....*....*....*  Unhelpful
Decisive      *....*....*....*....*....*....*  Vague
Sound humour  *....*....*....*....*....*....*  Humourless
Accessible    *....*....*....*....*....*....*  Aloof
Sincere       *....*....*....*....*....*....*  Insincere
Confident     *....*....*....*....*....*....*  Lacks confidence
Frank         *....*....*....*....*....*....*  Guarded
Tactful       *....*....*....*....*....*....*  Tactless
Patient       *....*....*....*....*....*....*  Impatient
Accepting     *....*....*....*....*....*....*  Rejecting
Formal        *....*....*....*....*....*....*  Informal
Enthusiastic  *....*....*....*....*....*....*  Unenthusiastic
```

Please make any other comments or suggestions, so that
future Courses can be improved.

_____

_____

_____

_____

_____

READING EFFECTIVENESS ATTITUDE
SCALE

Please rate your current feelings about reading effective-
ness, on the scale below.

	1	2	3	4	5	6	7	
Important	*....*....*....*....*....*....*	Unimportant
Knowledgeable	*....*....*....*....*....*....*	Ignorant
Interesting	*....*....*....*....*....*....*	Boring
Versatile	*....*....*....*....*....*....*	Rigid
Dynamic	*....*....*....*....*....*....*	Routine
Challenging	*....*....*....*....*....*....*	Monotonous
Complex	*....*....*....*....*....*....*	Simple
Realistic	*....*....*....*....*....*....*	Unrealistic
Useful	*....*....*....*....*....*....*	Useless
Integrated	*....*....*....*....*....*....*	Diverse
Attainable	*....*....*....*....*....*....*	Unattainable
Efficient	*....*....*....*....*....*....*	Inefficient
Effective	*....*....*....*....*....*....*	Ineffective

APPENDIX VIII.

<u>STUDENT'S EVALUATION OF THE</u>

<u>EFFECTIVE READING PROGRAMME</u>

The objectives of the Effective Reading Programme are two-fold:

1. Increase speed (wpm), while maintaining, if not increasing, comprehension.

2. Increase reading flexibility.

On the basis of these objectives, please evaluate the following aspects of the programme on the scales below.

<u>Course Effectiveness</u>

1. How relevant are the objectives of this programme to your department?

    1   2   3   4   5   6   7

Relevant   Very
                                  Relevant

2. How much could this programme contribute to the objectives of a Self Development Programme?

    1   2   3   4   5   6   7

Very   Very
Little   Much

3. How would you rate the programme's ability to increase reading effectiveness?

    1   2   3   4   5   6   7

Very   Very
Low   High

4. In terms of the state of the art of training, how would you rate the programme's design?

1	2	3	4	5	6	7

Very
Low

Very
High

Course Efficiency

1. How well did the programme achieve its objectives in the time available?

1	2	3	4	5	6	7

Very
Badly

Very
Well

2. How suitable were the techniques used in the programme, (e.g. Flash-X, Controlled Reading, Assigned Reading, Flexible Reading)?

1	2	3	4	5	6	7

Not
Suitable
at all

Very
Suitable

3. How suitable was the design used in the programme (individualization, written comments and feedback etc.)?

1	2	3	4	5	6	7

Not
Suitable
at all

Very
Suitable

4. How useful was the information in the Pre-Course stage (e.g. Induction Booklet, Programme Manual) for the course as a whole?

1	2	3	4	5	6	7

Not
Very
Useful

Very
Useful

5. How would you rate the amount of knowledge this programme provides about reading?

-10	-5	0	+5	+10
Too Little		Just Right		Too Much

6. How would you rate the amount of knowledge this programme provides about LCI.

-10	-5	0	+5	+10
Too Little		Just Right		Too Much

APPENDIX IX.

PERSONAL READING HABITS

DATA CHART

Please complete the following questions. This information,
in conjunction with the Diagnostic Test, will determine
your placement on the course.

1. How would you describe your present reading ability?

    Poor ☐   Fair ☐   Good ☐

    If dissatisfied with present ability, specify reasons

    _____

    _____

    _____

2. Do you enjoy reading?   Yes/No

3. What is the language spoken in your childhood
   home _____

4. If English is a second language, can you still
   read, write and speak your first language?   Yes/No

5. Do you have any of these mannerisms while reading?

    Saying words aloud   Yes/No
    Moving lips slightly   Yes/No
    Following words with finger or pencil   Yes/No
    Nail Biting   Yes/No
    Teeth grinding   Yes/No
    Hands constantly to face   Yes/No
    Other _____

6. What kind of material do you normally read?

    _____

    _____

7. Why do you read?

    Information
    Excitement
    Relaxation
    Identification with characters
    Other _____

8. Do your reading habits change depending on the type
   of book you are reading?   Yes/No

