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THE EFFECT OF A LEARNING DEVELOPMENT PROGRAM
ON THE ACADEMIC FUNCTIONING OF THE ADOLESCENT

BY

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SUBMITTED IN PARTIAL FULFILMENT OF THE
REQUIREMENTS FOR THE DEGREE OF
MAGISTER ARTIUM (COUNSELLING PSYCHOLOGY)
IN THE
DEPARTMENT OF PSYCHOLOGY (FACULTY OF ARTS)
AT THE
UNIVERSITY OF THE ORANGE FREE STATE

DECEMBER, 1983

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Universiteit van Groningen
BLO

10-5-1984

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A C K N O W L E D G E M E N T S

I would like to express my sincerest gratitude to:

- My promoter, Prof. W.J. Schoeman, for his invaluable assistance and guidance;
- My co-promoter, Dr. S.J. Wessels, for the guidance received from him;
- The principal, staff and scholars for their willing co-operation and participation;
- Mr H. Versfeld for the illustrations in the work book;
- Mrs A. Venter, the typist, who made this study legible;
- My family for their support and encouragement; and
- My husband who, through his assistance, support and understanding, made this study possible.

A.A. GROBLER

BLOEMFONTEIN

DECEMBER, 1983

CHAPTER 1

INTRODUCTION

1.1 PROBLEM IDENTIFICATION

Each year thousands of students drop out of schools, colleges and universities despite sufficient intellectual abilities. It is therefore apparent that other factors play a determining role with regard to this "drop-out" phenomena. Maddox (1978) identifies the following factors as vital in the learning process and subsequent success or failure:

- | | | |
|-----|--|---------------|
| (a) | intelligence and special abilities | 50-60 percent |
| (b) | industry, effort and effective study methods | 30-40 percent |
| (c) | chance and environmental factors | 10-15 percent |

The second component, which refers to motivational factors and effective study methods, offers a challenge to counsellors intent on the development of potential and prevention services to the community. According to a more recent orientation in counselling (Authier et al., 1975; Carkhuff, 1971; Guerney et al., 1972; Ivey & Simek-Downing, 1980; Rioch, 1970) the emphasis moves from a 'treatment' to a 'training' relationship and implicitly refers to prevention rather than cure as the task of the counsellor.

A learning development program for the adolescent would therefore answer to the requirements set by a pschyo-educational orientation. It would also meet the need for greater instruction with respect to the development of learning.

In the development of a program of these dimensions it will be important to view the adolescent's development, the factors influencing learning and the strategies that may be implemented to develop this learning.

Hurlock (1980) identifies the following developmental tasks to be accomplished during adolescence:

- (a) achieving new and more mature relations with peers of both sexes;
- (b) achieving a masculine or feminine social role;
- (c) accepting one's physique and using one's body effectively;
- (d) the achievement of socially acceptable and responsible behaviour;
- (e) achieving emotional independence from parents and other adults;
- (f) preparing for an economic career;
- (g) preparing for marriage and family life; and
- (h) developing an ideology.

The implementation of a learning development program will therefore have to make provision for the accomplishment of these tasks despite the fact that they may not be directly influenced by the program. Care will therefore have to be taken not to cause a stumbling block to any developmental task faced by the adolescent.

Because this study postulates a *learning* development program, the emphasis will fall upon the cognitive development and cognitive styles displayed by the adolescent. Specific attention will have to be given to the development and limitations of his cognition and cognitive style. Aspects such as the development of abstract thought and hypotheses testing during adolescence will form an integral part of a program intended for the development of learning during adolescence.

To this will be added the importance of motivational factors as an important component in the learning process. Motivation

will be regarded as a catalyst to the implementation of developmental and cognitive abilities. Having considered the individual's development, cognition and motivation, this study will have to review strategies in an attempt to develop learning ability.

It will be important to integrate the above mentioned elements by means of a meaningful theoretical model. In this regard the General Systems Theory and psycho-education will be considered.

In terms of psycho-education a learning development program will have to conform to the following requirements (Schoeman, 1983):

- (a) prevention orientation;
- (b) the consideration of man's development during his entire life-span;
- (c) the development of complex systems;
- (d) the activation of a cyclic process, ensuring feedback to the system; and
- (e) the development of psycho-technology.

From these considerations a program will be suggested and its effectiveness determined with respect to improved academic functioning.

CHAPTER 2

LEARNING DEVELOPMENT DURING ADOLESCENCE

2.1 THE ADOLESCENT

2.1.1 INTRODUCTION

Because the proposed learning development program is directed at the adolescent population, it is important to determine what adolescence entails, how it is defined, what the implications are for the adolescent himself, and the implications for the trainer.

The fact that we are working with a learning development program inevitably emphasizes the cognitive ability and the development thereof. This, however, cannot be regarded in isolation. Another vital aspect pertains to the learning style of the individual. Questions such as, how does the adolescent approach his learning world, which aspects influence his learning, and how can this be stimulated, now arise.

In an attempt to understand and assist the adolescent in his learning tasks, it is essential to define adolescence, determine the tasks to be accomplished during this period and highlight the cognitive development and the individual learning styles involved. Understanding the subject enables the trainer to be aware of his development and the specific situation in which he finds himself and he is therefore sensitive to his needs and personal goals.

2.1.2 DESCRIPTION OF ADOLESCENCE

The period known as adolescence is often considered to be a critical period in the human development (Hurlock, 1980). It is characterized by physical as well as psychological changes,

which stress the importance of continual adaptation which must take place during this period.

This period is considered to form the bridge period between childhood and young adulthood. The word 'adolescence' has its origin in the Latin word 'adolescere', 'to grow' or 'to grow to maturity' (Hurlock, 1980). This growth would then pertain to physical, cognitive, emotional and social development.

A specific chronological definition of this period poses many problems as theorists and cultures differ widely. The general opinion, however, is that the period has its onset between the ages of 10 and 13 and ends between the ages of 18 and 21 (Dacey, 1979; Hurlock, 1980; Lambert et al., 1978; Lerner & Spanier, 1980). The non-specificity of this approach to a definition makes it an unreliable index of adolescence. Likewise, those definitions pertaining to the biological changes during this period.

Dacey (1979) emphasizes the stumbling blocks in a biological approach:

"... although most would agree that menstruation is an important event in the lives of women, it really isn't a good criterion for the start of adolescence. First menstruation (called menarche) can occur at any time from 8 to 16 years of age. We would not call the menstruating 8-year-old an adolescent, but we would certainly call the non-menstruating 16-year-old one" (p. 5).

This by no means serves to de-emphasize the importance of physical changes during adolescence, it merely stresses the problems evident when using these as indexes of the onset or termination of adolescence.

Legal aspects too, are insufficient for the purpose of a definition. Legal rights differ from culture to culture and therefore cannot supply the necessary criterion for a universally acceptable definition (Hurlock, 1980).

A more reliable and standard definition must be sought. This may be found in the approach which examines the major events which occur during adolescence. These events evoke certain tasks which may be referred to as developmental tasks. These tasks are directed at more efficient behaviour patterns, greater insight by the individual concerning himself and society at large, and the formation of a personal identity.

2.1.3 DEVELOPMENTAL TASKS

Although the theorists of adolescence are divided as to the major tasks involved in adolescence, it seems apparent that the formation of an identity could be considered as the foundation of most approaches (Craig, 1983).

The theme of identity formation may be found in the following approaches to the major task during adolescence:

- (a) adjustment (Fein, 1978);
- (b) individuality (Fitzgerald & McKinney, 1977);
- (c) independence (Cottle, 1977); and
- (d) the search for meaning in life (Jersild, 1978).

The importance of identity-formation is further emphasized when one considers adolescence as a period of vital *changes*.

Who or what is the adolescent after these changes?

According to Evans (1970), adolescence is characterized by a temporary identity crisis for the majority of adolescents.

Support for this approach is found in early works (Wynngaarden, 1955), which suggest that self-acceptance is the central theme of this period and that the successful completion of the developmental tasks during adolescence leads to maturity.

Recognizing the underlying theme of identity formation, the developmental theory proposed by Erik Erikson (1968; 1981) may serve as a frame of reference. Erikson considers the antithesis of identity versus identity confusion as the major developmental task of the adolescent.

The developmental tasks proposed by Erikson as underlying this major task of successful identity acquisition will form the frame of reference for this study. These will be supplemented by the tasks proposed by Havighurst (1972). Dacey (1979) suggests that the tasks proposed by Havighurst hold up rather well today as a result of considerable supportive research.

Erikson states seven developmental tasks for adolescence (Erikson, 1963; 1968; 1974).

(a) ACQUISITION OF TIME PERSPECTIVE VERSUS TIME DIFFUSION

The successful accomplishment of this task demands that the adolescent realizes that he has sufficient time in which to attain his goals, but that this does not imply that his time is unlimited. He must therefore learn to structure the time available in the most effective manner possible (Erikson, 1968; Erikson, 1974; Maier, 1978).

(b) SELF-ASSURANCE VERSUS APATHY

To ensure the development of self-assurance in the adolescent, he must achieve a certain level of autonomy and social status among his peers. Here the development of a realistic self-concept is re-emphasized (Craig, 1983). An apathetic attitude could be the result of an unrealistic self-concept where the adolescent prefers to

withdraw from society in an attempt to escape the confusion he experiences. He is therefore expected to maintain a good balance between his opinion of himself and that held of him by others (Erikson, 1968; Maier, 1978).

(c) ROLE EXPERIMENTATION VERSUS NEGATIVE IDENTITY

Adolescence is a period of experimentation. During this period the adolescent experiments with different roles and associates with various individuals and groups. Through this experimentation he learns which role is the most rewarding and the best suited to his needs (Erikson, 1968; Erikson, 1974; Maier, 1978).

(d) ACHIEVEMENT EXPECTATIONS VERSUS WORK PARALYSIS

Realism plays the largest role in the acquisition of this task. It is important that the adolescent is not over-idealistic in his aspirations and that he doesn't over-identify with those he admires. The presence of either characteristic will lead to disillusionment and eventual work disorientation (Maier, 1978). The importance of realistic expectations and goal-setting cannot be over-emphasized.

(e) SEXUAL IDENTITY VERSUS BISEXUAL CONFUSION

This task refers to both the acquisition of sexual maturity and the adaptation to the appropriate psychosexual role (Erikson, 1968; Evans, 1967; Maier, 1978).

(f) LEADERSHIP POLARIZATION VERSUS AUTHORITY CONFUSION

Here the emphasis falls upon the balance between leadership and subjectivity - the realization that he is to lead, but also to follow. Confusion with respect to authority exists when the adolescent is incapable of distinguishing between the times when he is expected to follow and those when he is expected to lead. The acceptance of authority is thus an important aspect in the acquisition of this task (Erikson, 1968; Erikson, 1974; Evans, 1967; Maier, 1978).

(g) IDEOLOGICAL POLARIZATION VERSUS IDEAL CONFUSION

It is essential that the adolescent develops a certain set of values for himself. These may then form the foundation of his personal life philosophy, which supplies him with an anchor to his existence (Erikson, 1968; Evans 1967; Maier, 1978).

According to Erikson (1968), the acquisition of these developmental tasks will ensure a sense of security and assurance which will inevitably assist adult development.

As will become apparent, the learning development program will directly influence certain of these tasks, while care will be taken not to cause a stumbling block for the remaining tasks.

Havighurst's proposal of the developmental tasks during adolescence (Havighurst, 1972) will be discussed to elaborate on the tasks suggested by Erikson. This approach has specifically been chosen as a result of the numerous similarities between the two approaches.

Havighurst (Hurlock, 1980) suggests the following eight tasks as essential developmental achievements during adolescence:

- (a) achieving new and more mature relations with peers of both sexes;
- (b) achieving a masculine or feminine social role;
- (c) accepting one's physique and using one's body effectively;
- (d) the achievement of socially acceptable and responsible behaviour;
- (e) achieving emotional independence from parents and other adults;
- (f) preparing for an economic career;
- (g) preparing for marriage and family life; and
- (h) developing an ideology.

(a) ACHIEVING NEW AND MORE MATURE RELATIONS WITH PEERS OF BOTH SEXES

Socialization is the key concept in this regard. Hurlock (1980) considers this task to be one of the most difficult to accomplish. Adjustments which have to be made in order to complete this task successfully are:

- those to the increased influence of the peer group;
- changes in social behaviour;
- new values in friendship selections; and
- new values in the acceptance of social acceptance or rejection (Hurlock, 1980).

It is clear that the requirements for this task are similar to those described by Erikson for the acquisition of self-assurance, role experimentation and leadership polarization.

THE PEER GROUP

Researchers seem to agree that adolescence is a period characterized by an exaggerated interest in the activities and goals of the peer group (Coleman, 1974; Dacey, 1979; Hurlock, 1980; Santrock, 1981).

The peer group becomes the adolescent's reality and offers him the opportunity to compare himself with others in his own developmental stage. The socializing which takes place here also reinforces skills needed in broader social circles (Hurlock, 1980; Lefrancois, 1981).

The adolescent seems to be preoccupied with acceptance by the group. It is during this stage that conformity is the focal point.

Lefrancois (1981) identifies the following six functions of the peer group:

- Peer groups provide the adolescent with the opportunity to interact with a variety of people. In this way, social skills are promoted and developed. Here the adolescent learns to place himself in society and to evaluate his contributions - a vital element in the development of a realistic self-concept.
- The peer group also sets the stage for the development of loyalties beyond the immediate family.
- The peer group also supplies the adolescent with a considerable degree of emotional security. — In this setting the adolescent experiences a sense of freedom to experiment with the unknown. Togetherness provides him with the essential sense of belonging.
- The adolescent is exposed to a number of models in these peer groups. These may serve as identification symbols in the individual's striving towards his own identity.
- Facilitation of the transition from a family orientation to that of a peer orientation is brought about by the adolescent's involvement in peer activities.
- The development of skills with regard to opposite sex relationships is promoted. The peer group offers a safe medium for the adolescent to experiment with socializing skills with persons of the opposite sex.

It is apparent that as adolescence approaches its termination, so the peer group's influence decreases (Hurlock, 1980). This occurs as a result of the adolescent's desire to be an individual in his own right and his choice of individual friendships above the membership of a group.

(b) ACHIEVING A MASCULINE OR FEMININE SOCIAL ROLE

This task refers to the adolescent's sexual development and his adjustment to this development by achieving the approp-

riate sexual role in society (Conger, 1977; Dacey, 1979; Hurlock, 1980).

During adolescence the adolescent is exposed to biological changes in his body which clearly include the development of sex organs and which bring about the issue of sexual identity (Conger, 1977; Hurlock, 1980; Rapoport & Rapoport, 1980).

With the onset of adolescence, all the biological changes to physical maturity bring about new interests in sexuality and the integration of sexual drives and other aspects of the developing personality (Craig, 1983). This process is referred to as sexual socialization and is comprised of the following components (Spanier, 1977):

- choosing a sex-object;
- assuming a gender identity;
- learning appropriate sex roles;
- understanding sexual behaviour; and
- developing sexual skills and knowledge.

Sexual development further emphasizes the differences between male and female development and leads to greater attraction between the two sexes (Rapoport & Rapoport, 1980).

The sex role is often viewed as the vital element in the formation of an identity (Fein, 1978). According to Hauck (1970), the prerequisite for the formation of heterosexual relationships is the acceptance and formation of sex roles which are based on learned associations between male and female physical characteristics, overt behaviour and covert attitudes.

Dacey (1979) identifies three aspects in the acquisition of a sex role:

- sex-role orientation;
- sex-role preference; and
- sex-role adaptation.

Dacey (1979) also stresses the difference between sex identity and sex-role. Sex identity is said to be the physical characteristics and behaviour patterns that are part of the biological inheritance. Sex-role, on the other hand, refers to the specific behavioural patterns displayed as a result of genetic make-up and traits that are in fashion at the time in any one culture.

Socialization obviously plays an important role in dating and heterosexual relationships. This socializing therefore, stresses the importance of peer activity and relationships formed between opposite sexes.

(c) ACCEPTING ONE'S PHYSIQUE AND USING ONE'S BODY EFFECTIVELY

Havighurst supports Erikson (Evans, 1970) in his view of the importance of the acceptance of the physique as a stepping stone towards the acquisition of an identity. The physical changes take place on numerous levels and the adolescent is expected to adjust to all successfully.

The adolescent experiences both external and internal physical changes during this developmental period (Conger, 1977; Hurlock, 1980). The external changes refer to height, weight, body proportions, sex organs and secondary sex characteristics. Munsinger (1971) refers to the peak periods of growth being between 11 and 13 years of age for girls and between 14 and 16 years of age for boys.

The secretion of hormones stimulates growth and sexual development - estrogen in girls and androgen in boys (Munsinger, 1971). Both primary sex organs and secondary sex

characteristics are formed during adolescence and the adolescent is then expected to adopt the appropriate sex role in accordance with these physical characteristics.

The internal changes which take place refer to changes in the internal systems of the body (digestive, endocrine, circulatory, respiratory and body tissues) (Hurlock, 1980).

These changes lead to a new experience of the body and often cause self-consciousness. Physical maturity also introduces a heightened interest in the opposite sex. This sex-role can be seen as the key factor in the identity crisis (Fein, 1978).

These physical changes once again emphasize the importance of the formulation of a physical identity. Hurlock (1980) suggests that few adolescents experience body cathexis or satisfaction with their bodies. Mahoney and Finch (Hurlock, 1980) further stress that this dissatisfaction with their personal appearance is one of the causes of a low self-concept in adolescence. The importance of a positive self-concept with regard to physical appearance is closely associated with successful heterosexual relationships. The sexual attractivity between sexes cannot therefore be judged independently from the physical development.

(d) THE ACHIEVEMENT OF SOCIALLY ACCEPTABLE AND RESPONSIBLE BEHAVIOUR

The aim of this task is the development of a social ideology, participation in social activities and the consideration of the community in personal behaviour (Havighurst, 1972).

The emphasis now moves from the nuclear family and peer group to society at large. The adolescent's egocentric interests must now make place for responsible behaviour and altruism to promote communal life and interests.

This task is obviously related to those which highlight both peer group associations and relationships with the family. It is in the family that the adolescent may find his earliest models for socially acceptable behaviour and the peer group offers him the opportunity to experiment with these in a smaller context than is expected of him in society (Craig, 1983; Hurlock, 1980).

The family is often regarded as a microcosmos of society (Hurlock, 1980). Here the individual may experience authority, subjectivity, relationships between elders, interaction with siblings and socialization in general. The adolescent's earliest experiences of socialization and the effects thereof are thus found in the context of his family. This would also explain his acquisition of a low or high self-esteem with regard to others. These patterns of behaviour are then transferred to the peer group and acceptance or rejection is then emphasized (Hurlock, 1980).

This task also refers to the successful mastery of heterosexual relationships and the appropriate sex-role acquisition (Hurlock, 1980). Society also places a large amount of pressure on the individual to conform to certain values and standards. The result could be revolt or simple acceptance and participation. The important point is that the adolescent no longer acts for egocentric aims, but considers others in his deeds (Hurlock, 1980). This consideration is then extended to participation in communal interests and goals so as to make a contribution to society.

(e) ACHIEVING EMOTIONAL INDEPENDENCE FROM PARENTS AND OTHER ADULTS

The period of adolescence is characterized by a growing sense of independence and autonomy (Dacey, 1979; Hurlock, 1980; Lefrancios, 1981).

Although this increase in independence and autonomy has often been regarded as the cause of breakdowns in family relationships, recent research confirms the study done by Brittain (Cottle, 1977), which shows that breakdown is not an essential element of this development. According to this study, adolescents displayed a differentiated emphasis on peer and parent opinions. Peers were consulted on issues regarding clothing, styles and activities while parents played an important role in decisions of greater dimensions such as career choices or moral issues.

Hurlock (1980) supports these findings by stating that deterioration in relationships has its origin on both sides. The parents often refuse to recognize their adolescent's changing and increased abilities, while the adolescent is often unwilling or incapable of communicating with his parents.

Yet, it is a recognized fact that adolescence forms the bridge between dependent childhood and independent adulthood (Coleman, 1974). This move towards autonomy has the potential to develop tension in the home. The adolescent and his parents find themselves in an ambivalent situation. Sexual, physical and cognitive maturity of the adolescent lead to a desire to be independent of the parent and to experiment on his own with his new-found maturity. The prospect, however, holds the unknown and complex. The adolescent therefore continually falls back upon the support and guidance of the parents. The parents, on the other hand, are wary of exposing their young to the world at large (Havighurst, 1972). This ambivalent situation often leads to what is regarded as a "generation gap" and subsequent rebellion.

Hurlock (1980) states that poor family relationships, characterized by rebellious adolescents and over-protective

parents, lead to poor accomplishment of other developmental tasks and retard the individual's total development, keeping him dependent and immature for a lengthened period.

The relationship between adolescent and parent moves to one of interdependence (Coleman, 1974). The relationship is now characterized by friendship and guidance between parent and adolescent. Emotional maturity plays an important role in social maturity, career choice, the formation of a value system, in other words, in the development of an identity in the adolescent (Conger, 1977).

Research (Conger, 1977; Erikson, 1968; Mussen et al., 1979) seems to emphasize two major dimensions of parental behaviour when considering the issue of independence development:

- love-hostility; and
- autonomy-control.

Researchers (Craig, 1983; Dacey, 1979; Elder, 1963; Erikson, 1968; Hurlock, 1980) agree that unambiguous manifestations of parental love encourage positive self-esteem, constructive and positive relationships with others and a confidence in the adolescent's own identity.

The second dimension, autonomy-control, displays parents who allow age-appropriate autonomy, which leads to independence, creativity, social assertiveness and less hostility towards others and self at the positive end (Conger, 1977; Elder, 1963).

Conger (1977) considers the degree of difficulty which the adolescent experiences in his bid for independence to be an index of both the consistency, the rate and extent of the independence training sanctioned by society and the childrearing practices displayed by the parents. The most advantageous climate for the development of independence and autonomy is created by parents who encourage independent actions, while remaining interested and supportive.

(f) PREPARING FOR AN ECONOMIC CAREER

The adolescent is expected to establish a goal for himself with respect to his future career to ensure personal satisfaction and a sense of personal achievement (Havighurst, 1972). This decision obviously influences his further development and life satisfaction, for, his career will determine his lifestyle, status, ideals and the personal gratification which he will enjoy (Coleman, 1974).

The adolescent is often over-idealistic about his future career and chooses careers regardless of his ability or opportunities (Hurlock, 1980). This over-idealism makes place for more realistic considerations in later adolescence and the adolescent becomes gravely concerned about his future. The choice of stereotyped careers which was made during childhood and early adolescence now makes place for realistic experimentation and exploration of careers available (Hurlock, 1980).

The period of over-idealization often causes gross problems in vocational choices. It is often during this period that the adolescent is compelled to start planning his future career. This takes place when an individual is expected to make a subject choice at the age of 14 or 15. This obviously influences his later career opportunities. Guidance during this period is therefore of utmost importance.

There are a number of career oriented theories (Jersild, 1978), but most seem to rely on self-knowledge, self-exploration and self-concept - emphasizing the formation of a realistic identity.

(g) PREPARING FOR MARRIAGE AND FAMILY LIFE

This task may be considered as overlapping both the adolescent and young adulthood periods.

Dating during adolescence offers the adolescent the opportunity to try out different dating partners to determine their suitability as marriage partners.

During early adolescence, the main theme is one of experimentation with different techniques. Once these skills have been mastered, sexual intimacy and emotional demands increase.

According to Alexander et al. (1980) dating during adolescence may be divided into 4 stages:

- 13 - 15 years of age - recreational and relaxation;
- 14 - 17 years of age - socialization;
- 16 - 19 years of age - achievement of status; and
- 18 - 25 years of age - courting and choice of marriage partner.

This task thus culminates in the fourth stage with the precipitating stages forming the vital preparatory stages for the successful choice of a marriage partner. This choice is also assisted by the successful mastery of emotional maturity and emotional independence (Havighurst, 1972). The adolescent's desire to be an individual in his own right prepares him for the demands of responsibility made by a family of his own (Hurlock, 1980).

It is important that the adolescent's biological maturity with respect to reproduction and sex is matched with the psychological maturity which will enable him to make adjustments and compromises where possible in his intended marriage (Craig, 1983; Havighurst, 1972). But, for this to be possible, the adolescent requires guidance, support and education in the demands and responsibilities of marriage (Havighurst, 1972; Hurlock, 1980).

(h) DEVELOPING AN IDEOLOGY

One of the most important tasks related to adolescence is the development of a set of values and an ethical system as a guide to behaviour (Hauser, 1981).

The adolescent is expected to develop the ability to replace the specific moral concepts, present during childhood, with general moral principles. External control (from parents, teachers, etc.) must be internalized (Hurlock, 1980).

Erikson (1968) regards the formation of a socio-political-ethical ideology as the central task of achieving an own identity. An exploration of the formation of this ideology is therefore necessary.

According to Hurlock (1980) moral maturity is achieved by successfully completing the following three tasks:

- replacing specific moral concepts with general morality;
- formulating an own moral code according to personal standards; and
- controlling own behaviour in a responsible manner and in accordance with inner values.

Hurlock (1980) explains that the period of adolescence is characterized by the exploration of, and investigation into, various possibilities and alternatives. The formulation of an internalized value system thus relies heavily on the correct guidance and rules to minimize confusion with respect to what is acceptable and what is not. In this way Hurlock (1980) feels the above mentioned task will be simplified.

Piaget (Dacey, 1979) also emphasizes the role that rules play in the formation of morality. He defines morality as the comprehension of certain rules and the voluntary acceptance and *adherence* to these. Piaget theorizes that

moral development takes place as a result of an interaction between cognitive development and social experience. The following developmental stages have been identified by him:

- the stage of moral realism - the child feels compelled to obey rules and regulations and believes that all disobedience of social norms leads to punishment;
- the stage of autonomic morality - the individual's comprehension of morality is no longer limited to the concrete and immediate. Abstract thought enables the adolescent to hypothesize and reason about moral standards and to place himself in others' positions. He now becomes capable of judgement of right and wrong on grounds of the motive and the consequences of the deed.

Piaget (1972) views the transition from the one period to the next as a function of cognitive development.

Cognition is also emphasized by Kohlberg (1975). He suggests that morality develops largely in the same way that cognition develops. Kohlberg (1975) believes that the level of morality that an individual is likely to achieve is determined by factors such as:

- intelligence;
- self-esteem; and
- ability to delay gratification.

Kohlberg (1975) proposes that the development of morality takes place by the stimulation of the next step of development by:

- arousal of moral conflict through presentation of relevant problems; and
- suggestions of solutions to the problem which are on a level higher than the child's present moral level.

This emphasis on the cognition brings us to the following developmental task, according to Havighurst (1972), which refers to cognitive maturity and the acquisition of cognitive skills to satisfy future aspirations. This cognitive development will be discussed in greater detail in the following section.

This section has reviewed the normal development of the adolescent which forms an integral part of any developmental program. For the purpose of this study, however, the emphasis shifts to cognition, the intended program being a *learning* development program.

2.1.4 COGNITIVE DEVELOPMENT DURING ADOLESCENCE

The development of cognition has been the theme of much research, which has given rise to many varied opinions. Yet, most modern authors still regard the Piagetian theory as a cornerstone of cognitive development (Ault, 1983; Conger, 1977; Flavell, 1977; LaBarba, 1981; Lefrancois, 1981; Santrock, 1981). For this reason, and because Piaget's theory forms the other side of "the same coin" (White & Speisman, 1977, p. 8) to Erikson's developmental theory, this model will form the frame of reference in this study.

Piaget (Ginsburg & Opper, 1979) considers the development of cognition to form the basis of all development. Retardation of cognitive development inevitably implies a retardation of all other developmental tasks.

According to Piaget (1969) the cognitive development is characterized by both a qualitative and quantitative increase of the child's mental abilities. He goes on to describe four stages in the cognitive development of the child:

- (a) the sensori-motor stage (0 - 18 months);
- (b) the pre-operational stage (18 months - 7 years);
- (c) the concrete-operational stage (7 - 12 years);
- (d) the formal operational stage (12 years and onwards).

Piaget (1969) emphasizes that these age limits are mere guidelines and as such should never be considered ultimate criteria. This, however, implies that the period of adolescence is characterized by formal operational thought processes. A closer examination of the implications of this period is thus essential.

Piaget (1972) distinguishes the following characteristics of the period he has termed formal operational.

(a) ABSTRACT THOUGHTS

This refers to a shift from the concrete thought processes experienced during childhood to the abstractions of thought experienced during adolescence. Where the younger child is limited to concrete experiences, the adolescent is capable of abstract thought, weighing the real against the possible (Flavell, 1977; Rice, 1975).

Abstract thought enables the adolescent to consider relationships between abstract concepts, to understand similarities between these relationships, to question religious and moral issues and to think about himself.

The child is seen to start at reality and move reluctantly, if at all, to possibility when attempting the solution to a problem. The adolescent, on the other hand, starts with possibility and only subsequently moves to reality (Flavell, 1977).

Ault (1983) states that formal operational thinkers can separate the process of thinking from the specific content, thus bringing his own beliefs and thoughts into enquiry range.

He is thus capable of critical evaluation of the environment, others and self.

Rice (1975) states the following in this connection:

"... his ability to distinguish the possible from the real enables him to discern not only what the adult world is, but what it might be like, especially under the most ideal circumstances. This ability... is what makes him an idealistic rebel... He becomes a critical observer of things as they are and is usually ultra critical of adults as well"
(p. 370).

The adolescent is also able to think logically about hypothetical ideas or situations. The adolescent displays an ability to work with contrary-to-fact reasoning (Dacey, 1979; Santrock, 1981). The adolescent moves from a perceptual to a conceptual thought level (Jersild, 1978).

(b) HYPOTHETICAL - DEDUCTIVE REASONING

The transition from the real to the possible brings about hypothesizing. The problems are examined, solutions hypothesized and deductions made on grounds of empirical phenomena which ought to occur in reality and these deductions are then tested (Flavell, 1977).

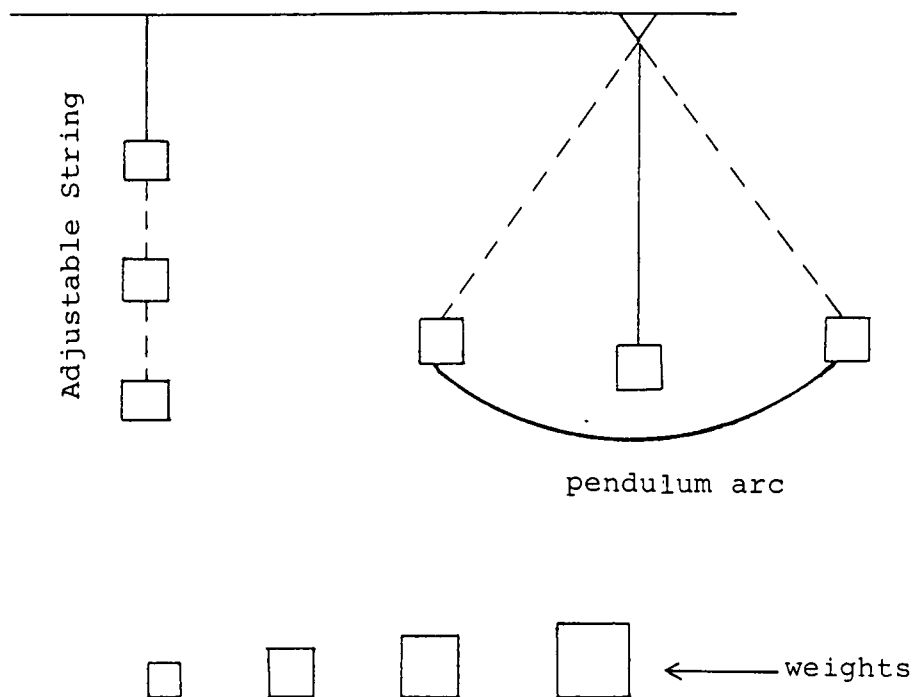
During this stage adolescents are able to identify and co-ordinate variables. An example of this may be found in the pendulum-experiment of Piaget and Inhelder (Ginsburg & Opper, 1979).

The subjects were presented with the following situation: A pendulum was constructed and the subjects shown how to vary the length of the string, how to change the weight of the suspended object, how to release the pendulum from

various heights and how to apply different degrees of force when pushing the weight. The subjects were now expected to identify the elements (length, weight, height, force) which affected the pendulum's oscillation frequency. To solve the problem, the subjects were allowed freedom of experimenting in all ways possible.

Diagrammatically, this may be represented in the following manner:

FIGURE 2.1
THE PENDULUM PROBLEM



(Sarafino & Armstrong, 1980)

The adolescent was shown to perform well at three aspects of this problem:

- he planned or designed the test properly;
- he observed results accurately; and
- he drew the proper logical conclusions from his observations.

This differentiates him from the pre-operational child who will experiment with one or more combinations and frequently conclude that force determines the number of oscillations. This is clearly based on his expectations rather than on his observations. The child at the concrete operational stage will not be likely to make a mistake regarding concrete observations. However, systematic arrangements of all factors and combinations concerned are not likely to occur. The pre-adolescent is not capable of systematic problem solving as is the adolescent. The pre-adolescent displays a failure to arrive at all relevant testable hypotheses (long, heavy; long, light; etc.) as well as a failure to carry out the experiment and to make logical, bias-free observations (Lefrancois, 1981).

This ability which the adolescent displays in placing the possible above the real forms the basis for experimentation and scientific thought (Fein, 1978; Ginsburg & Opper, 1979; Mussen et al., 1979; Sarafino & Armstrong, 1980).

(c) INTRAPROPOSITIONAL - INTERPROPOSITIONAL REASONING

The individual who has reached this stage of thought is also capable of determining relationships between his hypotheses and the empirical knowledge available. This is referred to as interpropositional logic (Muuss, 1975).

Piaget (1972) terms these formal operational thoughts "propositional thoughts": the adolescent's thoughts are rather directed at theories and possibilities than at reali-

ty. Formal operational thoughts could also be regarded as second-order-operations based on the concrete experiences of childhood. The adolescent is now capable of 'thinking about thinking'.

An example to illustrate this ability is found in the following: Different rods are suspended horizontally from a vertical holder. The holder is placed in a large basin of water. The aim is to determine the flexibility of the rods and under which circumstances they would touch the water.

The variables are identified as: the type of material, the length of the rods, the thickness of the rods, the form of the rods and the weights attached at the ends of the rods.

"The ability to combine the results of each pair of comparisons leads to an understanding of the 'structured whole' and - in contrast to the one-by-one comparisons of earlier stages - implies the operation of formal thought"

(Muuss, 1975, p. 197).

A second set of formal groupings which appear in the propositional logic of the adolescent is comprised of four transformations, namely, identity, negation, reciprocity and correlation (Ginsburg & Oppen, 1979). These four transformations enable the adolescent to solve problems with respect to proportionality and equilibrium.

IDENTITY: "I"

This is also referred to as the null transformation since it results in no basic change, the original proposition retains its identity (Muuss, 1975). This is illustrated by an experiment used by Piaget (1969). In a balance-scale, different weights are placed at either point of the cross-bar. The problem demonstrates the concept of equilibrium,

which in turn is based on an awareness of proportionality. Should the subject then increase weight and distance simultaneously in such a way that the balance remains unaffected, this would be known as an identity transformation - the relationship between the elements retains its identity.

NEGATION: "N"

In this transformation everything in a given proposition is changed into the opposite of the original proposition (Ginsburg & Opper, 1979). If a negation transformation is applied to the example cited above, the distance will be increased while the weight is reduced or the distance decreased while increasing the weight or diminishing both (Inhelder & Piaget, 1958).

RECIPROCITY: "R"

An example of this transformation can be found in the following: "A is twice as large as B" becomes "B is twice as large as A" (Muuss, 1975). This allows for systematic testing of hypotheses and makes experimental manipulation of variables possible. Reciprocity does not cancel a factor, but merely neutralizes one factor, which makes it possible to vary the other.

CORRELATION: "C"

Piaget considers this to be the opposite of the reciprocal (Inhelder & Piaget, 1958). The illustration used above would thus be affected in the following manner:

"C cancels R in the same way that N cancels I"
(Inhelder & Piaget, 1958, p. 178).

These formal operational thought processes enable the adolescent to reason scientifically and to discover his subjective world. "Human mind reaches supreme height when it is able to examine its own operations" (Jersild,

1978, p. 156). A combination of the aspects discussed above - forming the formal operational stage - leads to creativity and originality (Jersild, 1978).

(d) CREATIVITY

A wide variety of definitions of this concept has been offered by various researchers (Guilford, 1959; Mednick, 1963). It has been suggested that creativity may best be defined in terms of an individual's capacity for innovation - for discovering new ways of doing things or for producing things that are new (Lefrancois, 1981).

Guilford (1967) lists the following as principle elements of creativity: fluency, flexibility and originality. He continues to draw a distinct contrast between intellectual activities which are generally considered when measuring intelligence and those involved in creativity. At this point he distinguishes between divergent and convergent thinking, the latter referring to the ability to draw one single, correct conclusion from given information eg. calculations. The former is considered to be the ability to consider a number of possible solutions to a given problem without necessarily focusing on a single solution. Guilford (1967) maintains that the divergent thinker displays these vital elements of creativity namely, fluency, flexibility and originality. These then form the index of creativity.

The prevailing belief is that intelligence and creativity are two distinct intellectual properties (Getzels, 1975; Guilford, 1967; Wallach & Kogan, 1967). Yet others (Cropley, 1972; Dellas & Gaier, 1970) conclude that creativity and intelligence are highly related.

Dudek (1974) emphasizes that adolescence is bound to be characterized by heightened creativity as the adolescent works with the probable, hypotheses and his newly acquired cognitive skills.

For the purpose of this study, the theories of associationism and structuralism will serve as a frame of reference.

ASSOCIATIONISM

Mednick (1963) believes that creativity is the process by which the individual associates already learnt material in unusual, new and original combinations. Ideas are thus found in association with other ideas and these associations enable the individual to recall the original concepts.

Mednick urges that creative people are those who search for more unusual but higher quality associations to solve their problems. These remote associations distinguish the creative person from the uncreative.

Dacey (1979) quotes the poet Marianne Moore who made the remote association between a chrysanthemum and a lion's head. The lion is thus seen in a new, unusual light. "The lion's ferocious chrysanthemum head".

Here Mednick supports Guilford (1967) in the importance he ascribes to flexibility and originality as elements of creativity. Mednick (1963) argues that the rigid thinker will only consider a few associations to a particular problem, emphasizing the correct answer. This, however, will not limit the creative person.

STRUCTURALISM

Michael Wertheimer, the major explicator of this approach, stresses that there is more to creativity than mere unusual and original associations of ideas (Dacey, 1979).

"The creative musician does not write notes on a paper in hopes of getting new associations. Rather, he gets a halfformed idea of the finished piece of music and then

works backwards to complete his idea. He develops an overview of the entire structure and then rearranges its parts" (Dacey, 1979, p. 113).

The manner in which the whole is viewed will thus determine the degree of creativity - how the parts are then arranged to complement the whole.

These aspects referring to the development of cognition and creativity are vital elements of a learning development program. Care must be taken not to stunt or discourage the development of cognition or creativity.

The manner in which the adolescent applies this cognitive ability to his learning world emphasizes yet another important aspect of learning, namely the cognitive style.

2.1.5 COGNITIVE STYLE THEORY

Although there are a number of cognitive style theories (Bruner, 1960; Guilford, 1967; Pask, 1976; Svensson, 1977), the theory proposed by H.A. Witkin (1976) will be considered during the implementation of the learning development program. This decision has been made as a result of extensive supporting research based on this theory (Guilford, 1980; Holland, 1982).

Shouksmith (1970) refers to cognitive style as "*a certain strategy or group of strategies which a particular individual adopts in his approach to a wide variety of problem situations*" (p. 149). Cognitive style is thus seen as the amalgam of strategies which the individual typically adopts in his attempts to solve problems in his everyday life.

Applying this definition to the theory supplied by Witkin (1976), the strategies, which are characteristically implemented by an individual, are viewed as either field dependent or field independent.

The most widely accepted interpretation of this field independent trait emphasizes cognitive analysis as the basic quality; a tendency to analyze rather than to perceive and interpret as a whole (Witkin, 1976). The essentially field independent person will therefore be more interested in differentiated information with clearly demarcated parts. The opposite traits are displayed by those who are essentially field dependent. These persons display a tendency to perceive as a whole, showing an inability to distinguish between the parts.

According to Guilford (1980), a high score on field dependence reflects a higher degree of flexibility rather than a specific ability to analyse.

Brumby (1982) considers the dichotomy of field independence and field dependence to respectively pertain to the following differences in approach to, or perception of, a problem:

- (a) Immediate demarcation of the parts forming the whole, and then studying these parts in isolation and as separate entities from the whole and its surroundings - field independent; and
- (b) perception of the problem as a whole; integrating and relating its various subcomponents, and seeing them in context to the surroundings - field dependent.

The results of the study undertaken by this researcher emphasize the fact that the two categories of perception namely, analytic and holistic, are independent of each other and are not mutually exclusive. She also found that the style of the problem could influence the responding student's own style. She thus concludes that the continuum model of a bi-polar dichotomy of one style does not seem adequate.

Pijning (1981) also refers to the works of Witkin when he quotes him as showing that the perceptual dimension structuring versus globalizing does not stand alone, but is the expression of a cognitive style, which appears both in perceptual and intellectual tasks. This researcher continues to form a comparison between the fields described by Witkin and the mistakes - analysing strategy versus moment strategy employed in gross motor tasks. He concludes that the learning strategy of a pupil is not dependent on the learning task, but is primarily an aspect of the cognitive style and therefore more or less persistent. His findings thus formed a contrasting point of view to that of Brumby (1982).

Witkin et al. (1977) listed three essential characteristics of cognitive style:

- (a) it refers to process and not product;
- (b) its dimensions cut across inappropriate learner characteristics (e.g. I.Q.); and
- (c) the learner's cognitive style remains stable although not necessarily unchangeable.

On reviewing existing literature on this topic, the following contrasts, with respect to the essentially field dependent and field independent learners were identified:

- (a) field dependent persons were found to be attuned to, and differentially attent on, the social dimensions of the environment (Holland, 1982);
- (b) field dependent learners displayed superior performance on tasks requiring memorization of social information (Holland, 1982);
- (c) field dependent learners are particularly skilled at learning and remembering academic matter with social content, whereas their counterparts experience greater success with subjects such as maths and science (Mahlios, 1978);

- (d) field independent students learn more under conditions of intrinsic motivation, while field dependent learners prefer external reinforcement (Fitz, 1971; Steinfeld, 1973); and
- (e) field dependent learners tend to accept material as it is presented. In contrast, field independent learners appear to behave as if governed by consistent principles which they have derived from their experiences (Witkin et al., 1977).

Witkin et al. (1977) also found that field dependent teachers displayed a greater ability in establishing a warm and personal learning environment and in encouraging student participation in setting goals and directing learning. Packer and Bain (1978) found that students' objective learning performance and subjective evaluations of the ease of learning, as well as teachers' ability to communicate with students and assess their progress, may profit from the technique of cognitive style matching. This view is supported by Kitson (1982).

It would seem that the controversy regarding the matching of cognitive style and learning material or trainer's style may support the theory supplied by Brumby (1982). The conclusion which she arrives at i.e. that the continuum model of a bi-polar dichotomy with respect to one style is not sufficient, will be emphasized in the implementation of the learning development program.

Having reviewed the development of the adolescent, stressing the cognitive development, and the application thereof in terms of a cognitive style, it follows that the acquisition of cognitive abilities alone is not sufficient to ensure that learning will take place. Research seems to support the theory that motivation is an important catalyst of the learning process and as such, requires attention when one considers the development of learning.

2.1.6 ACHIEVEMENT MOTIVATION

(a) INTRODUCTION

Thus far we have examined the nature and meaning of adolescent development, cognition and cognitive styles. The next aspect which demands attention is motivation and the role it plays in learning.

The literature reviewed seems to support, or directly rely on, the works of Atkinson (1966), Hebb (1949), Heckhausen (1967), Lewin (1938), McClelland (1968) and Murray (1938). For the purpose of this study, the works of Atkinson, Heckhausen and McClelland will be considered in greater detail. These researchers considered achievement motivation as an essential prerequisite for achievement. They are supported in their views by Costello (1968), Entwistle (1968) and Krug (1959).

Murray (1938) defined the need for achievement as follows:

"... a desire or tendency to overcome obstacles, to exercise power, to strive to do something difficult as well and as quickly as possible"
(pp. 80-81).

Murray was also responsible for devising the Thematic Apperception Test (TAT) as a means of studying this need and which still remains the most widely used instrument for measuring this need.

(b) THE ACHIEVEMENT MOTIVE

According to McClelland et al. (1976) a motive may be defined as:

"... the learned result of pairing ones with effect on the conditions which produced affect" (p. 33).

This theory implies that all motives are learned and are environmentally controlled. In this way McClelland et al. (1976) enhanced the existing theories of motivation and introduced the importance of learning in the acquisition of an achievement motive.

McClelland et al. (1976) distinguish motives in terms of the type of cues which give rise to the affect. The example of the sight of school books giving rise to the achievement motive is also cited by these authors. They continue to offer the following explanation:

"Clearly the expectations are built out of universal experiences with problem-solving - with learning to walk, talk, hunt or read, write, sew, perform chores, and so forth. The expectations also involve standards of excellence with respect to such tasks"
(p. 78).

Cognitive maturity and social reinforcers are identified as determining factors in the acquisition of achievement motivation.

Atkinson (1968) refers to a tendency to achieve success which is characterized by the following three factors:

- the strength of the individual's motive to achieve success (M_s);
- the probability of success which the individual believes he has on a task (P_s); and
- the incentive value of success (I_s).

These factors combine to produce the total tendency to achieve success. This, however, was not the only view given of achievement motivation by this researcher.

The tendency to avoid failure was another aspect to receive attention. In this case the achievement situation holds the possibility of failure, shame and humiliation (Arkes and Garske, 1982). This tendency is determined by considering the motive to avoid failure (M_{af}), and the resultant achievement motivation (T_r) is given as:

$$T_r = (M_s \times P_s \times I_s) + (M_{af} \times P_f \times I_f)$$

where P_f and I_f indicate probability of failure and the incentive value of failure respectively. This implies that motivation, in its totality, may be regarded as the sum of success and failure factors. The success factors are a product of the motive to succeed, the probability of success and the incentive value of success. The latter, the failure factors, are the product of the motive to avoid failure, the probability of failure and the incentive value of failure.

The presence of an achievement motive in an individual implies a greater likelihood of:

- higher self-esteem/confidence (Brockner, 1979; Covington & Omelich, 1979);
- goal directed, self-regulated performance (Wessels, 1980);
- higher achievement (McClelland, 1968); and
- greater persistence (Feather, 1961).

McClelland (1964) also refers to the person with a high need to achieve as an individual with "... a compelling interest to know whether he was right or wrong" (p. 29).

Wessels (1980) elaborates on this theme by emphasizing the pleasure experience sought by the highly motivated individual and its relationship to realistic goal setting. In this way McClelland's theory serves as motivation for the setting of obtainable, realistic goals in an attempt to

stimulate this pleasure experience induced by success. Affect is thus highlighted and introduced as a causal factor of motivation.

Heckhausen (1967) describes achievement motivation as:

"... the striving to increase, or keep as high as possible, one's own capability in all activities in which a standard of excellence is thought to apply and where the execution of such activities can, therefore, either succeed or fail" (pp. 4-5).

It is therefore apparent that achievement motivation is a vital component of the learning process, but how is this aspect of human behaviour acquired?

(c) THE DEVELOPMENT OF AN ACHIEVEMENT MOTIVE

On reviewing existing literature, it becomes apparent that the etiological factors of achievement motivation are numerous and interdependent (Atkinson, 1966; Heckhausen, 1967; Kagan & Moss, 1962; McClelland et al., 1976).

Despite the problems identified by these authors, the following factors are identified as influential elements in the acquisition and maintenance of an achievement motive:

- autonomy and independence (Heckhausen, 1967; Scholtz 1976; Winterbottom, 1966);
- reward (Kagan & Moss, 1962; Scholtz, 1976);
- realistic expectations (Atkinson, 1968; Scholtz, 1976);
and
- group factors (Zander, 1971).

A description of these factors follows subsequently:

AUTONOMY AND INDEPENDENCE

Arkes and Garske (1982) cite the classical studies completed by Winterbottom and Rosen and D'Andrade regarding the development of achievement motivation in children.

The former study suggested that mothers of high-need-to-achieve boys placed earlier demands of independence on their sons than mothers of low achievement motivated boys. The latter study pertained to the following differences between high and low-need-to-achieve boys:

- the mothers of the former were warmer in their relationships towards their sons;
- both the parents of the former expected more of him than those of the latter; and
- the fathers of the former were more inclined to encourage independent task performance in their sons than those of the latter. They displayed more faith in their sons' ability to accomplish the tasks independently.

Heckhausen (Scholtz, 1976) supported the study by Winterbottom, but differed from her with respect to the unitary importance of independence as a catalyst for a higher need to achieve in children. He regards independence encouragement as *one* of the possible factors responsible for the development of an achievement motive. Scholtz (1976) also identifies independence training during childhood as a determining factor in the development of an achievement motive.

Smith (1969), however, points out that the reciprocal influences existing between parents and child pose numerous research problems. The problem being whether the child's personality and behaviour are formed by the child-rearing

practices of their parents or whether the child-rearing practices are elicited by certain personality traits of the child.

A number of researchers seem to shift the emphasis from the timing of independence training to the positive reinforcement thereof (Crandall et al., 1960; Teevan & McGhee, 1972).

REWARD

— From the study conducted by Crandall et al. (1960), it seems apparent that the achievement motive is not absent in children as young as nursery school-going age. Children between the ages of 3 and 5 were shown to display greater initiative when praised and rewarded for achieving behaviour by their mothers.

Scholtz (1976) elaborates on this by ascribing the development of an achievement motive to the goal-directed rearing of children towards achievement. He identifies a healthy parent-child relationship, characterized by warmth and positive reward following achievement, as one of the wholesome elements for the encouragement of an achievement motive. This positive reinforcement of achievement as a stimulus factor is also highlighted by Kagan & Moss (1962).

Ausubel et al. (1978) propose that achievement motivation is the product of three components:

- cognitive drive;
- ego-enhancing drive; and
- an affiliative component.

The implications of this approach to the development of achievement motivation are subsequently given.

According to Ausubel et al. (1978), the cognitive drive refers to the desire of the individual to acquire knowledge and solve academic problems. This drive is also described as being task-oriented and as such the motive for becoming involved in the task is intrinsic to the task itself - simply the need to know. The reward is thus also inherent in the task itself since it is capable of wholly satisfying the underlying motive. The availability of knowledge and learning material in itself is thus a catalyst for the development of an achievement motive. Here the parents and society at large play an important role in making such knowledge available to the potential learner and achiever.

The second component which may be termed ego-enhancing, is concerned with achievement as a means to acquiring personal status. The degree of achievement is thus viewed as being directly proportional to the kind of status he may earn. This component is directed at both scholastic achievement and later career and academic goals. Anxiety is said to be a central driving force behind this component. The individual fears academic failure which would imply loss of status and self esteem. Approval of teachers in the school situation thus leads to confirmation of success and thus of earned status. This component has much in common with studies emphasizing the role of reward and punishment in the acquisition of achievement motivation. Reinforcement from the environment thus serves to strengthen the self esteem of the individual.

The affiliative component of achievement motivation is neither task-oriented nor primarily ego-enhancing. It is oriented toward achievement insofar as it assures approval by superordinate persons in the group with whom the individual identifies. A sense of acceptance and belonging forms the major incentive of this component. This status is obtained by meeting the superordinate person's standards and expectations.

Ausubel et al. (1978) identify the affiliative drive as the most important source of motivation for academic achievement during childhood. They draw the following conclusion with respect to motivation during childhood:

"Thus high levels of achievement motivation typically represent low affiliative drive that is more than compensated for by high ego-enhancement drive" (p. 413).

Adolescence is described as the period in which the affiliative drive diminishes and is redirected from parents to peers. The ego-enhancement drive is the dominant component during this period. The influence of the peer group is thus emphasized in this aspect of the development of achievement motivation.

Reward is thus considered in all three aspects proposed by Ausubel et al. (1978).

The next factor to receive attention is that pertaining to expectations of success and achievement as a function of achievement motivation.

REALISTIC EXPECTATIONS

Scholtz (1976) proposes that the creation of achievement expectations in the child is a vital element of achievement motivation development. This approach is supportive of the findings of Atkinson (1968).