9. Have you had any eye trouble?   Yes/No

    Describe _____

    _____

LEARNING CONTRACT

(Between the Participant and Manager)

The purpose of this contract is to clarify the expectations each party has of the other, in relation to the programme's objective.

This contract covers three aspects:-

(1) The student's performance goals

(2) The responsibilities of a course participant

(3) The responsibilities of a course manager

1.   GOAL REVIEW

The goals that have been agreed upon for the course participant are to:-

(1) increase his/her reading speed to _____ wpm with a comprehension level of _____ +%. This is an increase of _____% in the Reading Efficiency Index.

(2) develop his/her skimming and scanning skills.

2.   RESPONSIBILITIES OF A STUDENT

As a learner determines his/her own progress, he/she must accept the responsibility to:-

(1) Attend all 10 sessions, arriving at least five minutes early.

(2) Spend at least half an hour per day on extra reading.

(3) Complete a minimum of 25 filmstrips on the Combo-8, 10 Flexible reading lessons and 20 Assigned reading exercises.

(4) Complete a daily comment sheet.

(5) Complete two follow-up courses, in the two consecutive months following the conclusion of the programme.

3. RESPONSIBILITIES OF A COURSE MANAGER

As the course manager is trained to provide the participant with certain skills, it is his/her responsibility to:-

(1) provide daily feedback on the participant's performance.

(2) guide the participant with various strategies to help the participant gain maximum benefit from the programme.

(3) be available for a meeting whenever there is a need to discuss the participant's progress.

(4) ensure that the required resources are available when the participant needs them.

(5) provide conditions conducive to his/her strong motivation.

This Contract has been discussed and is fully understood and agreed to by:-

_____   _____
Course Participant   Course Manager

Date _____

FLASH - X RECORD SHEET

FLASH - X CARD NUMBER _____

	Score		Score
1	11		
2	12		
3	12		
4	14		
5	15		
6	16		
7	17		
8	18		
9	19		
10	20		

APPENDIX XII

EVALUATION FORM

NAME _____ COURSE DATED _____ TO _____

Your evaluation of the programme can help us
to improve it. Please make a judgement on
each question and after each question your
own comments are also invited. These
comments will help us understand your
thinking.

(Circle the number best describing your reaction).

1. MY REACTION TO THE COURSE

I found the learning experience:-

1. Fully rewarding
2. Almost fully rewarding
3. Quite rewarding
4. Somewhat rewarding
5. Neither rewarding nor unrewarding
6. Somewhat unrewarding
7. Quite unrewarding
8. Almost totally unrewarding
9. Totally unrewarding

COMMENTS

_____

_____

_____

_____

_____

2. MY REACTION TO OTHER ASPECTS OF THE COURSE

(i) Please mark the appropriate box which best describes your reaction about the following items.

	Fully Satisfied	Quite Satisfied	Somewhat Satisfied	Neutral	Somewhat Dissatisfied	Quite Dissatisfied	Totally Dissatisfied
1. Induction							
2. Course Structure							
3. Controlled Reading Section							
4. Assigned Reading Section							
5. Flexible Reading Section							
6. Flash-X Section							
7. Pace of Course							
8. Learner Controlled Aspect							
9. Room Layout							
10. Timing Cassettes							

COMMENTS

_____

_____

_____

_____

(ii) How useful did you think the following documents were to the Course?

Please circle the point that best describes your reaction.

	Very Useful	1 *	2 *	3 *	4 *	5 *	Not Useful at all
1. Procedural steps for Controlled Reading Section		*	*	*	*	*	
2. Timetable Sheet for Course		*	*	*	*	*	
3. Comment and Feedback Sheet		*	*	*	*	*	
4. Vocabulary Preview		*	*	*	*	*	
5. Projector Guide		*	*	*	*	*	

COMMENTS

_____

_____

_____

_____

_____

3. MY REACTION TO THE COURSE MANAGER

Course Managers constantly search for ways to improve their effectiveness. Your critique can enable them to strengthen the efforts.

A. In terms of the following roles held by the Course Manager -

(a) Administrator
(b) Motivator
(c) Resource Person

I felt the Course Manager was:

Rate each role by placing the corresponding (a), (b) (c) against your rating below:-

1. Fully Effective
2. Almost fully effective
3. Quite effective
4. Somewhat effective
5. Neither effective nor ineffective
6. Somewhat ineffective
7. Quite ineffective
8. Almost completely ineffective
9. Completely ineffective

COMMENTS

_____

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B. Circle the appropriate point between the adjectives
that best describes how the Manager conducted the Course.