In his approach, Atkinson (1968) defines the strength of the success drive as a function of three variables, i.e.

- the need to achieve success;
- the strength of the expectation of success; and
- the relative attractiveness of success.

This drive towards success and achievement is thus dependent upon expectations.

In this regard McClelland et al. (1976) have the following opinion:

"Our own conception of motivation... is based on the notion that the child's achievement expectations... are the source of his achievement motivation, since his own actions will then interact with those expectations in ways which will yield positive or negative effect" (p.330).

Wessels (1980) emphasizes the importance of realistic expectations in this regard. In this way frustration and lowered self esteem are minimized by limiting the experiences of failure due to unrealistic expectations.

Having examined the achievement motive of the individual and the development thereof, the question arises as to the influence which group activity may exercise upon achievement motivation.

GROUP FACTORS

Zander (1971) ascribes the level of aspiration a member prefers in group regard as a function of two group-oriented tendencies: the tendency to approach group success and the tendency to avoid group failure. The desire to achieve group success is a disposition to experience pride in, and satisfaction with, a group when it succeeds in accomplishing a group task. The desire to avoid group failure, on the other hand, is a disposition to experience embarrassment or shame for the group following the failure.

The following aspects receive attention as determining factors in the experience of group achievement motivation:

- central and peripheral positions occupied in a group;
- strength of group; and
- group aspirations.

In an experiment performed by Zander (1971), it was shown that central members, more than peripheral ones, prefer aspirations for their group in the intermediate range of difficulty, but that this only held for cases in which these central members also chose the aspiration level of the group, and were thus truly the most responsible members of the group.

In a study conducted by Zander et al. (1960), it was found that individuals in a group with high unity were personally more affected by the success or failure of their group than those in low unity groups. The achievement motive for the group would thus be strengthened by high unity.

These authors also stressed the importance of the level of aspiration of the group to which a member belongs. It seems apparent that members of groups with stronger desires for group success tend to select higher group aspirations than those with weaker desires to achieve group success.

These factors would thus justify further attention when forming the group for the learning development program.

Practical implications, for increasing motivation in the learning process, are supplied by Ausubel et al. (1978):

- motivation is as much an effect as a cause of learning;
- the objectives (goals) in a learning task should be explicit and specific;
- use should be made of existing interests and motivations;
- arousing intellectual curiosity leads to maximization of the cognitive drive;

- tasks should consider the learner's ability level to minimize frustration;
- goals set should be realistic and information feedback of performance should not be limited with respect to goal attainment;
- developmental changes and individual differences should not be overlooked; and
- judicious use of both extrinsic and aversive motivation should be employed.

Bruwer (1973) identifies the following as determinants of achievement:

- (a) motivation;
- (b) attitudes; and
- (c) study methods.

Having paid attention to motivation and determinants of attitudes with respect to development in general and cognitive development in particular, the emphasis moves to study methods. These will now be considered as strategies to develop learning in the adolescent.

2.2 STRATEGIES FOR LEARNING DEVELOPMENT

2.2.1 INTRODUCTION

In a review by Kirschenbaum and Perri (1982) the efficacy of programs designed to improve academic competence suggests that the closer one scrutinizes the literature, the less favourable the results seem. These authors, however, show that more recent (1974 - 1978) results of studies display a more favourable trend.

This negative finding regarding academic competence improvement is supported by Kulik et al. (1982), who once again stress the improvement found in more recent studies and from applications in the social sciences. These authors found no significant effectiveness of programmed instruction in secondary schools. Programmed and conventional instructions were found to be very similar with regard to achievement, attitude towards subjects, and feelings towards teachers. These findings have, however, been contradicted by other studies (Dudley, 1978; Horne & Matson, 1977; Johnston, 1975; Richards, 1975; Richards et al., 1976).

The unfavourable results of earlier studies have been assigned to:

- (a) unsatisfactory specificity or detail of the reviews;
- (b) failure to differentiate between group and individual programs;
- (c) failure to systematically analyze results with respect to dependent measures other than grades or grade point average; and
- (d) failure to systematically evaluate the methodology in this literature (Kirschenbaum & Perri, 1982).

The aim of this study is therefore to identify vital elements of success from existing study methods and research results in an attempt to propose a program combining these. To make this possible, a review of these existing methods and results is essential. Once again Kirschenbaum and Perri (1982) supply a broad outline of these, namely:

- (a) behavioural studies;
- (b) general counselling;
- (c) self control studies; and
- (d) study skills.

An exploration of these methods follows.

2.2.2 BEHAVIOURAL STUDIES

This type of intervention refers to systematic desensitization, implosion, contingency contracting, positive and negative reinforcement and other procedures typically viewed in the domain of behaviour modification (Kirschenbaum & Perri, 1982).

Many programs and treatment suggestions are combinations of the above mentioned categories and as such, apply to more than one specific category.

One of these is the program suggested by Wark (1976). The behavioural methods implemented by him in an attempt to teach study skills can be divided into three categories:

- (a) self-observation;
- (b) stimulus control; and
- (c) consequences.

Self-observation was encouraged by charting, counting, measuring and recording one's own learning behaviours. This then served as a baseline against which to evaluate change in study behaviour. Wark (1976) found that the simple exercise of observing one's own behaviour often brought about marked changes (see self control studies).

The stimulus control technique included all methods that involve change in the environment. The changes suggested here, included the following:

- (a) a new and non-distracting place to study;
- (b) physiological states and internal self-instruction;
- (c) time of day for studying; and
- (d) activities preceding study times.

The third category of behaviour control techniques included all self-applied consequences of study. These referred to rewards or punishments which were self-administered according to the effectiveness of studies completed.

Lent and Russell (1978) compared the relative effectiveness of two multicomponent strategies in the treatment of test anxiety. Test-anxious students were assigned to one of four conditions:

- (a) no treatment;
- (b) study-skills course alone;
- (c) systematic desensitization in combination with a study-skills course; and
- (d) a combined cue-controlled-desensitization-study-skills program, which was a self-control program.

This study supported the findings of other researchers (Allen, 1971; Mitchell & Ng, 1972), who found the approach of combining desensitization with study-skills counselling to be superior to one highlighting either independently. This approach is designed to impart effective study behaviour as well as to manage the debilitating emotional experiences associated with the test situation. Careful assessment of the relevant problem dimensions is highly recommended in this study for any further investigations (e.g. test anxiety, study habits, disruptive cognitions, grades).

Mahoney (1974), however, stresses the importance of demonstrating a general treatment effect for a multimodal intervention before attempting to isolate the specific active elements in the treatment program.

Denney and Rupert (1977) also conducted a study with test-anxious students whereby self-administered desensitization and self-control techniques were employed. The authors suggest that the active coping rationale which was exercised led subjects to attribute

their treatment gains to their own enhanced self-control capacities and may thus have encouraged subjects to continue practising these coping skills long after the termination of treatment. Long-term results are stimulated in this way. The subjects are thus trained with respect to future coping and the termination of the program does not imply the termination of coping.

Horne and Matson (1977) made use of the behavioural techniques of modelling, desensitization and flooding in an attempt to improve grade achievement and anxiety. They reported positive results in both instances. The former and latter techniques proved successful with respect to improved achievement and anxiety, whereas desensitization was merely shown to decrease anxiety with no significant outcome as compared to controls with respect to achievement. Here Allen (1972) supports this latter finding, but argues that later investigation is called for - beyond the semester during which treatment was administered.

Further behavioural techniques will also receive attention when discussing self-control and study skills. Another technique which has received attention in the past as an attempt to improve academic success is that of general counselling.

2.2.3 GENERAL COUNSELLING

Researchers in this regard emphasize different forms of personal therapy as treatment procedures to improve academic performance. The emphasis thus shifts from academic ability and aptitude to emotional factors which may underlie academic failure or poor performance.

Baymur and Patterson (1971) investigated the hypothesis that therapeutic counselling should be effective in reducing under-achievement. Four treatment conditions were selected:

- (a) individually counselled experimentals;
- (b) group counselled individuals;
- (c) one-session motivational counselled experimentals; and
- (d) non-counselled controls.

The individually counselled experimentals received client-centred therapy once weekly. This procedure was repeated in group regard and discussions were not limited to academic problems. The third group met only once and were informed of their underachievement, their ability to improve, the importance of improvement and that they were to achieve this improvement without any specialized help. The control group had no contact with the experimenter.

The experimenters found significant differences with respect to an adjustment score and grade-point average between the two counselled groups and the noncounselled groups. They also suggest that individual counselling may be preferable for personal problems while group counselling is better with cognitive problems such as improving academic achievement, depending on the nature of the group counselling situation, yet the interrelation of emotional and academic problems is stressed.

Broedel et al. (1971) employed group counselling as technique to improve self-acceptance, academic performance and interpersonal relationships among adolescents. They reported positive results when compared with control groups which received no counselling. Counselling was based on video recordings made of sessions.

Golburgh and Penney (1971) directed their counselling at negative attitudes or hostility towards parents and authority figures experienced by underachieving students. The suggestion here is that individual counselling of short duration and restricted objectives leads to improved academic performance.

Recent studies seem to favour multi-dimensional interventions, which not only highlight general counselling, but combine this with study skills and behavioural techniques (Mitchell et al., 1975; Obler et al., 1977). Both these studies were supported in follow-up assessments.

2.2.4 SELF-CONTROL STUDIES

Developing self-control techniques implies learning to be one's own therapist and controller of behaviour. Self-control has long received attention as a dominant therapeutic device (Kazdin, 1974; Krumboltz & Thoresen, 1976). The value of this technique must thus be investigated with regard to academic improvement.

Richards (1976) employed self-monitoring graphs, self-monitoring sheets and instructions for self-monitoring in an attempt to improve academic success. He found that these techniques were effective in improving students' study behaviours and grades, but added that self-monitoring was enhanced by advice on study skills.

Richards also suggested three useful aspects when employing self-monitoring:

- (a) self-monitoring procedures should be simple and easily completed;
- (b) contact with the therapist should be faded gradually so as to encourage persistence in self-monitoring; and
- (c) information-feedback should be emphasized.

The latter suggestion refers to information which is given to the subject as feedback with regard to his own functioning in an attempt to encourage comparison of present behaviour with prior base-line behaviour. Richards (1976) continues to suggest that subjects showing the greatest discrepancy between actual monitored behaviour and prior self-evaluation to be the most suitable for a self-monitoring program.

Note cards, graphs, and a combination of note cards and graphs were used by Mount and Tirrell (1977) in a self-monitoring program to improve examination scores. The subjects were asked to record time spent learning and to contrast this to time they felt they should have spent learning. In this way the researchers achieved two main aims:

- (a) the individuals received feedback of the desired goal and were thus aware of the desired direction of increased or decreased behaviour; and
- (b) the combination of using note cards and graphs enabled the subjects to benefit from either method.

Both suggestions are also offered as explanations for the superiority of the combined methodology (card and graph) over that of the separate methods. This study also seemed to favour continual feedback or enforced task attendance as positive pointers of success.

Studies mentioned until now have paid much attention to self-monitoring and the effect this has on changed behaviour. A further step in self-control would now be to consider specific self-control strategies.

Osipow et al. (1980) identify the following as self-control strategies:

- (a) environmental planning; and
- (b) behavioural planning.

The former involves modifying the circumstances that precede or give rise to a behaviour. The latter refers to the alteration of the consequences of a behaviour rather than of the events that precede it. Thoresen and Mahoney (1974) cite the following as examples of behavioural planning:

- (a) self-praise;
- (b) self-criticism;
- (c) pleasant and unpleasant images;
- (d) private contracts; and
- (e) special privileges.

Academic improvement is strengthened through combinations of self-management and self-reinforcement techniques (Harris & Trujillo, 1975). These authors also implemented a group-discussion technique which was directed at discussions concerning academic problems on a non-directive basis. The self-mastery which the students achieved was shown by higher academic performance for the experimental group. The self-management group reported more efficiency in studying than those participating in the other groups.

In a study by Richards and Perri (1978) self-control treatments are evaluated with respect to behavioural problem-solving and faded counsellor contact as treatment maintenance strategies. The subjects were allocated to a no-treatment control group, a study skills advice group, or one of four self-control and study skills advice groups. The results of this study indicated that training in problem solving was an effective treatment maintenance strategy, while a brief fading procedure was not. Results also evidenced rapid post treatment deterioration on the part of the no-maintenance strategy groups.

The authors identified the following as important implications for the implementation of academic improvement programs:

- (a) treatment effects may not last unless treatments are supplemented with effective maintenance strategies; and
- (b) problem solving is one such strategy.

The problem solving skills involved were those proposed by D'Zurilla and Goldfried (Richards & Perri, 1978), namely:

- (a) general orientation;
- (b) problem definition;
- (c) generation of alternatives;
- (d) decision making; and
- (e) verification.

The general principles to be followed when facing an academic problem was thus supplied and students granted the opportunity to master future difficulties (Richards & Perri, 1978).

These authors also identified self-monitoring as the most popular treatment technique in the self-control plus study skills advice groups.

The importance of specific study skills is thus highlighted as an effective treatment technique and as such, demands attention.

2.2.5 STUDY SKILLS

Study skills procedures are those intended to directly improve reading effectiveness and efficiency and related academic tasks like note taking, test taking, and paper writing (Kirschenbaum & Perri, 1982).

Robinson (1970) suggested what he called the SQ3R method, as a technique or study skill to improve academic performance. The idea of this approach is that the reading of a passage is broken down into five stages. A discussion of these stages follows:

(a) SURVEY

This stage supplies the reader with a general impression of the type of book which is being read. Reading the preface and introduction ensures that one understands the author's proposed intention in writing the book. The index also acts as a guide to the type of notes which may be made.

(b) QUESTION

Before embarking on the book or chapter, questions are asked which pertain to the reason for reading the section, the points which are to be considered important and the general value of what is to be learnt or read.

(c) READ

This stage implies reading through the section at a fair speed before studying it in detail. During this stage the basic idea of the chapter and paragraphs is sought. The detail is supported by diagrams and illustrations. At the onset of this stage the main aim is to recognize the author's meaning and cause in stating his facts. Only after having succeeded in doing this, does the attention turn to criticism and analysis of detail.

(d) RECITATION

This stage involves trying to recall the main ideas identified during the reading stage. These ideas are preferably recorded in note form or recited aloud.

(e) REVIEW

This refers to the checking which follows recall. Errors in recall are thus identified and highlighted as problem areas.

The SQ3R is one of the best known study techniques. A number of variations of this program have been suggested, which will not receive further attention. Researchers differing from this approach emphasize the actual improvement of eye movements and vocabulary (Freeman, 1982; Maddox, 1978).

Maddox (1978) identifies the following as important aspects to be improved when wishing to improve the reading speed:

- (a) talking to yourself as you read;
- (b) an inadequate vocabulary;
- (c) an inability to vary rate of reading to suit the material or needs; and
- (d) a habit of slow reading.

The improvement may be brought about by self-monitoring, concentrating on faster reading and improving the existing vocabulary.

Freeman (1982) cites three major techniques which may be implemented in an attempt to improve vocabulary:

- (a) reading widely;
- (b) using new words; and
- (c) looking up new words.

Underlining, summarizing and memorizing, too, have received much attention as study skills (Freeman, 1982; Maddox, 1978; Van Niekerk, 1980).

In a review of the literature on the effectiveness of experimenter-provided and learner-generated underlining, Hartley et al. (1979) discovered that few studies, if any, provide support for the effectiveness of underlining, that recall testing has been neglected and that long-term recall has been overlooked. Their study,

however, showed significant results on recall of experimenter-underlined words as compared to those obtained from the control group with normal texts. Studies undertaken supporting these findings include those by Cashen and Leicht (1970); Coles and Foster (1975) and Fowler and Barker (1974).

The following aspect, namely summarization, may be considered in terms of Van Niekerk's (1980) identification of four major types of summaries.

(a) THE TABLE OF CONTENTS

This type of summary only provides an index of the various parts of the section to be studied. The value of this type of summary is given as:

- the ease with which a specific group of facts might be traced;
- the index provides an overview of what must be learnt and what has already been learnt;
- it may also serve as an index for revision for a test or examination. As a factual reference it is, however, useless.

(b) THE COMPLETE SUMMARY

This type of summary is aimed at accurate factual recall. This summary should also be able to replace the textbook. Revision should thus be done from these without having to refer back to the textbook. Compiling this summary is often a lengthy and time-consuming practice.

(c) THE SCHEMATIC SUMMARY

The schematic summary is directed at the provision of an entire framework or basic construction of a study unit in a compact format. The main headings, sub-headings and

relevant facts are identified and represented schematically. The advantages of this summary are given as:

- the reduction of learning material in a logical, compact manner;
- the provision of an overview of the material to be learnt and an idea of where each small part fits into the whole; and
- an aid to memorization as a result of above mentioned advantages.

(d) THE KEY WORD SUMMARY

This summary usually consists of only a few words that represent the main ideas of the study unit. The suggestion is that this summary is made after learning the material and thus serves as stimulation to the memory for recalling. The advantages of this approach are:

- decreasing test and examination tension. The key word summary may be jotted down before the actual recalling process commences and the testee then supplies himself with a broad framework for answering the questions;
- reduction of a large section of work; and
- supplying guidelines for the logical structuring of an examination question. The process of recalling, structuring and formulating is thus simplified. The formulation of thoughts is completed when the key word summary is presented.

Memory being the complex system that it is, the emphasis in this study will rather fall on techniques implemented to improve this skill, than on the biological process thereof.

Maddox (1978) cites the following methods as useful in learning better methods of remembering:

- (a) the use of active self-testing or recitation;
- (b) the use of grouping and rhythm (implementation of a sing-song technique);
- (c) attention to meaning and the use of associations; and
- (d) alertness and concentration.

The author also stresses the importance of meaningful learning, organizing and linking materials in order to assist long-term retention. Errors which could take place during the process of learning, storage and retrieval, should be limited by precise and accurate information intake.

To the list of memory techniques mentioned above, Freeman (1982) adds the following:

- (a) the sequence of memorising should be the same as the logical sequence of the material; and
- (b) long pieces should be memorised in shorter units.

This concludes the discussion of the techniques suggested by Kirschenbaum and Perri (1982), but leaves the issue of an integrated solution unanswered. Guidelines are, however, also supplied by the authors in their three-component model of academic improvement. The effectiveness of structured, multicomponent interventions, focussed on improving study and self-regulatory skills, are of vital importance to Kirschenbaum and Perri (1982) due to the positive results obtained from the implementation of programs of these dimensions.

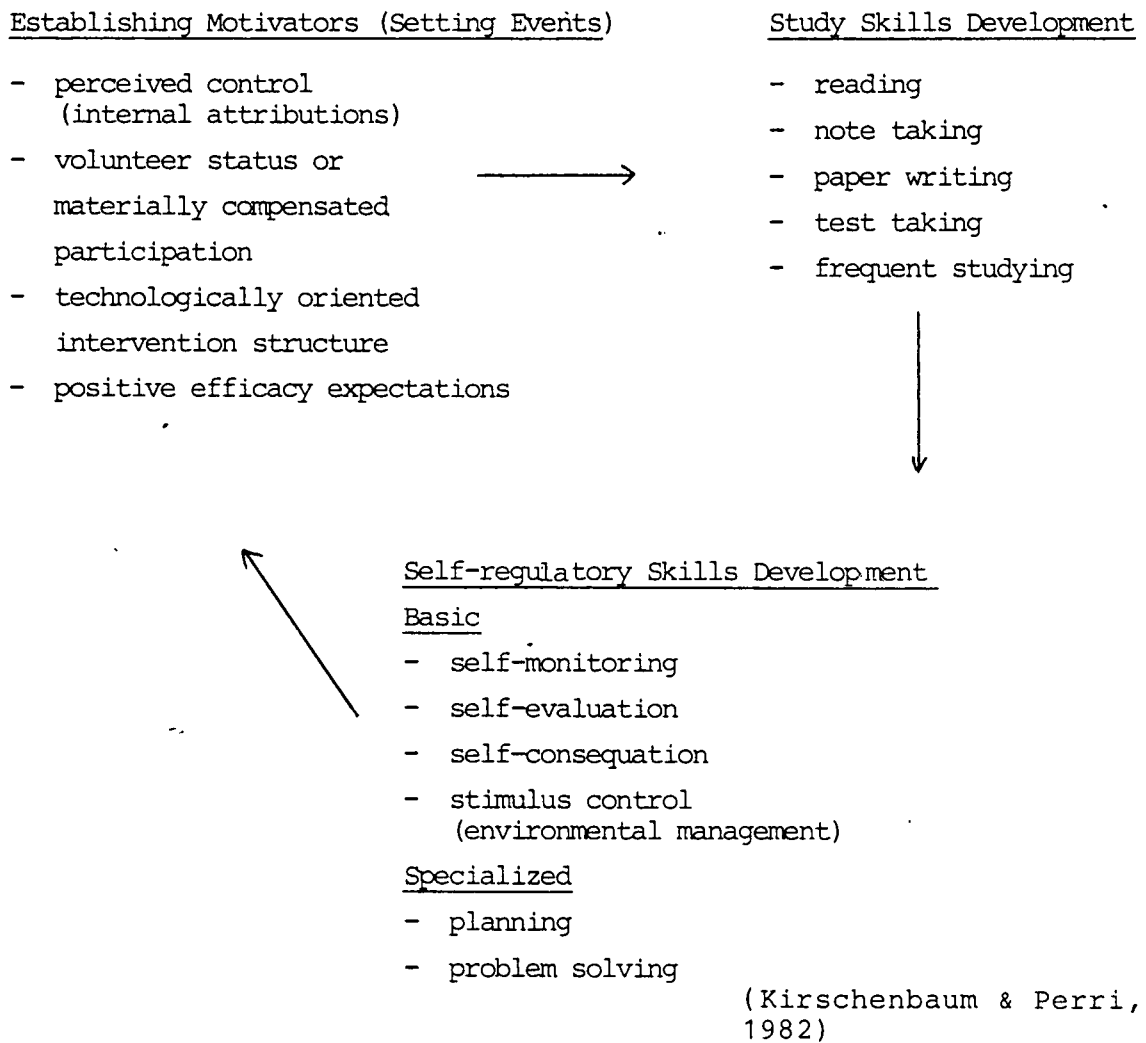
From their study of existing study programs and techniques, the authors propose three interrelated components that describe the process of academic improvement:

- (a) motivational factors;
- (b) study skills; and
- (c) self control.

In this regard the following schematic representation may serve as clarification of the components:

FIGURE 2.2

A THREE-COMPONENT MODEL OF IMPROVING ACADEMIC COMPETENCE



In the implementation of a program of these dimensions, we are, however, reminded of Kirschenbaum and Perri's (1982) second point of criticism regarding the unfavourable results of previous studies:- failure to differentiate between group and individual programs.

This aspect thus plays an important role in the implementation of a learning development program and especially so when we consider the results of the study performed by Baymur and Patterson (1971) which pertain to the greater suitability of group counselling with respect to cognitive problems and academic achievement improvement.

2.2.6 GROUP WORK

According to Brammer and Shostrom (1982) group methods are growing in popularity, not so much as clinical methods to assist the seriously disturbed, but as a technique to help the normally functioning individual to develop to higher levels of functioning and awareness. This awareness, the authors feel, may lead to greater effectiveness, increased humanness, or further actualization of their potential.

Berg and Landreth (1980) also consider group methods as a means to answer to the increased demand for counsellor time and talents. Yet, they stress the fact that group work offers more advantages than mere expediency. These aspects will receive attention in this section.

From a review of recent literature (Berg & Landreth, 1980; Brammer & Shostrom, 1982; Kemp, 1970) it seems apparent that group counselling is gaining popularity as a treatment medium.

Kemp (1970) and Berg and Landreth (1980) refer to a distinct differentiation which exists between group counselling and group psychotherapy. This distinction therefore warrants attention.

(a) TYPE OF GROUP INTERVENTION

Berg and Landreth (1980) consider the delineation between approaches to be a function of a continuum which proceeds from a preventative, proactive constellation of activities

to increasingly more refined therapy functions that are directed at remediation or treatment.

Brammer and Shostrom (1982) also view counselling and psychotherapy as a continuum with counselling forming the end where the emphasis is on normal developmental problems and psychotherapy the end emphasizing treatment of "neurotics" (p.7).

Brammer and Shostrom (1982) supply the following characteristics of both ends of the continuum:

- counselling, they feel, stresses rational planning, problem solving, decision making and support for situational pressures experienced by normal persons;
- psychotherapy, however, is viewed as an intervention which emphasizes intensity and length of involvement and is more directed at alleviation of pathological conditions.

Kemp (1970) refers to training groups which are characterized by visualizable and specific goals. These in turn pertain to *"the knowledge of content, development of skills, and increased self-understanding"* (p. 62). This definition of the training group immediately differentiates it from the therapeutic group or group therapy. In this regard, Kemp (1970) stresses the following:

"There is no precise, clear consensus regarding the nature of therapy or conditions under which it takes place. There is agreement, however, that changes in individuals can and do take place in all types of groups... the wall of separation revolves around what types of change must result in the individual before therapy may be concluded to have taken place" (p.8).

Berg and Landreth (1980) view the goals of training or counselling groups to be directed at prevention rather than cure.

"Counselling should be preventive and developmental with an emphasis on therapeutic prevention of emotional or adjustment problems in students. The prevention of maladaptive academic habits and attitudes which may stem from such problems would enable more students to attain the educational experiences necessary in order for them to make the positive contributions to self and society of which they are capable." (p. 10).

A learning development program intended for adolescents functioning within the normal ranges of adjustment and directed at potential improvement, would thus rather meet the criteria for a training or counselling group than that of a psychotherapeutic group. Further emphasis will thus be placed on the factors influencing this type of group, and the advantages and disadvantages involved.

(b) FACTORS INFLUENCING GROUP FUNCTIONING

It is apparent that training groups emphasize structure, prevention, specific goals and skill acquisition (Kemp, 1970).

It is now necessary to review factors which could influence this functioning positively or negatively. Among those reviewed, the following are emphasized:

- group size;
- group composition;
- group leader; and
- dynamic processes.

Maddox (1978) proposes that the group should be small enough to encourage participation on the part of all members, but large enough to include a range and variety of knowledge and opinion. Davis (1969) considers the size of the group to be a vital element of group effectiveness. This opinion is shared by Brammer and Shostrom (1982); Hansen et al. (1976) and Ohlsen (1977). It would seem that these researchers differ in opinion as to the ideal group size, but that limits described lie between three and fifteen. It would further seem that the more unstructured and therapeutic orientated the group, the smaller the suggested size.

The next aspect to be considered is that of composition. An important factor being the hetero- or homogeneity of a group (Gazda, 1978; Lewis, 1970; Ohlsen, 1977; Wolberg, 1967; Wright, 1959).

Hansen et al. (1976) supports the idea of homogeneity of the group with respect to the problem, supplying the following as motivation:

- faster group cohesion;
- improved attendance;
- less conflict; and
- immediate support of members.

The disadvantages or contra-indications of homogeneity seem to pertain to reinforced maladaptive habits or behaviour and less effective change in permanent behaviour (Hansen et al., 1976). The advantages, however, seem to outweigh the disadvantages of this approach. Slavson (1955), for instance, urged that grouping should be based on similarity of psychological syndromes and Hoffman and Smith (1969) propose that homogeneous groups promote problem-solving more efficiently than heterogenous groups. Heterogeneity with respect to sex appears to be favoured by research (Dinkmeyer

& Muro, 1979; Ohlsen, 1977; Wolberg, 1967). Nel (1980), however, stresses the importance of the goal and nature of the problem when compiling a group. It should thus be remembered that adolescence is a period during which marked differences appear between sexes with respect to academic performance (Hurlock, 1980).

It thus follows that the group leader plays an important role in compiling the desired group and activating positive interaction.

In this regard Berg and Landreth (1980) emphasize the view held by Cohn that group counselling is a process for aiding with scholastic, social and personal problems under the leadership of a competent counsellor. Competence, they stress, is not a function of academic qualification, but rather that of a capacity to develop relationships and to work with people. Yalom (1975) ascribes the facilitation of a group and the maintenance thereof to a function of the group leader. Here Ohlsen (1977) provides a number of suggestions for the facilitation of the group by the leader. He views the leader as a facilitator of group interaction by the preparation of the members for counselling.

This preparation of the individual pertains to:

- an explanation of what is expected of him;
- support of the expectancy that change is possible;
- support for the acceptance of responsibility;
- strengthening of motivation; and
- determining realistic goals.

These specific tasks will receive further attention with the implementation of a learning development program in group regard.

The final element to be considered with respect to influential factors in group functioning is group dynamics. This term is used with reference to cohesion of, and atmosphere in, the group.

Group cohesion is considered to be a vital element of group counselling and therapy (Dinkmeyer & Muro, 1979; Ohlsen, 1977; Yalom, 1975). This refers to an attraction which the group has for the members and which they in turn show towards each other (Yalom, 1975). In this regard Kemp (1970) stresses the following:

"There is stimulation also from other sources such as direct contagion, association with ideas, and sometimes identification with the emotions of others and the developing sense of responsibility, belongingness and adequacy"
(p. 65).

Berg and Landreth (1980) consider cohesion to be based on a shared understanding of the group goals, the degree of unity of purpose within the group and the commitment to the group. Berne (1966) suggests that a group will remain cohesive as long as it is able to satisfy the needs of the members.

One of the determining factors of group cohesion pertains to the atmosphere created in the group (Berg & Landreth, 1980). They suggest that the climate set should be one of acceptance, intimacy and openness. Kemp (1970) regards the "openness" of a group to be a function of trust. Trust is therefore essential between members, and between members and the group leader. In this way group cohesion is strengthened. This enables the members to experience a sense of belonging and security. When sharing their problems and difficulties, they thus feel free of any threatening experiences.

We now move to the advantages and disadvantages of group work and the implications thereof.

(c) ADVANTAGES AND DISADVANTAGES OF GROUP WORK

Maddox (1978) identifies the following as advantages of group work:

- motives and interests are stimulated. Interest in work is sustained by group participation and communication with others regarding the work;
- certain tasks are performed more efficiently by more than one individual;
- it enables the participants to bring facts and theories into perspective. In this way facts are organized and structured more effectively for memory storage; and
- group work promotes co-operative effort and thus teaches the member to accept criticism and to be more moderate in his opinions.

Freeman (1982) elaborates on this list by offering the following as advantages of group work:

- group discussion may serve as a test of knowledge and understanding;
- new ideas and insights may be stimulated by group participation; and
- reordering of established ideas is possible.

When the advantages of group work are applied to a learning development program intended for adolescents, the following aspects play a major role:

- the peer group forms such a vital part of the adolescent's life and frame of reference that the group gives the opportunity to interact with the other members of the group with respect to his studies (Ohlsen, 1977);

- the cognitive developmental level of the adolescent is characterized by the formation of hypotheses and the group thus enables him to test these against those held by his peers (Gazda, 1978);
- by exposure to other cognitive styles, the stimulation of the opposing style to that displayed by the individual himself, is made possible;
- achievement motivation is supported and enhanced by group support, group competition and group evaluation (Zander, 1971); and
- implementation of the program in group regard implies an economization with respect to time, manpower and facilities (Berg & Landreth, 1980).

Having considered the positive elements influencing the functioning of a group, detrimental factors now follow.

Kemp (1970) identifies the following as detrimental influences:

- neglecting to take each member's specific background into consideration. This includes the individual differences in past experiences associated with the problem currently being dealt with;
- creating an atmosphere of competition to such an extent that a member feels that he must perform or achieve in order to be accepted in the group; and
- a lack of depth in the group. This refers to the tendency of members to remain with clichés or accepted ideas rather than encourage individual opinion.

These factors are therefore not to be neglected when functioning in group regard.

This concludes the review of adolescent development, with specific emphasis on cognitive development and cognitive style, motivation as catalyst to the learning process and existing strategies implemented to improve learning.

A theoretical model is now required to integrate the above-mentioned aspects of the learning process and to supply guidelines for an intended program. The solution to this problem will be sought in the principles of the General Systems Theory and psycho-education as training model.

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CHAPTER 3

THEORETICAL MODEL

3.1 GENERAL SYSTEMS THEORY

General Systems Theory provides us with a series of related definitions, assumptions and postulates about all levels of systems, from an atomic particle to much larger and more inclusive systems like a galaxy (Miller, 1969). It provides a macro view from which we might view all systems (Von Bertalanffy, 1973).

Over the past two decades, the development of this theory has provided a basis for the integration of scientific knowledge across a broad spectrum (Kast & Rosenzweig, 1972). The origin of the theory, however, finds its roots in the works of Von Bertalanffy, which date back to the 1930 - 1940 period (Buckley, 1968).

An explanation of the basic concepts involved in this theory is essential to determine its significance as a theoretical model for a psycho-educational program based on the learning process of the adolescent.

The first of these basic concepts would surely pertain to the central theme of this theory, namely the nature of systems.

(a) SYSTEMS

According to Miller (1969), systems are bounded regions in space and time, involving energy - interchange among their related parts. A system can also be viewed as consisting of a number of aspects or elements which are interdependent. This interdependence then implies interaction and mutual transactions between the parts. It would thus follow that a change brought about to one element would influence total systemic functioning.

Hall and Fagan (1968) elaborate as follows:

"A system is a set of objects together with relationships between the objects and between their attributes. Objects are simply the parts or components of a system, and these parts are unlimited in variety. Attributes are properties of objects. The relationships... are those that 'tie' the system together" (pp. 80 -81).

Yet another definition of the term 'system' may be found in the work of Jordaan and Jordaan (1980) who view a system as consisting of a number of subsystems, each possessing its own differentiated function, which is structurally and functionally hierarchically ordered. They too stress the importance of transactions between subsystems and that existence in isolation is not possible. On every horizontal level in the system transactions take place between the objects of the subsystems which are ordered on that level. These transactions, taking place on all levels of the subsystems, ultimately influence the functioning of the total system.

Jordaan and Jordaan (1980) supply the following practical example in an attempt to clarify this terminology. A large business concern may be regarded as the system with the workers corps as subsystems. The differentiation between skilled and unskilled workers then implies the objects of the subsystems with the finer categorization of cleaners, messengers and clerks forming the attributes of these objects.

The system concept may thus be visualized as a circle and its elements as points in the circle. This conceptualization brings us to the next important aspects of the

General Systems Theory, namely, the environment of a system and the boundaries between systems.

In this regard Hall and Hagen (1969) supply the following definition of the environment:

"For any given system, the environment is the set of all objects a change in whose attributes affect the system and also those objects whose attributes are changed by the behaviour of the system" (p. 33).

The presence of a system within a specific environment implies the existence of boundaries to demarcate the former from the latter. In this regard Chin (1976) offers the following definition of boundaries:

"... the line forming a closed circle around selected variables, where there is less interchange of energy (or communication) across the line of the circle than within the delimiting circle" (p. 93).

The boundary thus serves to demarcate the system from its environment, but also from the subsystems and suprasystem.

The execution of transactions between systems and between subsystems implies an exchange of energy. These boundaries are thus defined as a type of filter through which energy may be imported into the system or exported to the environment (Berrien, 1968).

An important distinction which is called for at this stage is that between closed and open systems which is a function of the boundaries defined above.

(b) CLOSED AND OPEN SYSTEMS

Von Bertalanffy (1969) differentiates between open and closed systems with respect to the progressive steady state experienced by open systems, while this is not experienced by closed systems. In this regard he supplies the following definition:

"The steady state of open systems is characterized by the principle of equifinality, that is, in contrast to equilibrium states in closed systems, which are determined by initial conditions, the open system may attain a time-dependent state, independent of initial conditions and determined only by the system parameters"
(p. 14).

According to Miller (1969) and Katz and Kahn (1966), open systems are further regarded as:

- characterized by energy/information inputs;
- possessing process components; and
- characterized by energy outputs.

The vital element of an open system could thus be regarded as the energy exchange and processing which takes place.

In contrast to these characteristics of an open system, Von Bertalanffy (1969) describes the closed system as one functioning in isolation and as such allowing no input or output of energy. Kuhn (1975) elaborates on this subject as follows:

"If the system is closed it will be subject to entropy, which in its broadest sense may be construed as loss of differentiation"
(p. 117).

This state of entropy defines an absence of energy exchange and leads to stagnation of system activity. Researchers defining this state include Rademeyer (1978), Buckley (1967), Stewart et al. (1978), Ruben (1972) and Von Bertalanffy (1969).

This difference between open and closed systems described, has also been defined in terms of morphostasis and morphogenesis (Rademeyer, 1978). The former refers to the tendency of a system to resist change, despite extra- and intrasystemic influences. The latter, on the other hand, implies a flexibility of the system to adapt to environmental pressures and thereby changing itself and developing.

Von Bertalanffy (1973), however, stresses the fact that certain systems, by their very nature and definition, cannot be regarded as closed systems. In this regard he refers to the living organism which is essentially an open system. As motivation for this he offers the following explanation:

"It maintains itself in a continuous inflow and outflow, a building up and breaking down of components, never being, as long as it is alive, in a state of chemical and thermodynamic equilibrium but maintained in a so-called steady state which is distinct from the latter" (p. 38).

With reference to the former terminology, morphogenesis would then be a property of living systems, and the appropriate definition of the adolescent as a system.

This emphasizes the aspect of energy exchange and stresses the importance of regulation and feedback.

(c) FEEDBACK

Rademeyer (1978) states that the dynamic interaction which characterizes living systems and their environments depends on feedback.

An apt definition of the term 'feedback' may be found in the description supplied by Kim (1972):

"... a portion of a system's output which is fed back or recycled to the system as input, thereby affecting the functioning of the system such that it is able to regulate itself and reach a preset or adaptive goal" (p. 131).

This emphasis on the striving towards a predetermined goal as a function of feedback is further highlighted by Buckley (1967):

"... goal directed and not merely goal oriented, since it is the deviations from the goal-state itself that direct the behaviour of the system, rather than some predetermined mechanism that aims blindly" (p. 53).

Furthermore, this feedback may be viewed in terms of positive and negative feedback (Kim, 1972; Miller, 1969; Rademeyer, 1978; Speer, 1970). When the deviation in output from the desired state is amplified, the feedback is said to be positive. When this deviation is reduced, negative feedback is implied (Hodge, 1977).

Kast and Rosenzweig (1972) elaborate as follows:

"Negative feedback is informational input which indicates that the system is deviating from a prescribed course and should readjust to a new steady state" (p. 22).

From these descriptions of both positive and negative feedback, it is clear that negative feedback will form the most important consideration for an intended learning development program.

This concept of feedback forms the nucleus of the cybernetic principles which were defined by Wiener (1948). This discipline, known as Cybernetics, tries to show that mechanisms of a feedback nature form the base of teleological or purposeful behaviour in living organisms and in social systems (Von Bertalanffy, 1973).

Von Bertalanffy (1968) distinguishes between cybernetics and the General Systems Theory in the following manner, viewing the former as a part of the latter:

"Cybernetics, as the theory of control, mechanisms in technology and nature and founded on the concepts of information and feedback, is but a part of a general theory of systems; cybernetic systems are a special case, however important, of systems showing self-regulation" (p. 15).

Subsequently, an exploration of these terms follow.

3.1.1 CYBERNETICS .

The key concepts of cybernetics may be found in the principles of feedback which it provides. Stewart et al. (1978) define cybernetics as:

"... based on the principle of feedback or circular causal trains providing mechanisms for goal-seeking and selfcontrolling behaviour" (p. 37).

This once more highlights the importance of goal-directedness and the striving towards this predetermined goal.

Rademeyer (1978) stresses the importance of cybernetics to the living system which is in continual relationship with its supra-system. By the implementation of the cybernetic principles, the living system is enabled to move towards a certain state of equilibrium which is directed at a certain goal and end result.

Cybernetics is thus regarded as the control mechanism at the level of energy exchange of the General Systems Theory (Rademeyer, 1978). This author also stresses the importance of a control system with respect to the energy inflow and outflow of living systems and sub-divided this control system into the following levels:

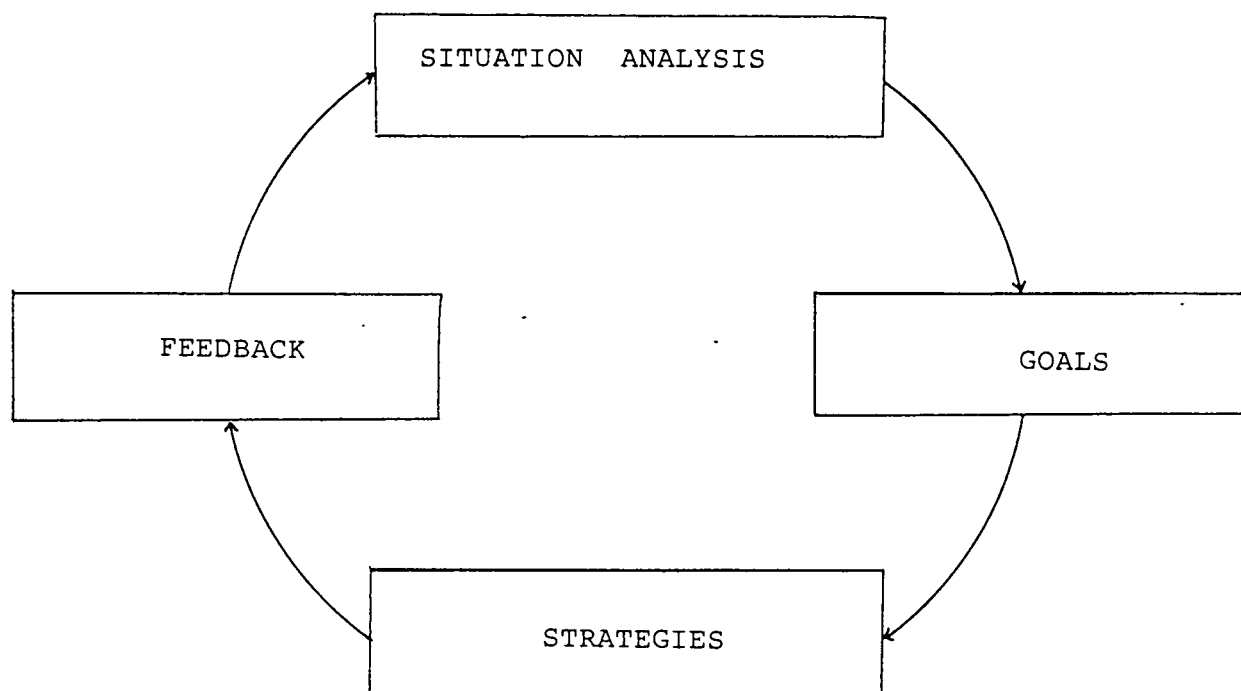
- (a) a state of equilibrium which exists in a given system is displaced;
- (b) energy output is required to regain equilibrium;
- (c) this output may be regarded as a strategy to obtain the desired goal; and
- (d) the direction of this action (strategy) is determined by the feedback which is based upon information relating to the amount of success obtained.

The importance of the feedback principle is once again stressed as a mechanism in maintaining relative stability in the system. The feedback also functions as an evaluative mechanism whereby energy output and the growth brought about in the system, when compared to pre-output or pre-input functioning, may be determined (Thoresen, 1969).

It is therefore apparent that goal attainment and information feedback are inseparable.

These principles may be viewed in terms of a cybernetic cycle displaying the following components:

FIGURE 3.1
THE CYBERNETIC CYCLE



This cyclic process displays the need to change within a system and how this goal of change is implemented by means of strategies. These strategies are then evaluated and feedback is supplied to the system with regard to the efficiency of the strategies implemented. This feedback gives rise to a new situation within the system.

Reusch and Bateson (1951) stress the importance of the interdependent activity of a system. They suggest that a comparison between prior conditions and present conditions in a system is the only manner in which progress may be determined. The identification of a single factor as determining element in the functioning of a system is shown to be impossible as a result of the unlimited processes of energy exchange.

Bearing in mind that the alteration of one element in a system implies a systemic change, Reusch and Bateson (1951) suggest that the solution to this situation in which a causal factor cannot be identified, to be the description of the situation before and after energy exchange has taken place. These situations are then compared with one another.

Conclusively, it can be said that the General Systems Theory and cybernetics supply us with a definite set of principles as a frame of reference for a psycho-educational program. The term 'psycho-education' warrants exploration as a model which incorporates the principles of the General Systems Theory and cybernetics and lays the foundation to a learning development program.

3.2 PSYCHO-EDUCATION

Psycho-education may be defined as follows:

Psycho-education is directed at the prevention of psychological problems and the development of human potential. It pertains to the training of individuals and groups in skills, insights and abilities in an attempt to supply their lives with meaning and goals (Ivey & Simek-Downing, 1980).

This definition implies that the psycho-educationalist views his task in terms of:

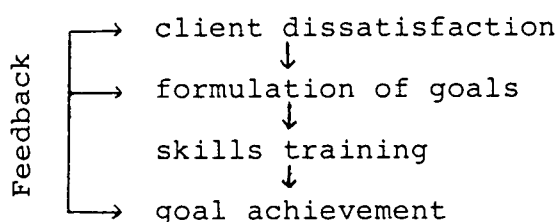
client dissatisfaction → formulation of goals → skills training → goal achievement (Authier et al., 1975).

This stance is clearly in contrast to the traditional linear model supplied by medical science:

abnormality → diagnosis → prescription → therapy → cure (Schoeman, 1983).

Furthermore, the implication of a cyclic process is evident. The achievement of a goal implies that the situation at present has been compared to the desired state and found to be satisfactory.

According to Schoeman (1983), this process may now be viewed as follows:



3.2.1 THEORETICAL FOUNDATIONS OF PSYCHO-EDUCATION

The differences identified with respect to a psycho-educational model and the traditional linear model, also imply that these models must display different theoretical rationale. According to Alschuler and Ivey (1973), the development of the former is retarded by the absence of an acceptable theoretical foundation.

In this regard, the model supplied by Schoeman (1983) will be considered as a theoretical rationale.

Learning and the role played by the psychologist in this process have been highlighted by this author as foundations for a training process. The works of Watson (1916), Guthrie (1935) and Dollard and Miller (1950) are saturated with the importance of learning as a form of human behaviour.

Furthermore, Schoeman (1983) refers to the existential-humanistic models in psychology as fundamental contribution to the

development of psycho-education. The following aspects are viewed as important in this regard:

- (a) man as a responsible, free being;
- (b) man's own potential to formulate and achieve goals;
- (c) man's striving towards self-actualization (Corsini, 1979).

These aspects emphasized the potentiality of a developmental model.

The Behaviouristic theory also contributed to the formation of the psycho-educational theory (Schoeman, 1983). The aspects to be considered here, include:

- (a) behaviour is a product of learning and socio-cultural conditioning (Corsini, 1979); and
- (b) behaviour is influenced by environmental manipulation (Skinner, 1971).

The work of Ellis (1963) also contributed to the model on the level of cognitive-emotional skills training and emphasized the role of the psychologist as a trainer (teacher).

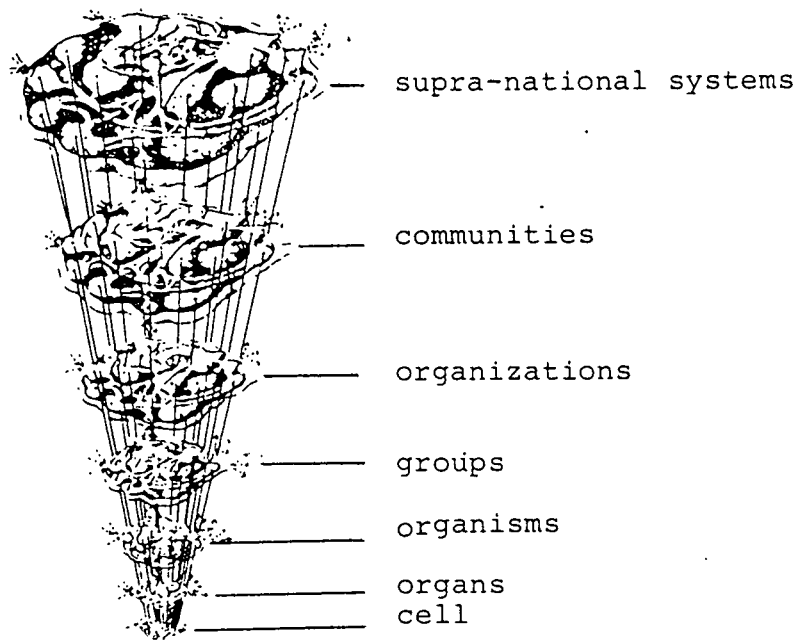
On grounds of these theoretical foundations, Schoeman (1983) identifies the following implications for the development of a practice oriented model for psycho-education:

- (a) Psycho-education is directed at prevention rather than cure. Implications of this refer to the training of people in the skills demanded by society in an attempt to advance mental health. The emphasis thus falls on the development of potential before the onset of psychological problems and mental disturbances. The training of skills is implemented as strategies to resist these conditions.

- (b) Psycho-education is concerned with man's development over the full span of his life-cycle. Here Developmental Psychology plays an integral part. When considering the developmental tasks of the adolescent (Hurlock, 1980), it becomes clear that psycho-education fulfils a definite purpose as a preventative and developmental model. This, however, may not be viewed in isolation, for the parents of these adolescents also find themselves in a certain stage of development. The complexity of the interaction between these life-cycles thus emphasizes the importance of the role played by psycho-education.
- (c) Psycho-education is suited for the purpose of the development of more complex systems. This implies that the General Systems Theory (Von Bertalanffy, 1973) may be considered as a meta-theory of psycho-education. In this regard the theoretical model proposed by Miller (1978) may serve as a meta-theory for psycho-education. According to Miller (1978) living systems may be described as belonging to one of seven different levels:
- cells;
 - organs (a collection of cells);
 - organisms (man may be considered here);
 - groups;
 - organizations;
 - communities; and
 - supra-national systems.

Diagrammatically this may be presented as follows:

FIGURE 3.2
SCHEMATIC REPRESENTATION OF
HIERARCHICALLY ORDERED LIVING SYSTEMS



(Schoeman, 1983)

It would appear that the major task of the psycho-educationalist lies on the following levels:

- individuals (organisms);
- groups;
- organizations; and
- communities (Schoeman, 1983).

Schoeman (1983) elaborates on these tasks as follows:

- On the level of organisms, the personality may be regarded as the living system. This implies that existing knowledge concerning the individual personality may be integrated and employed. The development of the personality, development of motivation, career development etc. are viewed as important aspects of the psycho-educationalist's task for the future.
- The level of groups essentially implies a more complex system and as such confronts the psycho-educationalist with a task of greater dimensions. In accordance with the principles of the General Systems Theory, discussed earlier, the psycho-educationalist will now view the group (family, committees, etc.) as the system from which he must identify the elements most susceptible to input from the psychologist. This will, however, imply a change to the functioning of the system as a whole.
- On the organizational level of this model Schoeman (1983) refers to a retardation of development by the counselling psychologist - the latter placing solitary emphasis on the individual. Yet, the General Systems Theory now serves as a frame of reference for this emphasis to be expanded to incorporate organizations (eg. schools). Here the role of the psychologist as consultant is stressed. His task is viewed in terms of consultation to personnel and management with regard to their responsibilities and tasks.
- Communities will be dealt with in a similar manner. Here Schoeman (1983) refers to the development of mental health supportive systems within a community.

This approach will imply that consultation takes place between psychologist and community leader with respect to crisis management.