```
                1    2    3    4    5    6    7

Committed      *....*....*....*....*....*.....*  Uncommitted
Clear          *....*....*....*....*....*.....*  Vague
Relaxed        *....*....*....*....*....*.....*  Tense
Flexible       *....*....*....*....*....*.....*  Rigid
Open-minded    *....*....*....*....*....*.....*  Opinionated
Helpful        *....*....*....*....*....*.....*  Unhelpful
Decisive       *....*....*....*....*....*.....*  Indecisive
Sincere        *....*....*....*....*....*.....*  Insincere
Confident      *....*....*....*....*....*.....*  Lacks confidence
Frank          *....*....*....*....*....*.....*  Guarded
Tactful        *....*....*....*....*....*.....*  Tactless
Patient        *....*....*....*....*....*.....*  Impatient
Accepting      *....*....*....*....*....*.....*  Rejecting
Informal       *....*....*....*....*....*.....*  Formal
Enthusiastic   *....*....*....*....*....*.....*  Unenthusiastic
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Please make any other comments or suggestions, so that
future Effective Reading Programmes can be improved.

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COMMENT SHEET

Date _____ Session No. _____

What were your reactions to the different training activities today?

(1) Flash-X Comments _____

_____

(2) Controlled Reading. How did you feel about today's session in terms of:-

    (a) Interest _____

    _____

    (b) Difficulty _____

    _____

    (c) Your Progress _____

    _____

(3) Flexible Reading. How did you feel about today's session in terms of:-

    (a) Interest _____

    _____

    (b) Difficulty _____

    _____

    (c) Your Progress _____

    _____

(4) Assigned Reading. How did you feel in terms of:-

    (a) Interest _____

    _____

    (b) Difficulty _____

    _____

    (c) _____

    _____

(5) Free Reading.   What have you read since the last
session?

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GENERAL COMMENTS:

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APPENDIX XIV.   160 61

Reading Efficiency Check #1   A Sample of Pre and Post-Course Test.

IS EXPERIENCE THE BEST TEACHER?

by Leonard A. Stevens
Adapted from *Collier's*, June 24, 1955.

Before starting, record the time in minutes and seconds.

From one generation to the next, with endless repetition, almost everyone has been taught that experience is the best teacher. But there have always been skeptics among psychologists and other specialists in human behavior — and now this skepticism is spreading to industry, where the adage has long been especially honored. Many industrialists are beginning to wonder whether the man with the most experience is really the best man to hire, the best man to promote.

The value of experience itself is not questioned. Rather, the skeptics ask whether people actually do draw the best from their past to learn in the present. Experience is not good, they say, unless it's sifted and evaluated correctly. The question is particularly pertinent in a changing world, where today's experience often is obsolete tomorrow. Industry's interest in the question is deeply practical; failure to weigh experience correctly can lead to lost production, poor labor relations, and lost sales.

Management experts tackling the problem already have found some ways to utilize experience better. In the forefront of the work are two young management specialists, Edward Walther and J. Collins Coffee, who have organized a New York firm called Management Development Associates. It advises such large businesses as the General Foods Corporation, Link-Belt Company, Cities Service Oil Company and Hoffmann-La Roche, Inc., the pharmaceutical firm. By the time they joined forces, the two men had decided independently that industry's traditional reliance on experience was open to question — especially in view of the rapid strides made in industrial methods and machinery during and since World War II.

What can we do to make experience the good teacher it is supposed to be? Most experts agree that the answer lies in obtaining a better understanding of how experience affects people and how its improper use can lead to difficulties. We must make experience serve and not enslave us.