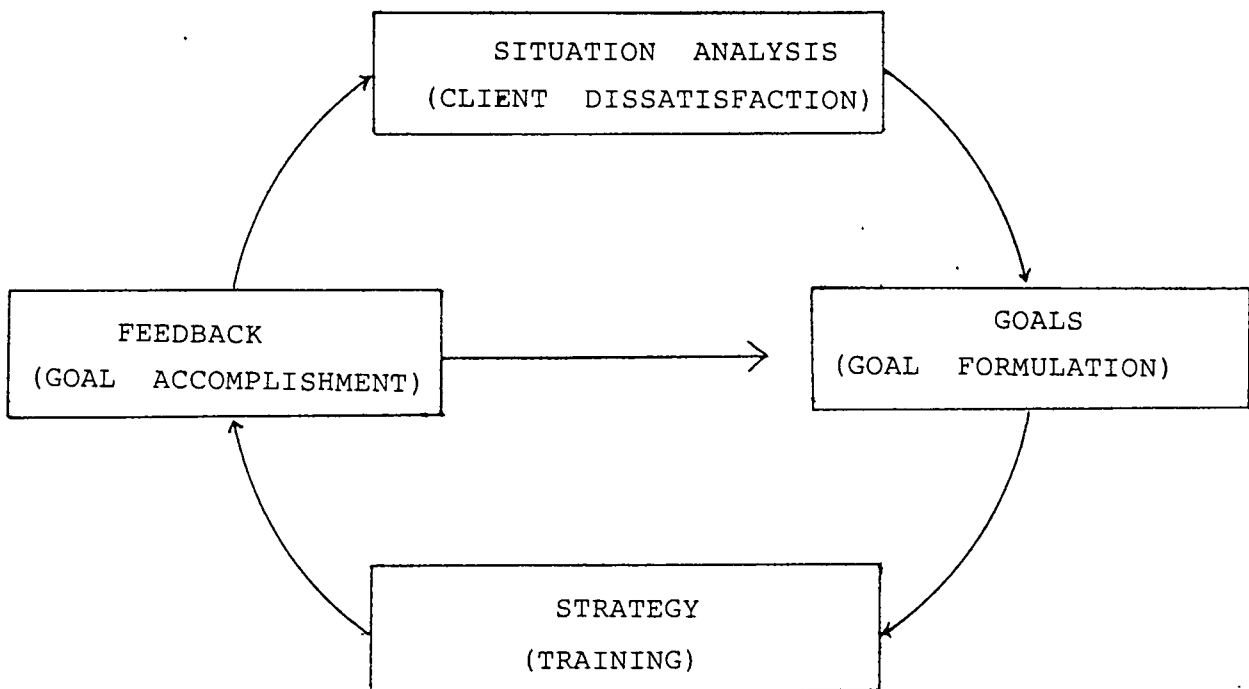
The fourth implication of a psycho-educational orientation refers to the cyclic nature mentioned previously.

- (d) The cyclic process described earlier as an orientation of the psycho-educational practitioner, largely corresponds with that of the cybernetic principles as the level of energy exchange of the General Systems Theory.

The implications of the application of cybernetic principles to the functioning of a self-regulating system have been reviewed earlier. In terms of the process of Psycho-education, however, the cybernetic cycle may be redefined as follows:

FIGURE 3.3

PSYCHO-EDUCATION AND THE CYBERNETIC CYCLE.



(Schoeman, 1983).

The importance of control is emphasized in this regard too and the importance of knowledge of results, self monitoring, self reinforcement and clear goal formulation as feedback strategies, is stressed.

(e) The methods applied to the psycho-educational practice include the following:

- direct training;
- consultant training; and
- psycho-technology.

Direct training implies that individuals and other systems receive direct training with respect to specific skills. This training further implies that the emphasis of the traditional model of a relationship between a 'patient' and his 'therapist' is now replaced by a "learner" and his "trainer".

The consultant role of the psycho-educationalist emphasizes the task of preventative services to specific systems. A client may thus consult the psycho-educationalist with respect to the developmental problems he experiences with regard to the system of which he is an integral part (Ivey & Simek-Downing, 1980).

Psycho-technology refers to the development of technological aids for training purposes. Schoeman (1983) supplies the following examples of these aids:

- the computer;
- modules and training programs;
- work books;
- audio- and video models;
- sound track slides;
- audio-visual electronic devices; and
- mass media.

This completes the discussion of the theoretical foundations of the psycho-educational orientation. Subsequently, Schoeman (1983) proposes an integrated, practice-oriented model for psycho-training.

3.2.2 THE PRACTICE-ORIENTED MODEL OF PSYCHO-EDUCATION

The cubus model supplied by Morrill, Oetting and Hurst (1974) is implemented and extended in the development of this practice-oriented model of psycho-education.

The axes of the extended model are represented by the following variables:

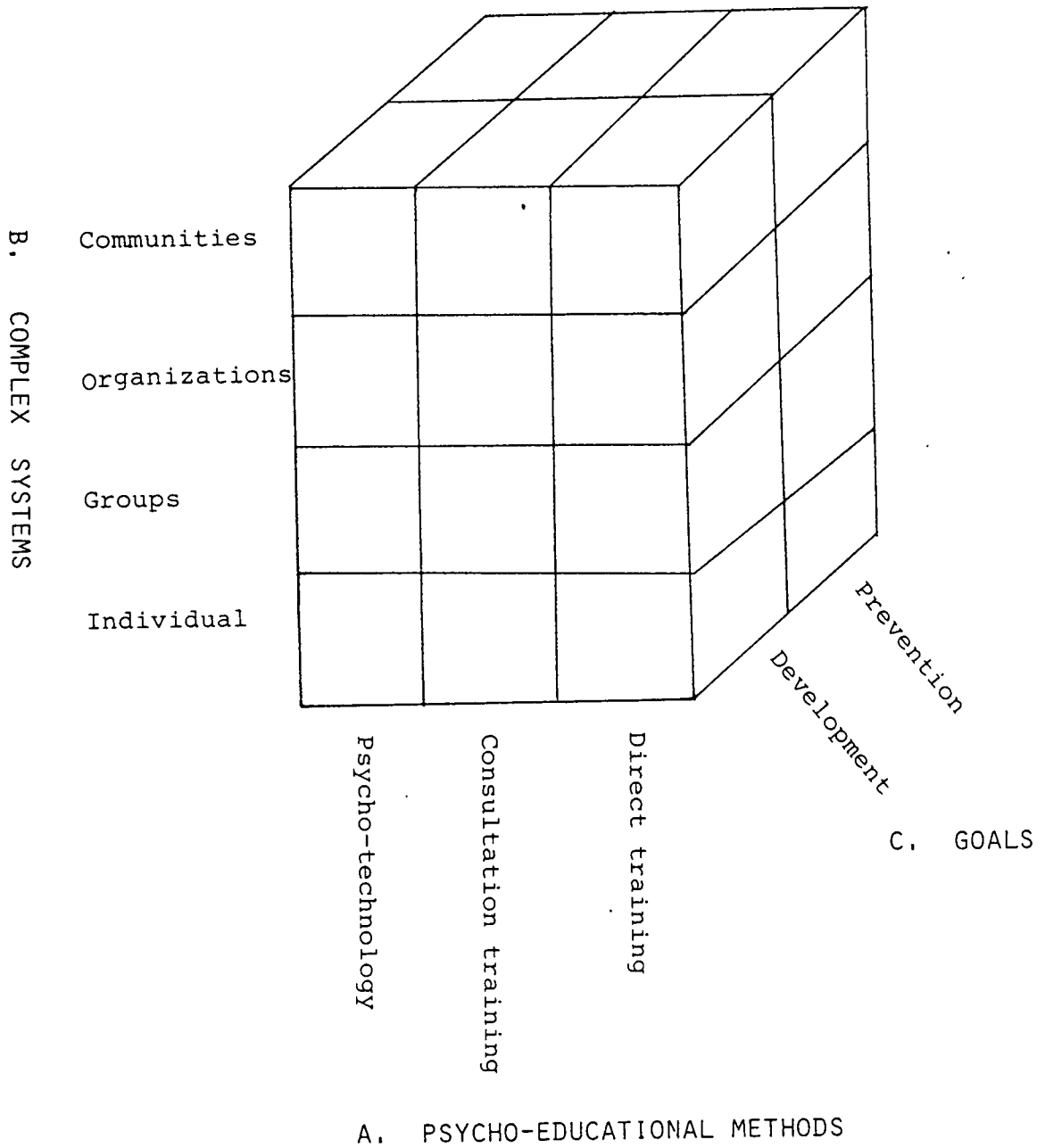
- (a) psycho-educational methods;
- (b) complex systems; and
- (c) goals.

These, in turn, are sub-divided as follows:

- (a) Psycho-educational methods:
 - Direct training;
 - Consultation training; and
 - Psycho-technology.
- (b) Complex systems:
 - Individual;
 - Groups;
 - Organizations; and
 - Communities.
- (c) Goals:
 - Prevention; and
 - Development.

According to Schoeman (1983), this may be represented diagrammatically as follows:

FIGURE 3.4
AN INTEGRATED MODEL FOR PSYCHO-EDUCATION



Having reviewed the foundations of psycho-education as an integrated model of the principles of the General Systems Theory and cybernetics the question now arises as to the suitability of this model for a learning development program for adolescents.

3.2.3 PSYCHO-EDUCATION AS SOLUTION

A learning development program, intended for the development of learning skills and the consequent prevention of poor scholastic functioning and associated personal problems by the implementation of certain skills-training strategies, obviously seems to strike a chord of similarity with the proposed model of psycho-education.

Being a learning development program the emphasis falls on the development of learning-associated skills and as such, also implies the preventative role the program of these dimensions plays with respect to the prevention of poor academic functioning, subsequent career failure and lowered self-esteem - thus complying to the first aspect of a psycho-educational program, namely the direction towards preventative services.

When considering the development of the adolescent and the subsequent developmental tasks to be accomplished by him, the psycho-educational model once again supplies an acceptable frame of reference. The review of the adolescent's development, with specific reference to his cognitive development, would therefore be supported by this approach.

The suitability of psycho-education for the development of complex systems serves as motivation for the implementation of the learning development program in group regard. This would further imply that the trainer identifies significant elements of this system which are most susceptible to change,

having the reassurance that a change made on one level of the system will essentially imply a change in the system's functioning.

In this regard, the adolescent may be considered as the system, functioning within the supra-systems - school, family, peer group and society at large. The subsystems may be regarded as the intra-psychic forces of the individual, i.e. the emotional subsystem, the social subsystem and the intellectual subsystem etc. It must be remembered that the individual's functioning is characterized by an inexhaustible amount of identifiable subsystems. For the purpose of a learning development program, the following may be emphasized:

physical, social, emotional and cognitive. The primary emphasis then being on the cognitive subsystem. A change brought about on this level will, however, essentially imply changes to the physical, social and emotional subsystems and thus to total systemic functioning. The input made on this level of cognition will be made in terms of the program intended to improve academic functioning. The implications of this input are clear and will essentially imply changes to both subsystems and supra-systems.

Existing knowledge with respect to skills training and groupwork will therefore serve as input on this level of the hierarchically ordered system.

This input of energy into the system once again emphasizes the importance of energy exchange between systems and/or subsystems. The program is designed to improve academic functioning by following the path below, i.e.

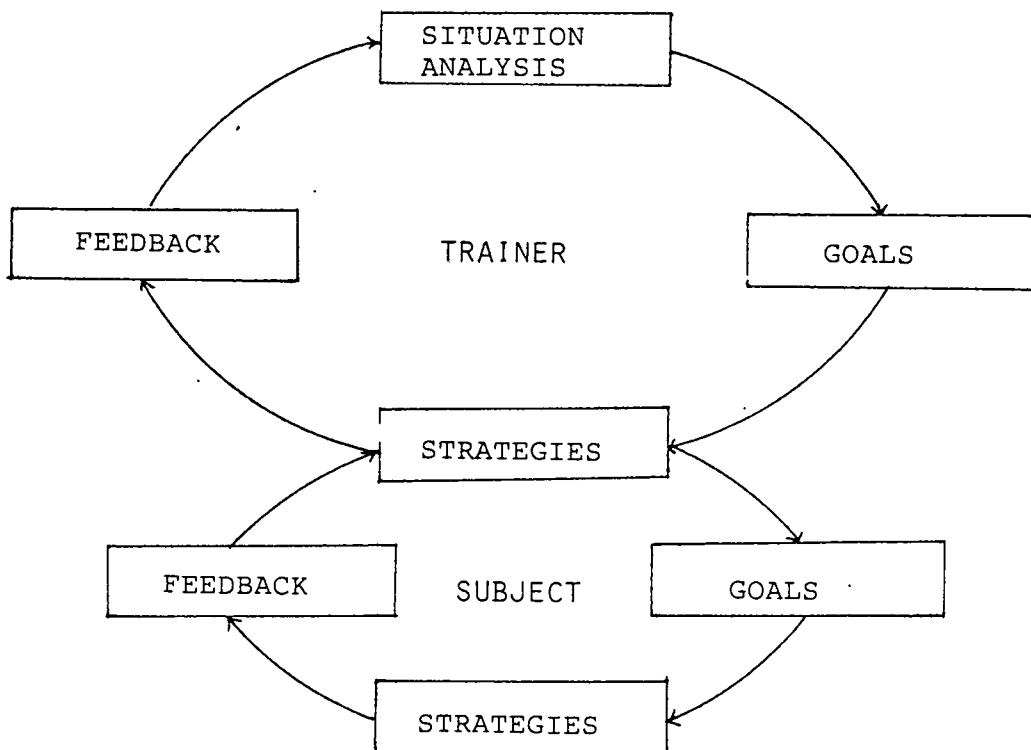
- (a) an assessment of the initial level of functioning of the individual (situation analysis);

- (b) specification of goals and demarcation of long- and short-term goals;
- (c) implementation of skills training to attain goals set;
- (d) the control in terms of the criteria set regarding the goals; and
- (e) reassessment of the level of functioning,

This obviously complies to the cyclic nature of psycho-education. This orientation implies that both trainer and subject are engaged in this self-regulating process. The important aspect here lies in the necessity of a successful linkage of these independent cyclic processes. Energy exchange is highlighted as the activating factor of this self-regulating process with regard to the program.

Diagrammatically, this may be considered in the following manner:

FIGURE 3.5
THE DIAGRAMMATIC REPRESENTATION OF THE
SYSTEM LINKAGE BETWEEN TRAINER AND SUBJECT



This implies that the trainer may consider and determine the level of functioning of the group to be approached with the learning development program; decide upon a desired goal (to improve academic functioning in a group of adolescents); determine a strategy aimed at achieving the goal (a learning development program); and eventually determine the effect of this strategy (program) in terms of the desired goal (improved academic functioning).

From this it is clear that the implementation of the learning development program is the activating factor with respect to the subject as system. The subject is now expected to determine desired goals with respect to the program (eg. improved time structuring); train in strategies to be implemented (eg. time-table) and determine the effectiveness of the strategy by the feedback generated.

In this way psycho-education as model also succeeds in the constitution of a frame of reference, incorporating the cybernetic principles.

The final implication of a psycho-educational model refers to the methods involved in the training process. These methods are given as:

- (a) direct training;
- (b) consultation training; and
- (c) psycho-technology (Schoeman, 1983).

Theoretically, the above mentioned model thus provides answers to the purpose of this research project.

A learning development program directed at direct skills training with respect to academic improvement, by the implementation of visual aids, work books and self-control modules and in consultation with school personnel, must surely answer to these requirements.

The learning development program will thus have both prevention and development as goals, which will be achieved through direct training and psycho-technology in group regard.

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CHAPTER 4

METHOD

4.1 PROBLEM

In the preceding sections the development of the adolescent, the factors influencing learning and the General System Theory as a theoretical frame of reference received much attention. The existing study methods were reviewed and shortcomings identified. The question now arises as to the effect of a learning development program on the academic functioning of the adolescent.

Research pertaining to learning emphasizes the complexity of the process (Ausubel et al., 1978; Hill, 1969; Maddox, 1978). For the purpose of this study, the program will be designed on the principles of the General Systems Theory and cybernetics as it is used in psycho-education. This will imply that the following aspects receive attention:

- (a) assertion of level of functioning (situation analysis);
- (b) realistic goal setting;
- (c) strategies to be implemented; and
- (d) feedback.

The academic functioning of the adolescent will be determined on grounds of:

- (a) achievement (average achievement and achievement in History);
- (b) study habits and attitudes; and
- (c) time structuring.

The importance of achievement as a goal of a learning development program follows clearly from the fact that this aspect plays such an important role in promotion, self-esteem and as an evaluative measure of total academic functioning.

The improvement of study habits and attitudes is viewed in terms of the role it fulfils in improving academic achievement. Although Maddox (1978) identifies three components of academic achievement, study habits and attitudes form an integral part of an improvement program, as intelligence and chance factors are both relatively stable (I.Q) or difficult to manipulate (chance). The literature reviewed also emphasized a number of academic skills and techniques which have been implemented with positive results. Study habits and attitudes are thus justifiably included as a dimension of a learning development program.

It would seem apparent that postponement, unstructured time utilization and avoidance behaviour play one of the most important roles in academic failure (Bandt et al., 1974). Adding to this the fact that the adolescent is faced with the developmental task of achieving a time perspective (Erikson, 1968), time structuring begins to take on vital dimensions.

The aim of this study will be to determine the effect a program of these dimensions will have on the academic functioning of the adolescent. Furthermore, the implementation will be done in group regard to answer to the shortage of counsellors and teaching personnel with respect to individual program implementation.

The std. 7 pupil is confronted by the decision of subject choice prior to the final stage of his secondary education. This subject choice is not only vital in terms of short-term goals,

but has a decided effect upon his later career choice and career development. From a developmental point of view, this is associated with the developmental task of adolescence pertaining to the establishment of a career (Hurlock, 1980). The improvement of academic functioning will thus aid in this process by supplying him with vital strategies to meet the demands of the subject matter.

The implementation of the program in group regard also recognizes an important developmental task of the adolescent, namely socialization in, and identification with, the peer group. In this way, the adolescent is enabled to communicate with others experiencing similar problems and his ideas and hypotheses may be tested with respect to those held by peers.

The program has been designed to cater for the following :

- (a) the developmental tasks to be accomplished during adolescence;
- (b) the cognitive development of the adolescent, enabling him to grow to cognitive maturity;
- (c) both cognitive styles i.e. field dependence and field independence;
- (d) the motivation of the pupil with respect to improved academic functioning;
- (e) specific techniques and methods to improve academic functioning; and
- (f) feedback, meeting the requirements of a self-regulating system.

Maddox (1978) identifies the following as determining elements of success in learning:

- | | | |
|-----|--|---------------|
| (a) | intelligence and special abilities | 50-60 percent |
| (b) | industry, effort and effective study methods | 30-40 percent |
| (c) | chance and environmental factors | 10-15 percent |

Maddox (1978) states that although ability is an important aspect of success, this is not sufficient. The implementation of effective study methods and skills are emphasized by the author. He has found systematic instruction to be sadly lacking in this regard and maintains that even gifted students can seldom discover the most effective ways of studying on their own.

This program will thus be an attempt to answer to above mentioned need.

Before discussing the dimensions of the intended program in greater detail, the formulation of hypotheses is essential to determine the goals of the implementation. The effectiveness of this program will be determined in terms of its influence on:

- (a) academic achievement;
- (b) study habits and attitudes; and
- (c) time-structuring.

This implies that the following hypotheses may be formulated:

- Hypothesis 1. The implementation of the program will lead to heightened average achievement.
- Hypothesis 2. The implementation of the program will bring about improved achievement in History.
- Hypothesis 3. The implementation of the program will bring about an improvement in study habits.
- Hypothesis 4. The implementation of the program will imply improved study attitudes.

Hypothesis 5. The implementation of the program will lead to improved time structuring with respect to studies.

Having formulated these hypotheses regarding the implementation of the program, it is now essential to examine the contents of this learning development program.

4.2 PROGRAM

The composition and implementation of the program was based on the principles discussed regarding General Systems Theory and cybernetics as used in psycho-education. This theoretical model will form the frame of reference throughout. The importance of energy exchange and the successful linkage of the self-regulating systems of both therapist and subject will be catered for.

In this regard, the development of the adolescent and his cognition were considered. The program was designed to supply him with the opportunity to form hypotheses, test them with respect to his peer group and apply them according to his own preferences. Much of the program appealed to his need of responsibility and independence by the implementation of self-control techniques. The implementation of the program in group regard also ensured that the adolescent could communicate with peers and thus encouraged peer group participation. The social development of the adolescent was also kept in mind with the implementation of the time-table, making provision for social as well as academic activities.

Both cognitive styles were stimulated and a frame of reference supplied in which both could be applied. -

The pupil was motivated in terms of:

- (a) assurance that improvement was possible;
- (b) realistic expectations (goals);
- (c) contracting between student and trainer; and
- (d) competitive elements arising from group dynamics.

To comply to the requirements of psycho-education in terms of psycho-technology, a work book and trainer's manual were designed (Appendix A and B). These served as aids in the training process.

The program was subdivided into the following modules:

- (a) Module One - Introduction and situation analysis;
- (b) Module Two - Achievement;
- (c) Module Three - Time-structuring;
- (d) Module Four - Work methods; and
- (e) Module Five - Revision.

These modules were compiled into a work book (Appendix A).

All modules were implemented according to the cybernetic principles:

- (a) situation analysis (assertation of level of functioning);
- (b) realistic goal setting;
- (c) strategies; and
- (d) feedback.

Subsequently a detailed reflection of the goals, rationale, and implementation of the program follows. (An example of each module is supplied at the close of each discussion).

4.2.1 MODULE ONE

This module aimed to determine the current level of functioning of the pupils involved and to introduce them to the goals of the program.

(a) GOALS

- stabilization of communication between trainer and subjects;
- interest stimulation and the motivation of pupils;
- the introduction of the goals of the program; and
- the determination of current level of functioning of the subject with respect to study habits and attitudes and time structuring.

(b) RATIONALE

As mentioned previously, the linkage of the two self-regulating systems, namely the trainer and the adolescent, forms a vital part of the success of any energy exchange. By establishing an open communication system between these systems, boundaries are made more permeable and energy exchange is aided.

Stimulation of interest is an important aspect of learning and as such plays a role in stimulating curiosity and an eagerness to discover (Shouksmith, 1970). Freeman (1982) ascribes attention to the stimulation of interest. It has also been shown that interest in success and the prospects thereof act as determining factors in the acquisition of an achievement motive (McClelland, 1968). The importance of interest in a subject and motivation is also emphasized by Maddox (1978). He cites research results which support the theory that motivation is an important aspect of academic success. This research is

supported by Van der Walt (1980), Wessels (1980) and Van Niekerk (1972). The latter author refers specifically to general motivation and interest in the subject matter as the most important factors influencing academic performance, even more so than ability or aptitude.

Insight into the goals of the program was important in as far as it enabled the pupils to be aware of the direction of energy input. Expectations were aroused in this way and participation encouraged. Van Niekerk (1980) emphasizes the importance of clearly defined objectives in the learning process. Goal determination also forms an integral part of the cybernetic cycle and as such plays an essential role in accounting for goal-directed behaviour. Researchers (Buckley, 1967; Rademeyer, 1978; Stewart et al., 1978; Von Bertalanffy, 1969) identify the formulation of a definite goal as information input for the individual. As a self-regulating system, the individual may now evaluate the goal of the program and decide independently whether it is a desired or undesired goal. These researchers also maintain that once this goal has been accepted, the direction of change has been determined.

Before trainer or subject can, however, determine short-term goals, they must be aware of the present level of functioning. Once this has been determined, the goals are set more realistically and as a direct result of shortcomings experienced on the present level. The assertion which takes place here serves as motivation for the implementation of strategies in an attempt to improve on present functioning. This assertion of level of functioning with respect to study habits and attitudes and time structuring may also be considered as a form of self observation with the advantage of stimulating change in itself (Wark, 1976).

The Survey of Study Habits and Attitudes (Brown & Holtzman, 1974) was implemented to determine present level of functioning with respect to both study habits and study attitudes.

The Survey of Study Habits and Attitudes has been developed in the U.S.A. by W.F. Brown and W.H. Holtzman to meet the following challenges:

- the identification of students with ineffective study habits and attitudes;
- to aid in the understanding of pupils experiencing study problems; and
- to provide an aid for helping these students improve these study habits and attitudes.

Brown and Holtzman (1974) also cite research results which pertain to the high predictive validity of this questionnaire with regard to academic achievement.

The norms for this questionnaire are calculated in percentile ranks. This implies that the pupil's percentile rank denotes his relative position in a normal distribution of 100 testees. These norm tables are available for each standard, 6 to 10, and for boys and girls separately and together.

A brief description of the SSHA scales is given below.

-- *DELAY AVOIDANCE (DA)*

This indicates the extent to which the pupil promptly accomplishes tasks, assignments and homework - the extent to which he avoids delay and unnecessary waste of time.

- *WORK METHODS (WM)*

This scale indicates the use of effective work methods, efficiency in doing assignments and the extent to which he sets about his school work in the most effective way.

- *STUDY HABITS (SH)*

This scale combines the scores of the previous two scales to provide a measure for academic behaviour.

- *TEACHER APPROVAL (TA)*

This provides a measure of attitudes towards the teacher's classroom behaviour and methods.

- *EDUCATION ACCEPTANCE (EA)*

This scale determines the extent of the pupil's acceptance of educational ideals, objectives, practices and systems.

- *STUDY ATTITUDES (SA)*

This scale combines the previous two scores to provide an index of the pupil's confidence in scholastic aims.

- *STUDY ORIENTATION (SO)*

This is a combination of all above mentioned scales and provides a general measure of the pupil's study habits and attitudes.

It would thus appear that this questionnaire meets the requirements of this study.

The evaluation of time utilization with respect to studies was made by the implementation of a self-monitoring record.

Having discussed the goals of this module and the rationale behind them, we are left with the issue of practical im-

plementation. This follows with an example of the actual module appearing in (d).

(c) PRACTICAL IMPLEMENTATION

The hostel pupils of the std 7 class of a secondary boys' school were seen in a pre-determined apartment. The trainer was self-introduced to the group and introductions on the part of group members encouraged. Following this, a discussion was implemented to ascertain their expectations, their feelings and general state of mind with respect to the meeting. This discussion was initiated by the trainer who directed questions, pertaining to these aspects, at the group as a whole.

Having determined their expectations, feelings and apprehensions, the trainer was faced with the responsibility of clarifying the unstructured situation. The goals of the program were supplied by the introduction of module one as a hand-out and by completing the introductory questions aimed at creating expectations of the goals of the program (see (d)).

The subjects were supplied with a file for the storage of modules, stationery and a number of non-descript stickers, prior to the introduction of the first module.

After completion of exercise 1 and the activities referring to the goals of the program, the answers arrived at were discussed in smaller groups (3-4 members). In this way, the most popular reasons for the desire to accept suggested goals were determined.

The work book was illustrated in an attempt to stimulate interest. The subjects were assured that they were all

capable of improved academic functioning, serving as motivation for the implementation of the program. The program was enhanced by the use of transparencies.

Exercise 2 was introduced and given as a homework assignment to be completed at the close of each day during the ensuing week. Here the stickers were employed as reminders (pasted in homework books) of the completion of this record.

The Survey of Study Habits and Attitudes was administered as a measuring instrument of pre-program functioning. This assertion was to serve as an indication of pre-program functioning to the trainer and as feedback to the pupil upon which he was to determine his goals.

The questionnaire was administered according to the instructions set out in the Manual for the Survey of Study Habits and Attitudes, Form H. Each pupil thus received a questionnaire booklet, an answer sheet and the appropriate instructions. These answer sheets and booklets were handed back after completion of the questionnaire.

This marked the end of module one and arrangements were finalized with respect to the next meeting.

An example of this module now follows, serving to illustrate procedures discussed above.

(d) AN EXAMPLE OF THE CONTENTS OF MODULE ONE-

- EXERCISE 1

Complete the following questionnaire as truthfully as possible, noting the following:

O = Often R = Rarely

Place a cross (X) over the answer which you prefer.

- | | | | |
|----|--|---|---|
| 1 | I waste time during prep, doing the unnecessary or day dreaming | O | R |
| 2 | I watch T.V., listen to music OR ramble about when I should be studying | O | R |
| 3 | I have enough time to do the things I enjoy doing | O | R |
| 4 | I feel discouraged at the amount of work to be learnt | O | R |
| 5 | I feel that my marks don't really give a true reflection of what I know before a test or examination | O | R |
| 6 | I make summaries of all work to be learnt | O | R |
| 7 | I lose concentration while studying | O | R |
| 8 | I test myself after learning to determine what I can remember | O | R |
| 9 | I feel that I forget what I've learnt before the examination or test | O | R |
| 10 | I don't feel rushed to complete a section of work before a test or examination | O | R |
| 11 | My marks are generally disappointing | O | R |
| 12 | I am positive and enthusiastic towards my school work and homework | O | R |

Now compare these ANSWERS to those given below and determine your own PROBLEM AREAS.

- | | |
|---|---|
| 1 | R |
| 2 | R |
| 3 | O |
| 4 | R |

5 R
 6 O
 7 R
 8 O
 9 R
 10 O
 11 R
 12 O

MARK OBTAINED

12

This program has been developed to help you CORRECT these problems which you are experiencing with regard to your school work, homework and marks.

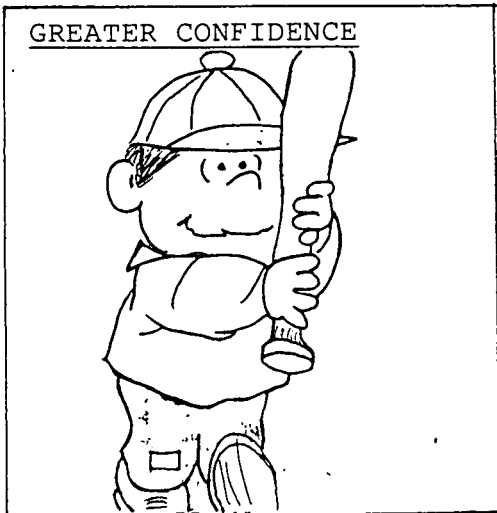
To learn more about TIME UTILIZATION, better STUDY METHODS and improved ACHIEVEMENT, follow this course carefully, paying specific attention to the areas which you neglect in your own studies.

- PROGRAM GOALS

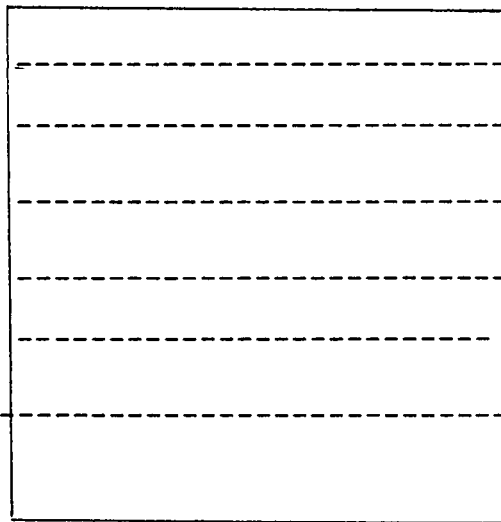
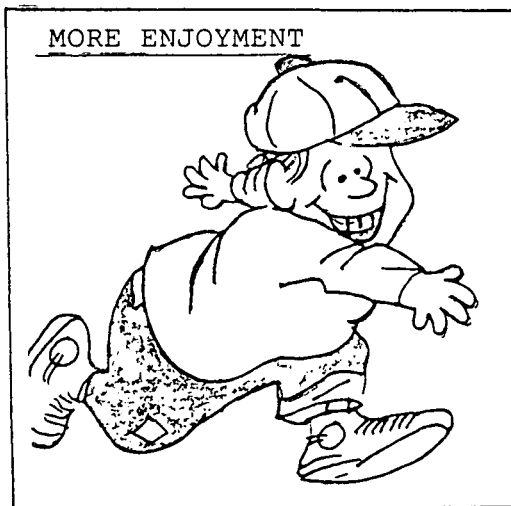
This program will deal with the following problem areas:

ACHIEVEMENT	-	Why?
	-	How?
TIME STRUCTURING	-	Why?
	-	How?
SELECTION AND STRUCTURING OF LEARNING MATERIAL	-	Why?
	-	How?
REVISION	-	Why?
	-	How?

- WHY IMPROVE ACHIEVEMENT?

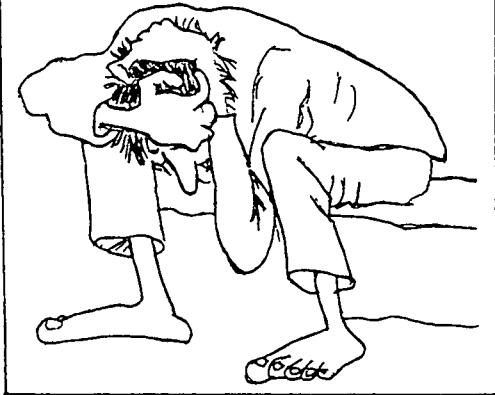


FOR ME?

A large rectangular box with five horizontal dashed lines, intended for a student to write their own reasons for wanting to improve achievement.

- WHY STRUCTURE TIME?

LESS GUILT FEELINGS:

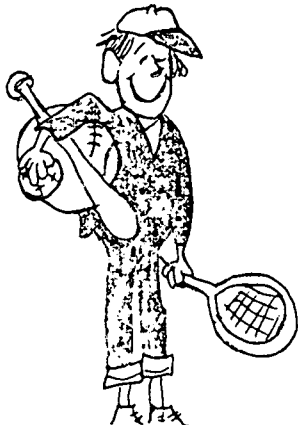


LESS TENSION:



FOR ME?

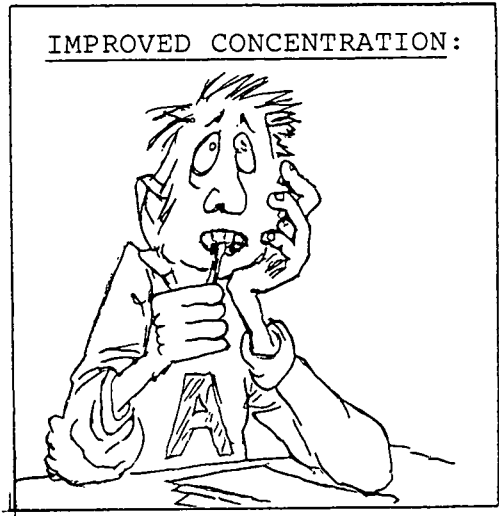
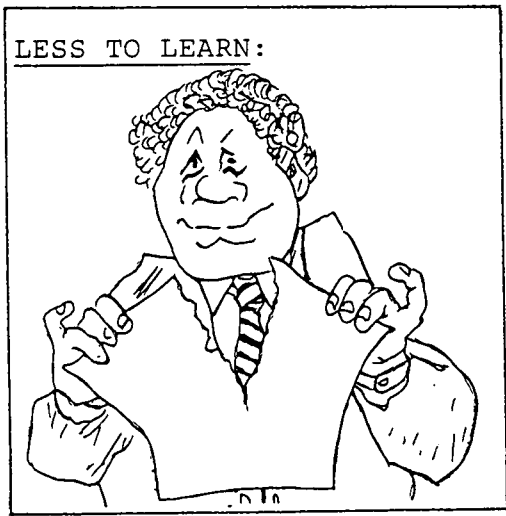
MORE RELAXATION:



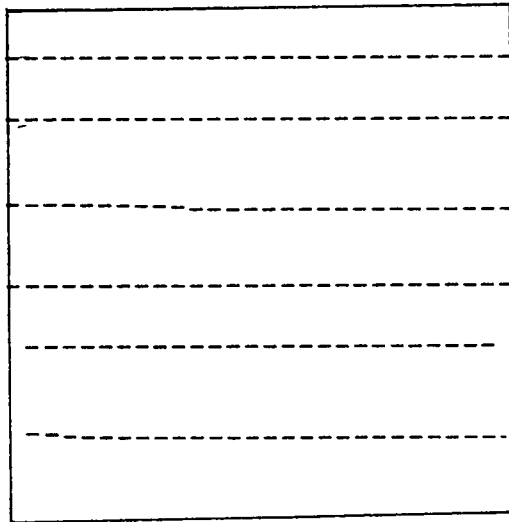
BETTER RESULTS:



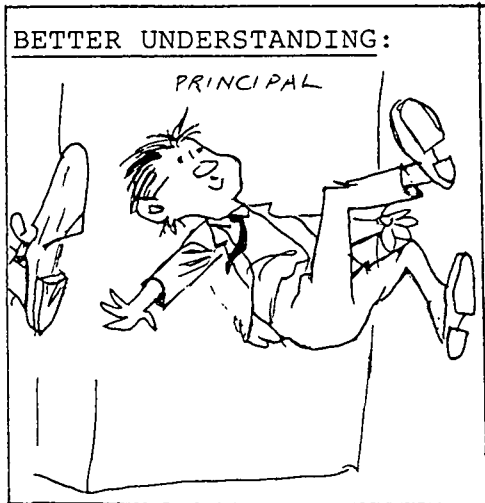
- WHY SELECT AND STRUCTURE LEARNING MATERIAL?



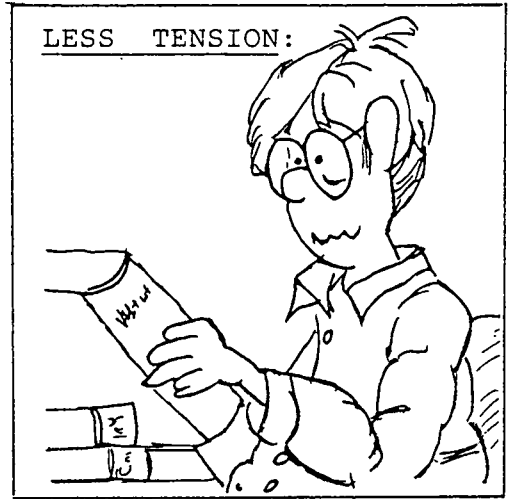
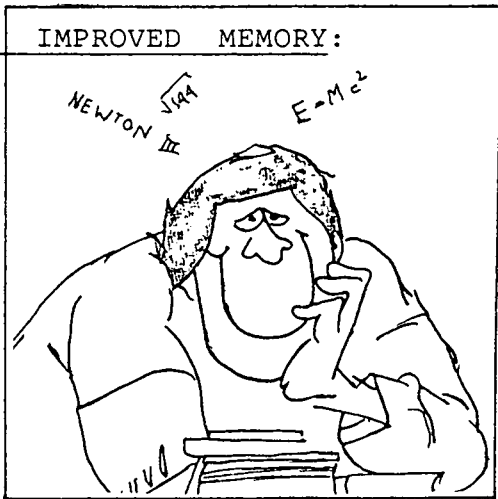
FOR ME?



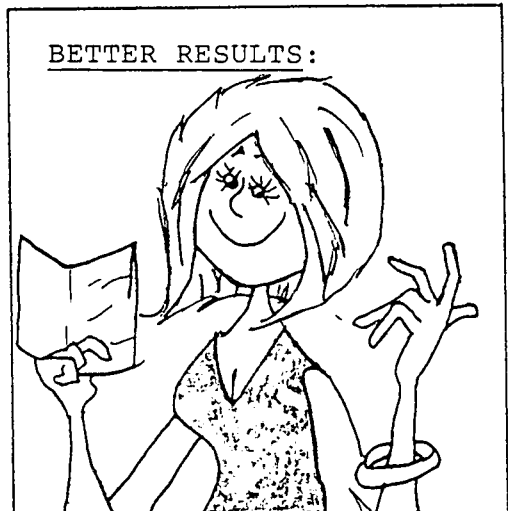
A large rectangular box with horizontal dashed lines, intended for a student's response. The box is empty and occupies a significant portion of the page.



- WHY DO REVISION?



FOR ME?



- EXERCISE 2

The chart on the following page is to be used to record the TIME which you spend, as indicated, during this week.
(See page 113)

NAME : -----

ACTIVITIES	SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
SCHOOL							
FIXED HOURS (MEALS, MUSIC, CHURCH)							
SPORT (ORGANIZED)							
RECREATION (FILMS; TOWN; VISITS etc.)							
HOMEWORK							
REVISION							
TOTAL							

- EXERCISE 3

Complete the SURVEY OF STUDY HABITS AND ATTITUDES questionnaire supplied.

These results will be made known to you.

- TASKS

Use the stickers supplied to remind you to complete your TIME RECORD each evening and bring the completed time record to class next week.

4.2.2 MODULE TWO

This module was directed at improved achievement and the setting of realistic goals in this regard.

(a) GOALS

- feedback with respect to the homework assignment received the previous week;
- implementation of realistic goals with respect to achievement;
- the recording of results with respect to achievement; and
- contracting between trainer and subject.

(b) RATIONALE

The feedback aspect is emphasized throughout the implemen-

tation of this program. As an integral part of the cybernetic cycle, this aspect cannot be ignored in the implementation of a learning development program. This aspect has received greater attention during the discussion of the program in general (4.2).

The implementation of realistic goals pertains to the importance of goal setting in the acquisition of an achievement motive and the importance of clearly defined objectives in goal-directed behaviour change. In this module the theme is achievement and the improvement thereof. Research (Atkinson, 1957; Heckhausen, 1967; Kagan & Moss, 1962; McClelland, 1968) emphasizes the importance of realistic expectations with respect to achievement. This realism is highlighted in an attempt to minimize frustration, disappointment and the resulting lowered self-concept as a result of feelings of inadequacy (Malan, 1978). The principle of breaking a long term goal up into smaller, more obtainable, short term goals was implemented. Success expectations were strengthened in this way. The attractiveness of success was further enhanced by the implementation of the behavioural technique of contracting (Kazdin, 1974).

The principles of self-monitoring and self-observation played an essential role in the utilization of achievement records. Kazdin (1974) stresses the importance of self-control techniques and research reviewed with respect to existing study methods showed this to be an effective way of reinforcing treatment effects. Kirschenbaum and Perri (1982) cite the following as prerequisites for an effective academic-competence improvement intervention:

"... (it) should be structured, but not necessarily very lengthy, and it should include training in study skills plus self-control" (p. 89).

A combination of study skills training and self-control techniques thus form vital elements of a learning development program (Richards, 1975; Richards & Perri, 1978).

(c) PRACTICAL IMPLEMENTATION

During this session the experimental group was seen separately, following the subdivision of the total group into two groups (experimental and control groups). The exact methodology involved will be discussed in section 4.3.1.

This module was introduced by the discussion of problems experienced with the time record. This record was then placed into the file in the appropriate section (module 3). The subjects then received module two as a hand out. The animated exercises pertaining to goals and expectations were completed individually before subdividing the group into smaller groups (3 to 4 members) and allowing them to complete Exercise 1 as a group. These small group discussions enabled the pupil to voice his opinion and compare this to those voiced by peers. These ideas were then shared in the larger group, stressing the differences between an unrealistic and a realistic goal-setter.

Hints on the setting of goals were read individually and pupils were encouraged to add personal prerequisites to the list suggested. Both succeeding exercises were completed according to instructions (see (d)). These exercises were aided by the use of ABC study techniques (Wessels, Schoeman & Sharp, 1982). These techniques referred to the implementation of self-monitoring records with respect to specific achievement goals to be set for each subject and the recording of results obtained. In this way the subjects could illustrate and record goals and results visually.

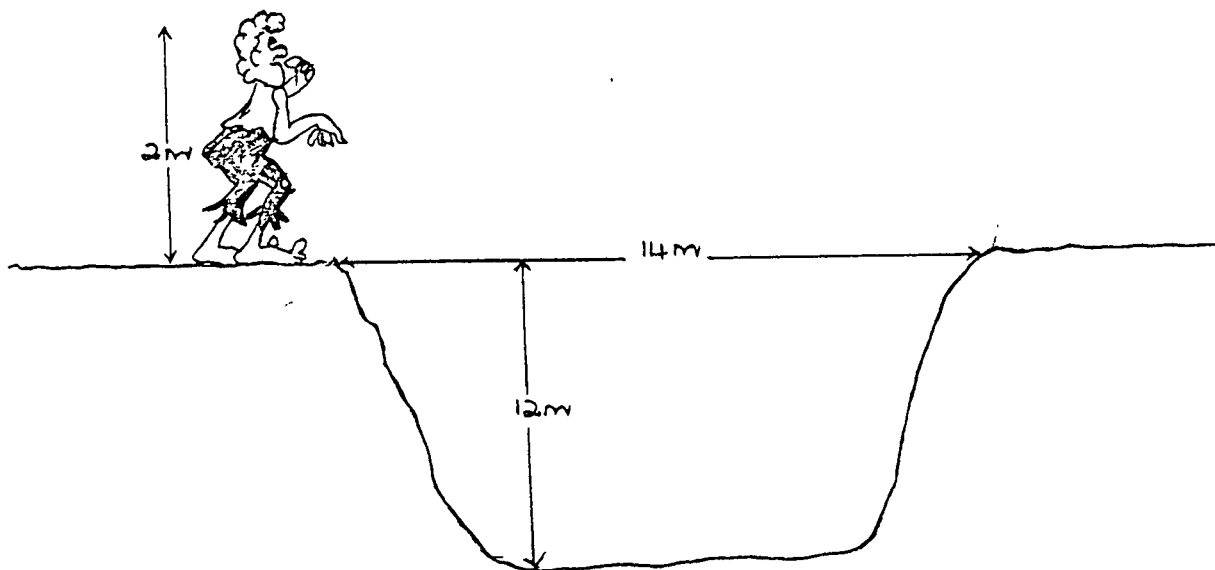
The completion of these achievement records was set as homework assignments and the goals of the module were re-established by reading the summary at the close of the session.

The session was concluded by the exchange of mutual contracts pertaining to the personal achievement goals set by the pupils. The pupils were asked to complete the contract forms supplied before receiving a completed contract from the trainer.

(d) AN EXAMPLE OF THE CONTENTS OF MODULE TWO

- ACHIEVEMENT GOALS

Consider mountaineer A below and the task which he faces, viz to cross the chasm, without any tools or equipment.



How many of the following statements are possibilities with respect to his success? Mark (✓) those which you feel are possibilities.

He feels DISCOURAGED at the beginning and decides that the task is impossible.

He decides to leap and FALLS to eternity.

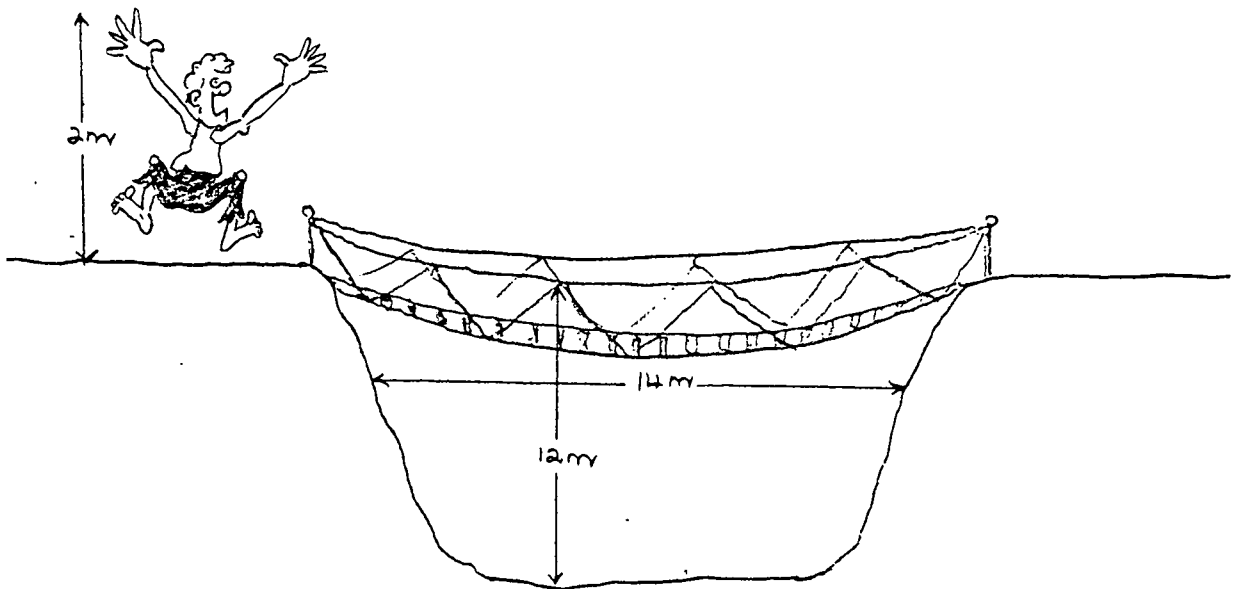
He keeps taking run ups, but fails to actually leap, thus experiencing FRUSTRATION and LACK OF CONFIDENCE in himself.

He leaps and REACHES the other side.

NUMBER POSSIBLE

4

Now consider mountainer B and the exact same task. The only difference being the presence of a rope ladder.



How many of the following statements could characterize his success?

He takes each step carefully, knowing that he is one step nearer to the other side.

He is LESS ANXIOUS because the steps are within reach and the possibility of falling is far less.

He feels CONFIDENT, knowing that he has a MEANS of crossing the chasm, without expecting the impossible.

He REACHES the other side in good time.

He feels DISHEARTENED.

NUMBER POSSIBLE

5

- EXERCISE 1

Compare these two mountaineers with respect to their TASKS, their PREPAREDNESS, their GOALS, their EXPECTATIONS, their FEELINGS while completing the task and their SUCCESS.

TASK: A: -----

B: -----

PREPAREDNESS: A: -----

B: -----

GOALS: A: -----

B: -----

EXPECTATIONS: A: -----

B: -----

FEELINGS: A: -----

B: -----

SUCCESS: A: -----

B: -----

- HINTS

The goals which we set for ourselves must thus comply to the following:

- They must be REALISTIC and OBTAINABLE.
- LONG-TERM goals must be broken down into SMALLER SHORT-TERM goals (LADDER).
- Our goals MUST be ATTRACTIVE and apply to something which we REALLY wish to accomplish.
- We must have a MEANS by which to reach these goals.

- EXERCISE 2

Now apply these ideas to your own personal goals with respect to your marks. The MEANS will follow during the next three meetings. STRATEGIES will then be discussed and PRACTISED to bring about this goal which you are now going to set for yourself.

Complete the following chart, (*see page 122*) placing your subjects on the vertical axis and your own, personal goal per subject in the upper block, with the actual mark obtained to be placed directly beneath it.

- EXERCISE 3

The CONTROL sheet (*see page 123*) is to help you plot your successes per subject in an easily observable manner. You are thus able to compare your marks obtained with previous achievement and immediately be aware of an upward/downward tendency.

- SUMMARY

Now that you know what you expect of yourself and what the task is which you face, your success will be determined by:

Your ATTITUDE towards the goal.

the REALISM of the goal.

the MEANS which you implement to obtain the goal.