Walther and Coffee are studying experience mainly to find how it can best be used in developing executive talent, teaching people to handle new, different jobs, and preparing them for the changes that now flood industry. But their conclusions can help all of us in grappling with everyday problems.

In approaching any problem, the two experts say, we must keep in mind that experience leads us — indeed often compels us — to resist any change. Unless we make allowance for this compulsive reaction, we may find ourselves in trouble.

Not long ago, a foundry modernized its equipment to eliminate several hand operations. Many veteran foundrymen, slaves of habit and experience, insisted on following their old procedures, even though they duplicated mechanical operations. Some, for example, continued to sift sand although a machine had already done the job. Management officials thereupon took away the hand-sifting devices. The result: several of the older men had nervous breakdowns. Less experienced men adapted to the change quite easily; they were not faced with the unrelenting pressures of past methods.

Coffee's introduction of a new, simplified billing form in a large company ran into similar difficulties—but had a happier ending. He tried out the new form with six typists who up to then had worked on a far more complicated form. After three weeks, the department head informed Coffee that the simplified form wouldn't work. The six women were late with their work, the quality was bad, and the typists had even begun quarreling among themselves.

Coffee went to the office and asked the typists to write their names ten times each and to note the time it took. When they finished, he asked them to do it all over again — but to leave out every other letter. Everyone took longer this time.

"Yet you had only half as much work to do!" Coffee pointed out. One woman caught on. "Mr. Coffee," she said, "what you're saying is that we haven't learned our new jobs, and that when we do, it will be easier. Is that right?" He said it was.

Aware now of the source of their trouble, the typists buckled down and mastered the new form. Soon they were doubling their volume of work.

Some businesses contemplating a change try to prepare their employees in advance so as to keep resistance to a minimum. The employees are told what to expect, and they are brought into meetings to talk about the change and contribute their ideas; in that way they feel they play a part in making the change.

Further serious dangers lurk in the tendency to rely on past experience. When people are confronted with something new, they immediately search their past to determine what action, if any, to take. But they usually look only for ways in which the new experience is like an old one; they seldom look for ways in which

it is different. Then, too often, they adopt a course of action that either does not apply or no longer works well.

During World War II, Coffee was executive officer for an armed services radar school. Because radar works on an electronic principle, it was assumed that electrical engineers would master it easily. But not enough engineers were available, so men with other occupations — among them lawyers and accountants — were admitted to the school.

Surprisingly, the electrical engineers were often the poorer students. The reason was that the engineers, though familiar with radar's basic principles, were puzzled by electricity's behavior in such ultrahigh frequencies. The lawyers, with no preconceived notions about electricity, had less difficulty learning how it functioned in radar.

In such situations, Walther and Coffee once again have found that awareness of the shortcomings of experience makes the best weapon with which to fight them. After people become aware of their tendency to see only the similarities between new and old experiences, they consciously seek out the differences. The two experts tell executives to be wary of phrases like, "This reminds me—" "That's just like—" or "I've seen that before—." They may be signals that the man speaking is forgetting to look for differences. Executives are advised that an outline in writing or visual diagrams of all the factors in new jobs, problems or changed techniques will help avoid hasty, incomplete comparisons.

Another danger in overreliance on experience stems from the tendency to sum up an experience for future reference in only a few words — in effect, to label it. Frequently the labels are inaccurate, for they are usually based on emotions rather than logic.

And once we have a label for something, our viewpoint becomes as immovable as a granite monument.

Suppose that most everything which happened to you in your home town was pleasant. The words "home town" thereafter become a label that conjures up pleasant thoughts. Even if with passing years the place deteriorates and falls on hard times, no one can tell you that your "home town" isn't still the best place in the world. You blind yourself to the changes.

The Walther-Coffee staff has interviewed thousands of industrial employees and found that most jobs have titles or labels. In a significant number of cases the labels are inaccurate because of changes in the work assigned, or because they were not carefully selected originally. The result: frustration and confusion, which in turn can cause costly inefficiency and lowered production.