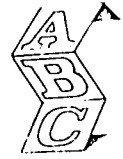
The next three sessions will be directed at the last point viz. HOW to obtain the goal and will involve the following:

TIME STRUCTURING

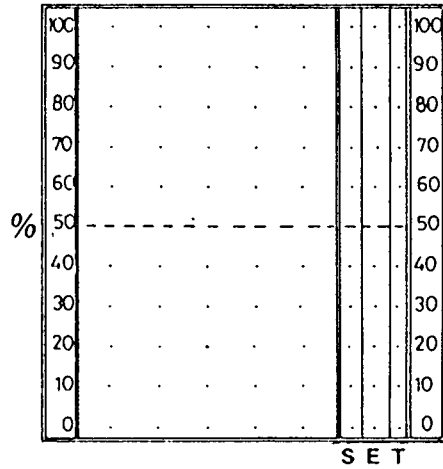
SELECTION AND STRUCTURING OF LEARNING MATERIAL

REVISION

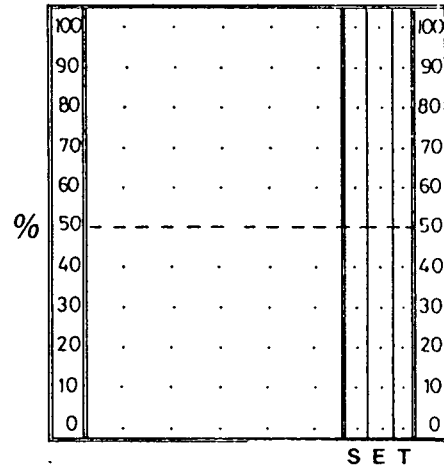
KONTROLE/CONTROL



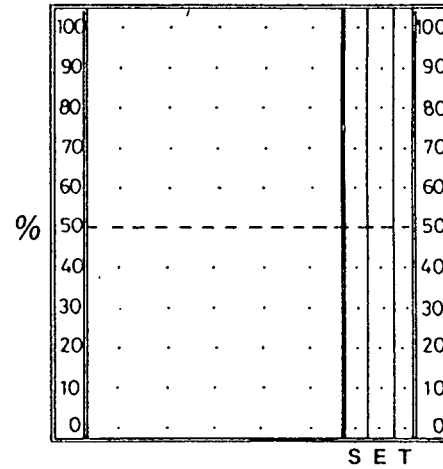
123



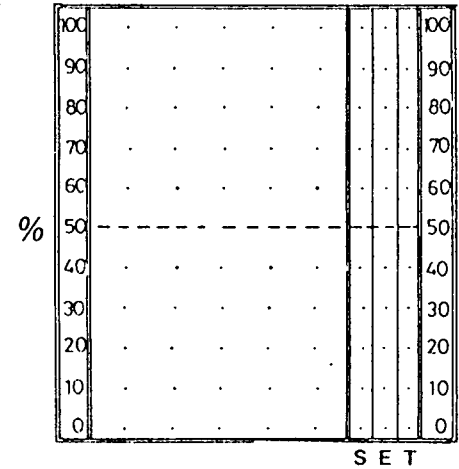
VAK/
SUBJECT



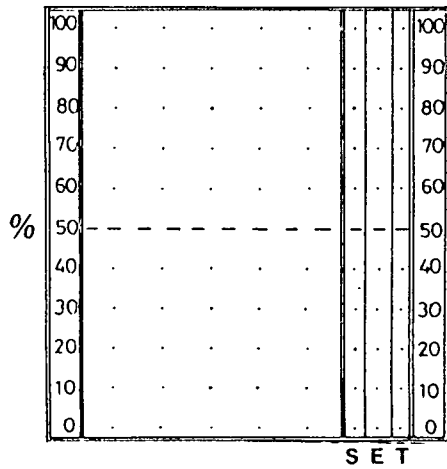
VAK/
SUBJECT



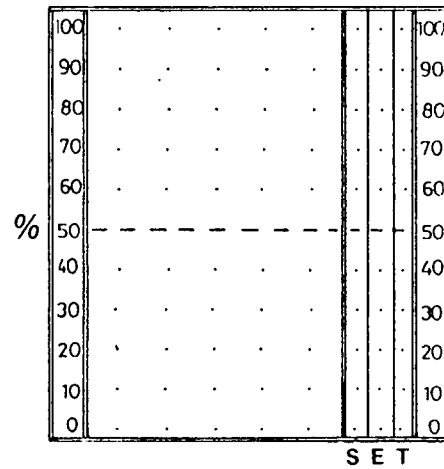
VAK/
SUBJECT



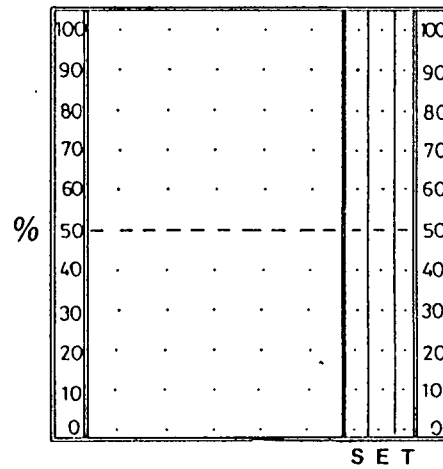
VAK/
SUBJECT



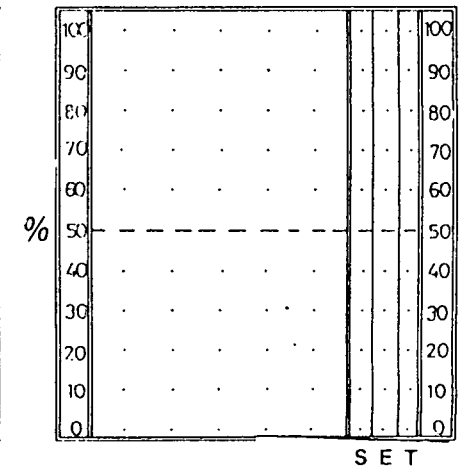
VAK/
SUBJECT



VAK/
SUBJECT



VAK/
SUBJECT



VAK/
SUBJECT

- CONTRACT.

I, the undersigned, hereby undertake to present _____
with chocolates to the value of R2,00 (two rand) should I fail
to meet my achievement goals.

signature

date

- CONTRACT.

I, the undersigned, hereby undertake to present _____
with chocolates to the value of R2,00 (two rand), should he be
successful in attaining his achievement goals.

signature

date

4.2.3 MODULE THREE

The theme of this module was time-structuring and stressed the necessity of effective time utilization. This module also supplied the pupils with strategies to monitor and control their time utilization.

(a) GOALS

- feedback with respect to homework assignments;
- supplying the pupil with a rationale for effective time utilization;
- feedback with respect to current functioning; and strategies to structure and control time utilization.

(b) RATIONALE

Maddox (1978) ascribes the most common difficulty in studying to simple failure to get down to regular concentrated work. This problem is apparently exaggerated for those who do not work to a plan and have no regular routine of study. Maddox (1978) continues to identify the following as advantages of time-structuring:

- the savings in time and effort which is often spent in indecision;
- the minimization of inappropriate time utilization; and
- structuring activities to enable one to do each section of the work at the best time possible.

Maddox (1978) also emphasizes the importance of an evaluation of the pupil's time utilization before the implementation of a specific time table. In this way the new time table may consider previous structuring and activities and therefore ensure that the new goals are not unrealistic or unobtainable. This author also stresses the importance of flexibility of a time table.

Erikson (1974) identifies the achievement of a time perspective as a developmental task of the adolescent. The structuring of time and effective utilization thereof thus plays an important role in aiding the development of the adolescent.

The importance of time structuring, a time table and the evaluation of present (as opposed to future) time utilization has also been stressed by Freeman (1982) and Van Niekerk (1980).

Freeman (1982) suggests that knowledge of progress is an important motivational factor. Self-observation graphs would therefore serve as an apt technique to enhance motivation.

(c) PRACTICAL IMPLEMENTATION

The achievement graphs completed during the previous session were reviewed and problems discussed.

The module was supplied as a handout and the introduction read through individually. Following this, the results of the Survey of Study Habits and Attitudes with respect to Delay Avoidance (DA) were made known to each member individually. These results were recorded in the space provided in the work books (Appendix A).

The following three exercises were completed according to instructions. These exercises aimed to identify individual needs, goals and the realism of these goals with respect to time utilization. The adolescent was expected to determine his own specific needs and to define corresponding time goals, thus answering to his need of independent decision-making and development of own responsibility (Hurlock, 1980). The succeeding exercise was completed individually, each subject structuring his time according to his own needs. (The time table provided for socialization, relaxation, sport and studies).

The concluding exercise was given as a homework assignment to be completed during the ensuing week. This exercise served as a self-monitoring graph, recording time spent with regard to homework and revision and evaluating this in terms of the goals set.

(d) AN EXAMPLE OF THE CONTENTS OF MODULE THREE

- INTRODUCTION

As discussed during last week's session, the theme for this week is TIME - why it is necessary to structure time and how it is possible to do just this.

One of the major problems pupils confront is using their time effectively - leaving them enough time to do what they enjoy doing without feeling guilty about neglected or "forgotten" school work. Too often pupils put off doing school work and revision, only to find that they worry about it during relaxation or do badly as a result of limited time to complete large amounts of work. Even the relaxation times then become less enjoyable.

A reasonable balance between study time and recreation is thus essential for achieving ACADEMIC success and PERSONAL enjoyment at school.

This module will show you HOW to schedule and maximize efficient use of your time so as to meet your own personal and academic goals.

- SSHA RESULTS

According to the SURVEY OF STUDY HABITS AND ATTITUDES (SSHA), completed during the first module, your results reflect the following:

You have obtained the following percentile for
DELAY AVOIDANCE:

This indicates to what extent you promptly complete your assignments, avoid delay and are not inclined to unnecessary waste of time.

- EXERCISE 1

Consider the TIME RECORD made previously.

The following table is now to be used to determine your own specific needs with respect to time. Complete the table, illustrating where you feel you need more time, where you need less and where you are satisfied with the present allocation.

e.g. Homework - less
Revision - more

ACTIVITIES	LESS	SAME	MORE
Eg. Homework Revision	X		X
School Fixed Recreation Sport Homework Revision			

- EXERCISE 2

This exercise is designed to help you determine what your goals for your own personal time structuring are and how far these deviate from your present functioning.

ACTIVITIES	AVERAGE TIME SPENT NOW PER DAY	IDEAL/ GOAL	DIFFERENCE
Eg. Homework Revision	6 0	4 1	2 1
School Fixed hours Sport Recreation Homework Revision			

- EXERCISE 3

Complete the following before continuing, placing a cross (X) in the appropriate block.

- | | YES | NO |
|---|--------------------------|--------------------------|
| ● Do your ideals/goals satisfy your needs? | <input type="checkbox"/> | <input type="checkbox"/> |
| ● Are your goals directed at greater success? | <input type="checkbox"/> | <input type="checkbox"/> |

- Do you feel certain that these goals are obtainable?
- Are you eager to test yourself to determine whether you will be able to meet these goals?

IF you have answered NO to any of these questions, review your goals!

They might be too high and you thus feel discouraged before even starting.

- EXERCISE 4

Now that you know how much time you want to spend with regard to fixed hours, sport, recreation and studies, complete the following. (*See page 131*)

- EXERCISE 5

To help you evaluate your success with this task, the following TIME GRAPHS may be of use - showing exactly when you do more than expected and when less. (*See pp. 132, 133*)

This graph is to be completed at the end of each day. You might find this difficult at first, and the suggestion is thus that you work in pairs ensuring that there is someone to remind you.

- Start by illustrating the graph of your TIME GOALS in RED.
- Your actual performance during this week is plotted in BLUE.
- Week 2 is completed in BLACK.
- Week 3 is completed in GREEN.

NAME : -----

TIMES	MON.	TUES.	WEDNES.	THURS.	FRI.	SATUR.	SUN.
08h00-09h00							
09h00-10h00							
10h00-11h00							
11h00-12h00							
12h00-13h00							
13h00-14h00							
14h00-15h00							
15h00-16h00							
16h00-17h00							
17h00-18h00							
18h00-19h00							
19h00-20h00							
20h00-21h00							
21h00-22h00							
22h00-23h00							
Recreation							
Sport							
Revision							
Homework							

This will enable you to immediately become aware of the times when you cross the RED graph to either more or less time spent than intended.

- TIME CONTROL

- .. Name the PROBLEMS which you experienced when trying to meet your TIME GOALS

What can you do to MINIMIZE these problems?

4.2.4 MODULE FOUR

This module concentrated on structuring and selection of learning material as a specific study skill.

(a) GOALS

- feedback on homework assignments;
- determination of present level of functioning;
- examination of aspects of learning; and
- provision of strategies for the structuring and selection of material.

(b) RATIONALE

Freeman (1982) states that the organizing of learning material plays a vital role in memorization and learning. He suggests that by placing the material in a new order, or by structuring personal summaries, charts and diagrams, interest and learning will be stimulated and promoted respectively.

Maddox (1978) identifies the following as important reasons for structuring and summarizing given information:

- the schematic representation of learning material which has been constructed personally, is more readily visualized and assimilated than the text itself;
- the analysis of notes in an attempt to summarize involves the individual in an active process of learning and thus improves concentration;
- revision is simplified in this manner, for the memorization of a reduced amount of work is surely simpler than that of the complete, lengthy text.

Cognitive development during adolescence also emphasizes the ability of the individual to think abstractly (Piaget, 1969). The selection of key words and concepts from a given text relies upon the development of this ability.

Furthermore, the cognitive style of the individual should not be ignored. By making the individual aware of the aspects of Gestaltian theory with respect to the learning process, the following is implied:

- he learns to identify the whole;
- to analyze the whole into subsequent parts; and
- to structure these parts in such a way as to aid the process of learning (Hill, 1969).

Both the field dependent and field independent learner will benefit from this approach which caters for the perception of the whole and for the analyzing of the whole into parts. The important aspect here is the fact that these styles are essentially complementary and that the stimulation of the opposing cognitive style enables

the individual to move readily between styles on the continuum. No single style is advantaged and material is not adapted to a specific style displayed by the individual - adaptation is required on the part of the individual.

(c) PRACTICAL IMPLEMENTATION

The homework assignment was reviewed and the time control exercise of the previous module completed.

The introduction to module four was read through individually after having received this module as a handout. The subjects were encouraged to ask questions and discuss statements made. The results of the Survey of Study Habits and Attitudes, with respect to Work Methods (WM), were supplied to each individual. These results were clarified by the trainer and discussion encouraged.

The principles of Gestaltian theory with respect to the learning process were illustrated by the completion of the following three exercises (See (d)) according to instructions supplied. The ideas reflected in these exercises were summarized and subjects asked to read through the summary individually.

The subjects then received a long question based on the Std 7 History syllabus. The following three exercises were completed with respect to this handout (according to instructions supplied in the trainer's manual and the work book - Appendix A and B).

Once again a homework assignment was given - the completion of a similar question for the following week.

(d) AN EXAMPLE OF THE CONTENTS OF MODULE FOUR

- INTRODUCTION

Correct work and study habits are surely the most vital part of academic success. This could mean the difference between long hours spent with learning material and still experiencing failure or disappointment and EFFECTIVE, GOAL DIRECTED and SUCCESSFUL studies.

Correct study habits and methods should ensure the following:

- Improved CONCENTRATION
- Improved UNDERSTANDING
- REDUCTION in learning material
- MEMORY assistance

This module will thus supply you with a frame of reference for your studies - a structured method which will ensure the above mentioned requirements.

Are your WORK METHODS sufficiently effective to ensure optimal utilization of your TIME, ABILITY and TALENTS?

YES

NO

- SSHA RESULTS

According to the results of the SURVEY OF STUDY HABITS and ATTITUDES (SSHA), you have obtained the following percentile for WORK METHODS

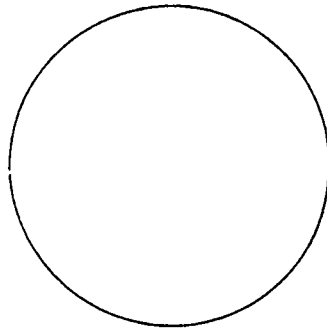
This is an indication of your use of EFFECTIVE STUDY METHODS, your efficiency in doing assignments and the extent to which you set about your school work in the most effective way.

How can you improve on this?

- EXERCISE 1

Consider your everyday environment and discover how you learn from, and perceive, it.

Take the following as an example:



What do you see before you?

Although the figure does not represent a completed circle, we are inclined to complete the picture in our mind's eye and recall "A CIRCLE".

The whole thus being the more SPONTANEOUS way of perception.

- EXERCISE 2

You have now identified the WHOLE, but is this sufficient?

Consider the following:



Both are faces; both have two eyes, a nose and a mouth. These elements are exactly the same in both cases.

Yet, there is a difference.

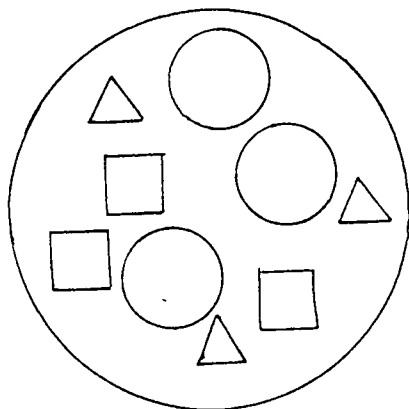
To determine what the difference is, it becomes important to ANALYSE the elements with respect to their position, shape and meaning. This will then account for the difference we see.

- EXERCISE 3

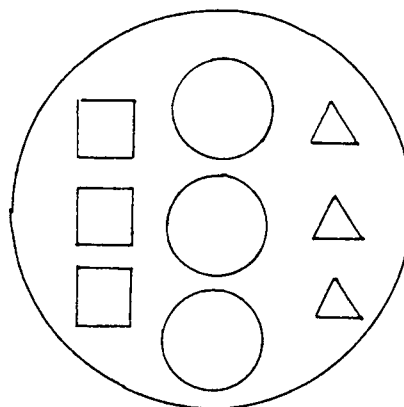
When perceiving the WHOLE, with its PARTS, certain aspects make the process of RECALLING it, far easier.

Consider the following and decide which would be easier to recall.

A



B



It would thus seem that STRUCTURE and ORDER play an important role in the learning process.

The second illustration enables one to recall a specific image of the given elements.

You have thus identified the following as important aspects of learning:

- Formation of the WHOLE
- ANALYSIS of the whole
- STRUCTURING of the whole and its parts

Can you adapt these to your learning work?

- EXERCISE 4

Read through the question received so as to obtain a global idea of the contents.

You are thus to identify the WHOLE.

CLUE: HEADING + SUB-HEADINGS

Underline these in RED

- EXERCISE 5

Read through the question once again, identifying the PARTS.

CLUE: KEY WORDS AND CONCEPTS

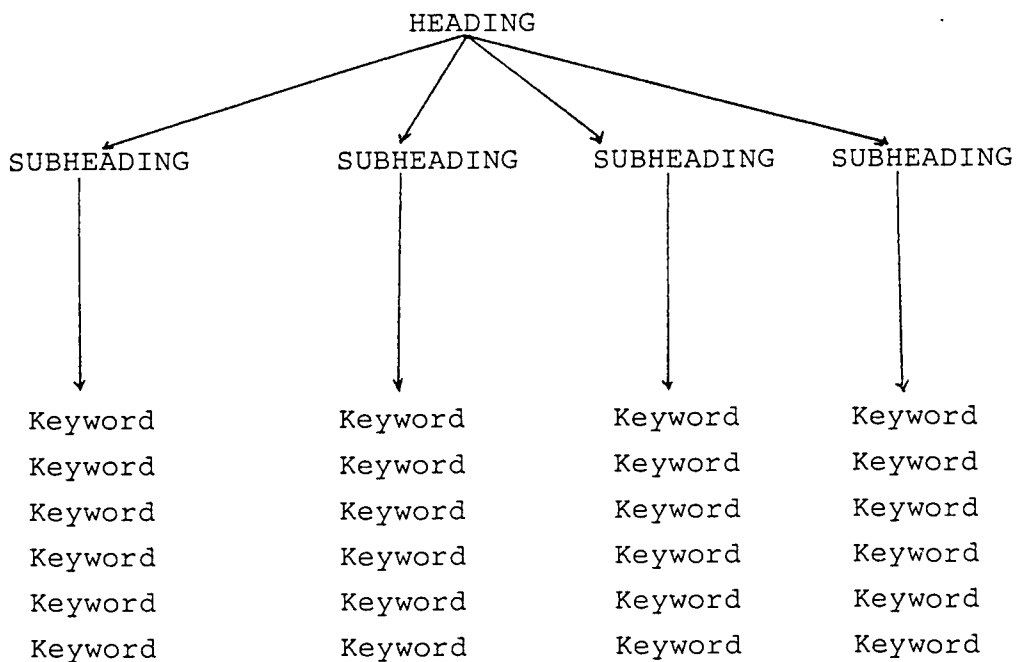
Underline these in BLUE

- EXERCISE 6

This WHOLE and its PARTS may now be STRUCTURED in a number of different ways.

Consider the examples given and select an example for the particular WHOLE and PARTS which you have identified.

● EXAMPLE 1

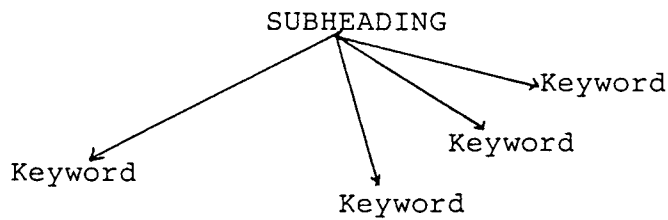
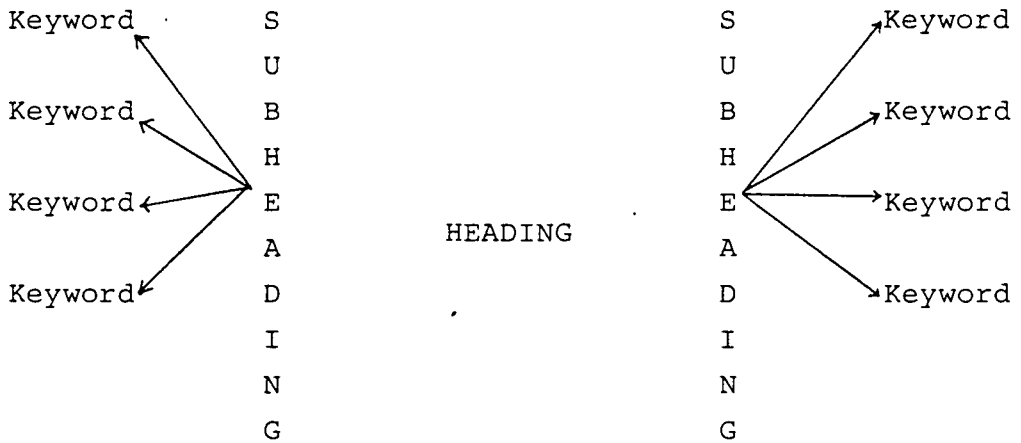
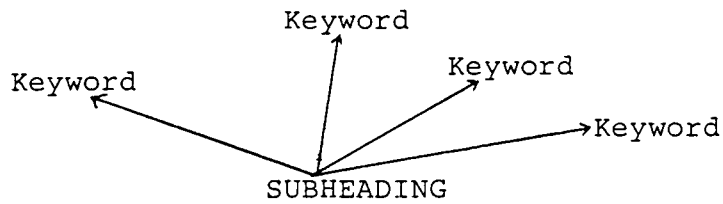


● EXAMPLE 2

HEADING

A	SUBHEADING	Keyword
		Keyword
		Keyword
		Keyword
		Keyword
		Keyword
B	SUBHEADING	Keyword
		Keyword
		Keyword
		Keyword
		Keyword
		Keyword
C	SUBHEADING	Keyword
		Keyword
		Keyword
		Keyword
		Keyword
		Keyword
D	SUBHEADING	Keyword
		Keyword
		Keyword
		Keyword
		Keyword
		Keyword

● EXAMPLE 3



- TASK

Choose the example best suited to your personal preferences.

Now complete the question supplied.

4.2.5 . MODULE FIVE

Revision was the last subject to receive attention in the learning development program. Following this, subjects were left over to self control and individual preparation for examinations.

(a) GOALS

- Review homework assignments;
- supply motivation for revision; and
- supply strategies for revision control.

(b) RATIONALE

Kirschenbaum and Perri (1982) consider frequent studying (revision) as a vital study skill to be implemented in their three-component model of improving academic competence in adults: motivational - study skills - self-regulatory skills. Self-control is also emphasized by Kanfer (1977). He proposes that training in basic self-control skills and specialized self-regulatory techniques should enhance academic competence.

Kirschenbaum and Perri (1982) describe the benefit of self-control to be an enhancement of motivation due to increased internal attributions and/or improved efficacy expectations.

Freeman (1982) states that revision should be an important part of a study time table. The implementation of revision allows for reinforcement of the ability to recall and serves as a counteraction for forgetting.

This author also provides the following guidelines for improving revision:

- plan regular revision sessions in a time table;
- revise from notes (summaries);
- avoid tackling new material in revision sessions;
and
- make revision active and interesting by implementing self-testing after completion of a revised section.

Authors who support this view of the importance of revision are Maddox (1978), Van Niekerk (1980) and Robinson (1970).

(c) PRACTICAL IMPLEMENTATION

The homework assignment was discussed and problems identified and clarified. Following this, module five was introduced.

The first exercise was completed with respect to a paragraph chosen from the subject matter of the std 7 History syllabus (An example of a paragraph and the possible questions appeared as an appendix to the trainer's manual).

A similar procedure was followed for the succeeding exercise and results recorded. Small group discussions were implemented to determine the importance of revision. This served as motivation for new resolutions with respect to revision.

The concluding exercises were based on the study techniques of the ABC study system (Wessels, Schoeman & Sharp, 1982) and were completed according to the instructions given in the work book (See (d)). These graphs served as self-control techniques. The individual was left to complete the concluding task on his own.

(d) AN EXAMPLE OF THE CONTENTS OF MODULE FIVE

- EXERCISE 1

Read through the given passage ONCE and immediately after doing so, turn the page and attempt answering the questions.

MARKS OBTAINED

10

- EXERCISE 2

Read through the second passage THREE times. Turn the page and once again attempt the questions.

MARKS OBTAINED

10

From the exercises done, it is therefore clear that repeated learning is an important factor when wishing to recall facts.

This principle can be used with regard to your school work and studies, especially now that you know how to summarize and structure your work.

Important factors regarding revision, are:

- UNFAMILIAR facts learn HARDER than those which you have revised previously.
- You will be LESS PRESSED FOR TIME if you have compiled a well balanced revision time table.
- You will be LESS ANXIOUS about work to be learnt if you know that there is sufficient time for all the work to be learnt in.

- Revision ASSISTS your MEMORY when you are expected to recall the learnt material.
- An improved memory leads to IMPROVED MARKS!

- EXERCISE 3

Complete the following record, (*See page 148*) enlisting all the headings to be learnt for these examinations. The first column is used to show when you have summarized the specific section and the second for when this section has been revised.

A heading followed by one tick (✓) will therefore imply that this section has been summarized, but not, as yet, learnt.

- EXERCISE 4

To enable you to be well prepared for tests and examinations, the following chart has been designed to denote the division of work before D-date.

Only the right-hand side graph is to be used. The horizontal axis is to denote the months of this term and the vertical axis the days of each month. Test and examination days are thus to be coloured in RED with the appropriate subject written in next to it.

The "OPEN" days are then to be used to prepare for the "RED" days. The work to be done can then be divided among the OPEN days preceding a test or examination.

(*See page 149*)

- TASK

Complete all your headings according to your REVISION CHART. These are to be completed before the scheduled test and examination dates as they appear on your PLANNER.

Your Revision Chart is then to be signed by a friend the day of the test or examination to ensure that you are prepared before your test or examination.

4.2.6 CONCLUSION

This session was implemented after the completion of the examinations (6 weeks later) as an evaluative period succeeding program implementation. Both groups, experimental and control, were seen during this session.

During this session the contracts were honoured and self-control techniques were checked for the last time. Post-training evaluation was implemented with respect to the Survey of Study Habits and Attitudes and time utilization.

Following this, arrangements were made with the control group for their program implementation and they were dismissed. The experimental group was then asked to complete a program evaluation questionnaire (Appendix C). This consisted of 24 structured questions pertaining to the goals, contents and presentation of the program and also to the experiences of the subjects during the implementation of the program. Two unstructured questions were also placed. The questions were evaluated on a five point scale (A to E). The subdivisions were as follows:

A	=	Excellent	(80-100%)
B	=	Good	(60-79%)
C	=	Average	(40-59%)
D	=	Poor	(20-39%)
E	=	Very poor	(0-19%)

Having discussed the problem faced and the program, the hypotheses regarding the effectiveness of this program must now be tested operationally.

4.3 EXPERIMENTAL PROCEDURES

4.3.1 TEST SAMPLE

The population used for the purpose of this study was adolescents meeting the following criteria:

- (a) std 7 pupils at a local secondary school for boys;
- (b) English medium; and
- (c) boarders.