Misuse of experience can adversely affect production in another way. New methods, new machines, and growing numbers of management people make teamwork within a company more important than ever — and teamwork demands maximum agreement among all employees. But the way in which people draw upon their individual experience doesn't always promote agreement. Although many people may have the same experience, seldom will any two interpret it the same way. There are two reasons why:

First, no two of us react to what we feel, see, hear, taste, or smell in exactly the same way. Because people do react differently, it sometimes becomes difficult for top management to find out from employees how new methods are working out. And, because many employees refuse to accept any interpretation but their own, costly personal friction and stress are likely.

Second, people's minds are selective when remembering experiences. When we have strong objectives or beliefs, we tend to discard or forget experiences that indicate we may be headed in the wrong direction. Suppose a man has had years of experience working on propellers in an airplane factory, and his aim in life has always been to become the company's number one expert on propellers. Through the years he has had experiences indicating that jet engines ultimately may eliminate propellers, but he tries to ignore these incidents. Then, when jet engines do begin to reduce the demand for propellers, his usefulness to the firm diminishes and he finds himself headed up a dead-end street.

Whenever changes come, people face many new experiences, some more important than others. How should they meet the challenge? Which experiences should they cultivate?

There are no black-and-white formulas guaranteed to make experience your best teacher. Formulas are inflexible and can quickly become obsolete when changes occur. You can be best prepared when changes do come if you constantly force yourself to think in terms of what is happening now, and beware of hasty reliance on the past. If you always think ahead as well as behind, experience can help you advance toward a better job and brighter future.

When finished, record your completion time.

Rate Chart

Time (Min.)	10.0	9.5	9.0	8.5	8.0	7.5	7.0	6.5	6.0	5.5	5.0	4.5	4.0	3.5	3.0	2.5	2.0	1.5
Rate (W.P.M.)	160	169	178	188	200	214	229	246	267	291	320	356	400	457	543	640	800	1068

Reading Efficiency Check #1

IS EXPERIENCE THE BEST TEACHER?

Select the best answer. (Do not write in this booklet.)

1. The work of Management Development Associates involves
   a. setting up executive development programs.
   b. helping firms to institute new procedures.
   c. improving labor-management relations.
   d. setting up training programs in industrial methods.

2. Experience constitutes an obstacle in modern industrial practice for many reasons; *not* mentioned was that
   a. it compels people to resist change.
   b. our changing technology rapidly makes experience obsolete.
   c. experience often makes acquiring new skills and information difficult.
   d. past experience is often remembered inaccurately.

3. Coffee asked the secretaries to leave out every other letter in writing their names to illustrate that
   a. time can be saved by unusual methods.
   b. coded material soon becomes easy to identify.
   c. reducing effort does not necessarily save time.
   d. they had not yet learned their new jobs.

4. Coffee and Walther found that the best way to introduce change is to
   a. introduce the change gradually so that it isn't apparent.
   b. inform the employees in advance of new procedures.
   c. explain the new procedures as they are introduced.
   d. allow employees to initiate all changes.

5. Changes can be implemented more successfully if executives learn to analyze them in terms of
   a. how they are similar to existing conditions.
   b. how they are different from existing conditions.
   c. their underlying purposes.
   d. their basic procedures.

6. Walther and Coffee found that job labels cause problems when they
   a. are created by the employees themselves.
   b. vary from one industry to another.
   c. do not describe the job accurately.
   d. are not explained carefully to employees.

7. The author points out that friction within a team may result when
   a. team members interpret common experiences in different ways.
   b. each team member brings different experiences to the team.
   c. the team leader cannot evaluate the experiences of team members.
   d. management does not understand the role of experience.

8. The example of the propeller specialist illustrates
   a. the need for less specialization.
   b. resistance to new production methods.
   c. overreliance on past experience.
   d. selective remembering.

9. Rather than offer a formula for using experience, the author advises the reader to
   a. consider the present and future as well as the past.
   b. always be aware of the extent to which he is relying on past experience.
   c. rely on past experience only as a last resort.
   d. remember that experience is seldom the best teacher.

10. The main idea for this selection is that
    a. our rapidly changing world has reduced the role experience can play in helping us to learn new jobs and cope with the problems of everyday living.
    b. experience can be a hindrance to progress in industry because it often adversely affects people's attitudes toward change.
    c. if employees are not taught to use their past experience to best advantage, they will be inefficient workers.
    d. in industry as in everyday living, experience can be a good teacher if we know how to profit by our mistakes.

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