This brought the total population to 33 boys. Because the program was to be implemented during the study period (20h00-21h00), prescribed by the hostel, it was decided to involve only the boarders of the std 7 class.

The experimental design implemented referred to the before and after control group design which implied that two groups were to be determined from randomly selected subjects (Kerlinger, 1973). These groups were then randomly ascribed to the experimental and control conditions by means of a table of random numbers.

The composition of the sample is shown in table 4.1

TABLE 4.1
COMPOSITION OF TEST SAMPLE

GROUP	N
Group 1 (Experimental)	17
Group 2 (Control)	16
Total	33

These two groups were then compared with respect to I.Q. (measured by the New South African Group Test, NSAGT, which forms part of the standard school records), total achievement and achievement in History. The marks were obtained from the previous term's mark schedules. This was done to evaluate respective performances (functioning) before the implementation of the program by experimental and control groups.

In this regard, the t-test for independent groups was administered to determine the pre-program functioning. The following hypotheses were tested using this t-test:

$$H_{O1} : \bar{X}_E \text{ (I.Q.)} = \bar{X}_C \text{ (I.Q.)}$$

$$H_{a1} : \bar{X}_E \text{ (I.Q.)} \neq \bar{X}_C \text{ (I.Q.)}$$

AND

$$H_{O2} : \bar{X}_E \text{ (Average)} = \bar{X}_C \text{ (Average)}$$

$$H_{a2} : \bar{X}_E \text{ (Average)} \neq \bar{X}_C \text{ (Average)}$$

AND

$$H_{O3} : \bar{X}_E (\text{History}) = \bar{X}_C (\text{History})$$

$$H_{a3} : \bar{X}_E (\text{History}) \neq \bar{X}_C (\text{History})$$

Where: \bar{X}_{ij} = the mean of the experimental and control groups, with respect to I.Q., average achievement and achievement in History.

The formula implemented in this regard referred to:

$$t = \frac{\bar{X}_E - \bar{X}_C}{S_{\bar{X}_E - \bar{X}_C}}$$

Where: \bar{X}_E = mean of the experimental group

\bar{X}_C = mean of the control group

$S_{\bar{X}_E - \bar{X}_C}$ = standard fault of the difference between the means of the experimental and control groups respectively (Du Toit, 1975).

The results obtained are shown in tables 4.2 - 4.4

TABLE 4.2

t-TEST RESULTS BEFORE PROGRAM IMPLEMENTATION
(I.Q.)

GROUP	N	MEAN	STANDARD DEVIATION	t
Group 1 (Exp)	17	113,18	8,93	0,764
Group 2 (Control)	16	111,69	17,58	

TABLE 4.3
 t-TEST RESULTS BEFORE PROGRAM IMPLEMENTATION
 (AVERAGE ACHIEVEMENT)

GROUP	N	MEAN	STANDARD DEVIATION	t
Group 1 (Exp)	17	365,12	58,58	0,238
Group 2 (Control)	16	401,75	106,88	

TABEL 4.4
 t-TEST RESULTS BEFORE PROGRAM IMPLEMENTATION
 (HISTORY)

GROUP	N	MEAN	STANDARD DEVIATION	t
Group 1 (Exp)	17	49,82	10,20	0,045
Group 2 (Control)	16	61,00	18,68	

The insignificance of the t-value scores implies that the null-hypotheses must be accepted. It is therefore clear that these two groups (experimental and control) did not differ significantly with respect to I.Q., average achievement or achievement in History, before the implementation of the program.

During the first week of the program implementation it was discovered that two boys were overseas and a third had become a day scholar since the composition of the test samples. Both experimental and control groups then consisted of 15 subjects. The final population thus consisted of 30 subjects.

4.3.2 EXPERIMENTAL DESIGN

For the purpose of this study a before and after control group experimental design was employed. Diagrammatically this would imply the following:

R	Y_b	X	Y_a (Experimental)
	Y_b	$- X$	Y_a (Control)

(Kerlinger, 1973).

- R : Random selection and allocation of subjects
- Y_b : dependent variable (pretest)
- X : independent variable
- Y_a : dependent variable (post test)

Y_b would thus pertain to pretest measures of study habits, study attitudes, time structuring with respect to studies, total achievement and achievement in History. These being the dependent variables.

X would refer to the program.

Y_a refers to the post test measures of the dependent variables mentioned above.

Having discussed the independent variable, namely the program, it now becomes necessary to consider the dependent variables: achievement, study habits and attitudes and time structuring.

4.3.3 VARIABLES

The aim of this study was to determine the effect of a learning development program on the academic functioning of the adolescent. The program thus referred to the *independent* variable and academic functioning to the *dependent* variable. For the

purpose of this study, academic functioning comprised of the following:

- (a) Study habits and attitudes;
- (b) Time structuring; and
- (c) Academic achievement.

The independent variable - the program- has been discussed in 4.2. We are thus left with the dependent variables and the measure thereof.

(a) STUDY HABITS AND ATTITUDES

This dependent variable was determined by means of the Survey of Study Habits and Attitudes (SSHA). This questionnaire was thus not only implemented as an integral part of the program, but also served as a measuring instrument for the dependent variable named above..

The questionnaire was developed in the USA by Dr W.F. Brown and Dr. W.H. Holtzman (Brown & Holtzman, 1974). The scales have been described as part of the program. Study habits (SH) and study attitudes (SA) being the two scales which were employed in testing the appropriate hypotheses.

The norms for the SSHA were calculated in percentile ranks. These norm tables are provided for each standard, 6 to 10, boys and girls together and separately.

For the purpose of this study the table referring to std 7 boys (separately) was used.

Results obtained from the Manual for the Survey of Study Habits and Attitudes (SSHA) - Form H (1974) - display the following:

- a very high reliability;
- the scales of the SSHA are relatively independent of intelligence; and

- a relatively high relationship between study habits and attitudes and school achievement.

The corrected split-half reliability for the four primary scales of the SSHA and the retest reliability coefficients are supplied.

TABLE 4.5
CORRECTED SPLIT-HALF RELIABILITY FOR THE FOUR
PRIMARY SCALES OF THE SSHA (N = 2790)

SCALE	VU/DA	WM/WM	OG/TA	AO/ED
r_{tt}	0,833	0,835	0,873	0,805

TABLE 4.6
RETEST RELIABILITY (RETESTING AFTER 14 DAYS)
FOR THE SSHA SCALES

GROUP	N	SSHA SCALES						
		DA	WM	TA	EA	SH	SA	SO
Boys	229	0,888	0,856	0,868	0,874	0,900	0,899	0,923
Girls	223	0,875	0,811	0,863	0,876	0,875	0,895	0,901
Afrikaans	210	0,855	0,861	0,875	0,867	0,890	0,896	0,914
Engilsh	242	0,899	0,822	0,851	0,884	0,891	0,896	0,914

(b) TIME-STRUCTURING

This dependent variable was measured by means of a before and after time record set up by the pupils individually. This record made provision for the days of the week

on the horizontal axis with the various activities being placed on the vertical axis. Time was recorded in average hours and minutes spent on a particular activity per day.

TABLE 4.7

TIME RECORD FOR DETERMINING TIME-STRUCTURING

Activities	DAYS OF THE WEEK						
	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
School							
Fixed Hours (meals, music, church)							
Sport							
Recreation (Films, town, visits, etc.)							
Homework							
Revision							
Total							

This record was completed before the implementation of the program and a similar record completed after completion of the program. Homework and revision were considered as a unit when determining time structuring with respect to studies.

(c) ACHIEVEMENT

Both total achievement and achievement in History were determined from school schedules kept by the principal.

These results were determined before and after implementation of the program.

This concludes the discussion of dependent variables, leaving the program evaluation questionnaire completed during the last session.

(d) PROGRAM EVALUATION

A questionnaire was developed to evaluate the learning development program. This evaluation was based on the subjective evaluation of the program by the subjects. The evaluation of the program by the subjects was vital in terms of a general program evaluation. This evaluation cannot be formulated in terms of hypotheses and the data was therefore recorded and discussed in terms of percentages.

The questions appearing in the questionnaire were directed at three major areas:

- the contents and presentation of the program;
- experiences during the implementation of the program;
and
- the program goals.

This questionnaire consisted of 26 items and appears in Appendage C. The items were scored on a five point scale.

The practical implementation of the program now warrants attention.

4.3.4 PRACTICAL IMPLEMENTATION

The school principal was consulted regarding permission to implement the program, the contents of the program and the time of implementation. Mark schedules and I.Q.'s were also obtained from him.

It was decided to implement the program during the third term and during the third study period (20h00-21h00). Having completed the first two terms, the pupils were familiar with subject matter demands and were also aware of their functioning with respect to these demands. The third study period was an optional study period and as such did not interfere with normal study hours, but would still assure attendance without the cancellation of other activities. For this purpose, the audio-visual room was made available to the trainer. This room was equipped with an overhead projector and screen which were required for the implementation of the program.

The school undertook to inform the std 7 boarders of the program and of the time, day and date of the first meeting.

The program was implemented over a period of 5 weeks, once weekly, and followed up once after the examination. During the implementation, modules were made available to the principal and History teacher. The latter's help was obtained when selecting the section for summarization.

Having completed the implementation, the control group received the program on an equivalent basis directly following the final session with the experimental group.

During the final session, the experimental and control groups were seen together. Both groups completed the re-evaluation battery with respect to study habits and attitudes and time structuring. The arrangements were then made with the control group for their sessions (starting the following week) and they were dismissed. The experimental group then completed the program evaluation questionnaire before being dismissed.

Marks were once again obtained from the principal's schedules for post-program evaluation. A number of hypotheses pertaining to the program and its effect on academical functioning may now be considered.

4.3.5 HYPOTHESES

The following hypotheses were formulated with respect to the program and its effectiveness, as reflected by its influence on the dependent variables.

- Hypothesis 1 : The implementation of the program will bring about heightened total achievement.
- Hypothesis 2 : The implementation of the program will lead to heightened achievement in History.
- Hypothesis 3 : The implementation of the program will bring about an improvement in study habits.
- Hypothesis 4 : The implementation of the program will imply improved study attitudes.
- Hypothesis 5 : The implementation of the program will lead to improved time structuring with regard to studies.

These hypotheses may now be formulated statistically in the following manner:

(a) ACHIEVEMENT

Achievement will be regarded as a function of both average achievement and achievement in History for both experimental and control groups. In an attempt to determine the effect of the program on these two variables, the following hypotheses may be tested with respect to the after measures (having completed the before measure tests in 4.3.1):

$$\begin{aligned}
 H_{O1} & : \bar{X}_E \text{ (Average)} = \bar{X}_C \text{ (Average)} \\
 H_{a1} & : \bar{X}_E \text{ (Average)} = \bar{X}_C \text{ (Average)} \\
 H_{O2} & : \bar{X}_E \text{ (History)} = \bar{X}_C \text{ (History)} \\
 H_{a2} & : \bar{X}_E \text{ (History)} = \bar{X}_C \text{ (History)}
 \end{aligned}$$

Where: \bar{X}_{ij} = the mean of the experimental and control groups with respect to average achievement and achievement in History.

These hypotheses will be tested with the t-test for independent groups, using the following formula:

$$t = \frac{\bar{X}_E - \bar{X}_C}{\sqrt{S^2 \left(\frac{1}{\bar{X}_E} + \frac{1}{\bar{X}_C} \right)}}$$

Where: \bar{X}_E and \bar{X}_C refer to the mean of the experimental and control groups respectively and

$S^2 \left(\frac{1}{\bar{X}_E} + \frac{1}{\bar{X}_C} \right)$ to the standard fault of the difference between the means of both groups

(Du Toit, 1975).

In this way the effect of the program on achievement is determined.

(b) STUDY HABITS AND ATTITUDES

The effect of the program on study habits and attitudes will be determined by the interpretation of scores obtained from the Survey of Study Habits and Attitudes. In this regard the following hypotheses will be tested with respect to the before measures:

$$H_{o3} : \bar{X}_E \text{ (Habits)} = \bar{X}_C \text{ (Habits)}$$

$$H_{a3} : \bar{X}_E \text{ (Habits)} = \bar{X}_C \text{ (Habits)}$$

$$H_{o4} : \bar{X}_E \text{ (Attitudes)} = \bar{X}_C \text{ (Attitudes)}$$

$$H_{a4} : \bar{X}_E \text{ (Attitudes)} = \bar{X}_C \text{ (Attitudes)}$$

Where: \bar{X}_{ij} = the mean of the experimental and control groups with respect to study habits and study attitudes.

In the event of the acceptance of the H_o - hypotheses, the following hypotheses will be tested with respect to the after measured:

$$H_{o5} : \bar{X}_E \text{ (Habits)} = \bar{X}_C \text{ (Habits)}$$

$$H_{a5} : \bar{X}_E \text{ (Habits)} = \bar{X}_C \text{ (Habits)}$$

$$H_{o6} : \bar{X}_E \text{ (Attitudes)} = \bar{X}_C \text{ (Attitudes)}$$

$$H_{a6} : \bar{X}_E \text{ (Attitudes)} = \bar{X}_C \text{ (Attitudes)}$$

Where: \bar{X}_{ij} = the mean of the experimental and control groups with respect to the after measures on study habits and study attitudes

(c) TIME STRUCTURING

In this regard the following hypotheses will be tested with respect to the before measure.

$$H_{O7} : \bar{X}_E (\text{Time}) = \bar{X}_C (\text{Time})$$

$$H_{a7} : \bar{X}_E (\text{Time}) = \bar{X}_C (\text{Time})$$

Where: \bar{X}_{ij} = the mean of the experimental and control groups with respect to the before measures on time structuring.

Should the H_0 - hypotheses be accepted, the following hypotheses will be tested with respect to the after measures:

$$H_{O8} : \bar{X}_E (\text{Time}) = \bar{X}_C (\text{Time})$$

$$H_{a8} : \bar{X}_E (\text{Time}) = \bar{X}_C (\text{Time})$$

Where: \bar{X}_{ij} = the mean of the experimental and control groups with respect to the after measures of time structuring.

These hypotheses will be tested and results reflected in the following chapter.

---oOo---

CHAPTER 5

RESULTS AND INTERPRETATIONS

5.1 INTRODUCTION

The aim of this study was to determine the effect of a learning development program on the academic functioning of the adolescent. This program has been described in the previous chapter and academic functioning was regarded with respect to achievement, study habits and attitudes and time structuring. Achievement was described as a function of both average achievement and achievement in History and study habits and attitudes were determined by the scores obtained on the Survey of Study Habits and Attitudes (SSHA). Time structuring was determined by means of a time record kept by each subject individually. The hypotheses formulated were then tested and the following results obtained.

5.2 RESULTS WITH RESPECT TO ACHIEVEMENT

(a) BEFORE PROGRAM IMPLEMENTATION

The before program evaluation was completed after the composition of the test sample. The t-test for independent groups was administered and insignificant t-values obtained with respect to both average achievement and achievement in History (See tables 4.3 and 4.4).

This implied that the experimental and control groups did not differ significantly with respect to the before measures on either dependent variables. A difference between these two groups on after measures would thus imply an effect brought about by the program.

(b) AFTER PROGRAM IMPLEMENTATION

With respect to the after measures the following hypotheses were tested:

$$H_{O1} : \bar{X}_E \text{ (Average)} = \bar{X}_C \text{ (Average)}$$

$$H_{a1} : \bar{X}_E \text{ (Average)} = \bar{X}_C \text{ (Average)}$$

AND

$$H_{O2} : \bar{X}_E \text{ (History)} = \bar{X}_C \text{ (History)}$$

$$H_{a2} : \bar{X}_E \text{ (History)} = \bar{X}_C \text{ (History)}$$

Where: \bar{X}_{ij} = the mean of the experimental and control groups with respect to average achievement and achievement in History

The results obtained are presented in table 5.1 and 5.2

TABLE 5.1

t-TEST RESULTS AFTER PROGRAM IMPLEMENTATION
(AVERAGE ACHIEVEMENT)

GROUP	\bar{X}	s	t
Experimental	47,67	6,59	1,51
Control	54,67	16,76	

TABLE 5.2

t-TEST RESULTS AFTER PROGRAM IMPLEMENTATION
(HISTORY ACHIEVEMENT)

GROUP	\bar{X}	s	t
Experimental	40,53	11,14	1,77
Control	50,67	19,13	

Both nul hypotheses were thus accepted, which implied that the experimental and control groups did not differ with regard to both average achievement and achievement in History after the implementation of the program.

5.3 RESULTS WITH RESPECT TO STUDY HABITS AND ATTITUDES

(a) BEFORE PROGRAM IMPLEMENTATION

Because relatively small groups were used during the implementation of the program, the relationship between the groups before the implementation of the program was determined. For this purpose the two groups were compared with respect to the Study Habits (SH) and Study Attitudes (SA) scores of The Survey of Study Habits and Attitudes. The hypotheses tested in this regard were:

$$H_{o3} : \bar{X}_E \text{ (Habits)} = \bar{X}_C \text{ (Habits)}$$

$$H_{a3} : \bar{X}_E \text{ (Habits)} = \bar{X}_C \text{ (Habits)}$$

AND

$$H_{o4} : \bar{X}_E \text{ (Attitudes)} = \bar{X}_C \text{ (Attitudes)}$$

$$H_{a4} : \bar{X}_E \text{ (Attitudes)} = \bar{X}_C \text{ (Attitudes)}$$

Where: \bar{X}_{ij} = mean of experimental and control groups on before measures with respect to study habits and study attitudes.

The results obtained are presented in table 5.3 and 5.4

TABLE 5.3
t-TEST RESULTS BEFORE PROGRAM IMPLEMENTATION
(STUDY HABITS)

GROUP	\bar{X}	s	t
Experimental	27,27	12,69	1,30
Control	34,33	16,73	

TABLE 5.4
t-TEST RESULTS BEFORE PROGRAM IMPLEMENTATION
(STUDY ATTITUDES)

GROUP	\bar{X}	s	t
Experimental	32,87	15,11	0,52
Control	36,2	19,74	

The insignificance of the t-scores implied the acceptance of the nul-hypotheses. The experimental and control groups thus differed insignificantly with respect to study habits and study attitudes before the implementation of the program. A difference determined between these two groups on after scores could then be ascribed to the effect of the program.

(b) AFTER PROGRAM IMPLEMENTATION

To determine the effect of the program after the implementation of the program, the following hypotheses were tested:

$$H_{O5} : \bar{X}_E \text{ (Habits)} = \bar{X}_C \text{ (Habits)}$$

$$H_{a5} : \bar{X}_E \text{ (Habits)} = \bar{X}_C \text{ (Habits)}$$

$$H_{O6} : \bar{X}_E \text{ (Attitudes)} = \bar{X}_C \text{ (Attitudes)}$$

$$H_{a6} : \bar{X}_E \text{ (Attitudes)} = \bar{X}_C \text{ (Attitudes)}$$

Where: \bar{X}_{ij} = the mean of experimental and control groups on after measures with respect to study habits and study attitudes.

The results obtained are shown in Table 5.5 and 5.6

TABLE 5.5

t-TEST RESULTS AFTER PROGRAM IMPLEMENTATION
(STUDY HABITS)

GROUP	\bar{X}	s	t
Experimental	34,47	14,75	0,99
Control	41,13	21,37	

TABLE 5.6

t-TEST RESULTS AFTER PROGRAM IMPLEMENTATION
(STUDY ATTITUDES)

GROUP	\bar{X}	s	t
Experimental	42,20	16,76	0,23
Control	43,93	23,33	

The groups did not differ significantly with respect to either study habits or attitudes after the implementation of the program. Both nul-hypotheses were accepted in this regard.

5.4 RESULTS WITH RESPECT TO TIME STRUCTURING

(a) BEFORE PROGRAM IMPLEMENTATION

Once again the experimental and control groups were compared with respect to pre-program functioning on the variable time structuring. For this purpose the following hypotheses were tested:

$$H_{07} : \bar{X}_E (\text{Time}) = \bar{X}_C (\text{Time})$$

$$H_{a7} : \bar{X}_E (\text{Time}) \neq \bar{X}_C (\text{Time})$$

Where: \bar{X}_{ij} = the mean of experimental and control groups with respect to time-structuring

These results are presented in table 5.7

TABLE 5.7
t-TEST RESULTS BEFORE PROGRAM IMPLEMENTATION
(TIME STRUCTURING)

GROUP	\bar{X}	s	t
Experimental	8,5	2,89	0,31
Control	8,88	3,74	

The groups were thus comparable with respect to time structuring before the implementation of the program and an after implementation comparison was made.

(b) AFTER PROGRAM IMPLEMENTATION

To determine the effect of the program on the time structuring variable, the following hypotheses were tested:

$$H_{08} : \bar{X}_E (\text{Time}) = \bar{X}_C (\text{Time})$$

$$H_{a8} : \bar{X}_E (\text{Time}) \neq \bar{X}_C (\text{Time})$$

Where: \bar{X}_{ij} = the mean of experimental and control groups with respect to time-structuring on after measures.

The results are supplied in tabel 5.8

TABLE 5.8
t-TEST RESULTS AFTER PROGRAM IMPLEMENTATION
(TIME STRUCTURING)

GROUP	\bar{X}	s	t
Experimental	11,8	3,51	1,38
Control	14,55	6,84	

It could thus not be concluded that the program had any significant effect on time-structuring as the H_0 - hypotheses had to be accepted.

This concluded the hypotheses-testing with respect to the dependent variables identified as components of academic functioning. Yet, the program evaluation questionnaire (Appendix C) completed by the experimental group during the last session warrants attention as a reflection of the pupil's attitudes towards the program.

5.5 RESULTS WITH RESPECT TO THE PROGRAM EVALUATION

The results of this questionnaire were interpreted on a dichotomous scale. Each item was considered separately and as reflective of positive, neutral or negative experiences relating to the program. An analysis of this questionnaire appears in the following table of results:

TABLE 5.9
RESULTS PERTAINING TO THE PROGRAM
EVALUATION QUESTIONNAIRE

ITEM		POSITIVE	NEUTRAL	NEGATIVE
My understanding of what the program entailed was	N %	13 86,7	2 13,3	0 0
My motivation to follow the course was	N %	7 46,7	7 46,7	1 6,7
The enjoyment I experienced while following the program was	N %	11 73,3	2 13,3	2 13,3
The presentation of the program was	N %	13 86,7	2 13,3	0 0
I can put what I have learnt to use	N %	11 73,3	2 13,3	2 13,3
To what extent did the program enable you to achieve your goals?	N %	6 40	6 40	3 20
To what extent will you be able to apply what you have learnt to future studies?	N %	8 53,3	5 33,3	2 13,3
To what extent do you feel you use your time more effectively, now	N %	8 53,3	5 33,3	2 13,3
Evaluate the improvement you have experienced in your achievement	N %	4 26,7	9 60	2 13,3
Evaluate the improvement you have experienced in your work methods	N %	7 46,7	7 46,7	1 6,7
Evaluate the improvement you have experienced in your revision	N %	7 46,7	7 46,7	1 6,7

ITEM		POSITIVE	NEUTRAL	NEGATIVE
Evaluate your own participation in following the course faithfully	N %	6 40	8 53,3	1 6,7
The material supplied was	N %	14 93,3	1 6,7	0 0
My feelings of tension and/or anxiety were lessened.. during the presentation of the program	N %	13 86,7	2 13,3	0 0
My experience of freedom to express my opinion was	N %	8 53,3	6 40	1 6,7
During group discussions other opinions broadened my knowledge	N %	12 80	3 20	0 0
The amount of modules was	N %	13 86,7	2 13,3	0 0
During the course problems or uncertainties, experienced by me, were dealt with	N %	11 73,3	4 26,7	0 0
My experience of freedom to ask questions was	N %	12 80	3 20	0 0
The goals of the program were	N %	13 86,7	2 13,3	0 0
The time of presentation of the program was	N %	9 60	5 33,3	1 6,7
To what extent did other activities (eg. play) influence your participation in the program?	N %	6 40	4 26,7	5 33,3
To what extent dit you feel more confident about work learnt?	N %	8 53,3	5 33,3	2 13,3
Evaluate what you have learnt by following the program.	N %	9 60	5 33,3	1 6,7

All items, excluding item 22, were scored by considering A and B as reflective of positive attitudes and D and E as reflective of negative attitudes. Scale C was considered as reflective

of neither extreme opinion. Item 22 was scored with D and E denoting the positive scale and A and B the negative scale.

The questions appearing in this questionnaire reflected the subjects' evaluation of the goals of the program (Items 2, 5, 6, 7, 8, 9, 10, 11, 12, 20 and 22), the contents and presentation of the program (Items 4, 13, 16, 17, 18 and 21) and their experiences during the implementation of the program (Items 1, 3, 14, 15, 19, 23 and 24).

An analysis of the results obtained from this questionnaire reflects the following:

- (a) 81% of the subjects recorded positive attitudes towards the presentation and contents of the program, 18% remained neutral and 1% recorded negative attitudes;
- (b) positive experiences were recorded by 70% of the subjects, 24% of the subjects remained neutral and 6% recorded negative experiences; and
- (c) the goals of the program were evaluated positively by 50% of the subjects, 38% remained non-committal and 12% evaluated the goals negatively.

These results were obtained by determining the mean percentage for each of the three categories evaluated.

As a result of the subjectivity involved, the results of this program evaluation must, however, be interpreted with great care. It must be kept in mind that the subjects' evaluations could have been influenced by an awareness of the researcher's goals.

5.6 DISCUSSION OF RESULTS

Before program implementation the experimental and control groups were compared with respect to I.Q., average achievement and achievement in History. By the implementation of the t-test for independent groups, the two groups were found to be equal with respect to these aspects.

Following this pre-program evaluation, a number of hypotheses were formulated with respect to the effect of the program on the following dependent variables:

- (a) average achievement;
- (b) achievement in History;
- (c) study habits;
- (d) study attitudes; and
- (e) time-structuring

On pre-program measures the experimental and control groups were found to be equal on all above mentioned variables. According to the before after control experimental design, this implied that a difference determined on post-program measures would be ascribed to the effect of the program. However, the nul hypotheses were accepted with respect to all hypotheses formulated. This implied that the experimental and control groups did not differ significantly on post-program measures with regard to the dependent variables. According to these findings no change could therefore be ascribed to the implementation of the program.

These results would seem to support the findings of Kirschenbaum and Perri (1982) and Kulik et al. (1982) who reported unfavourable results pertaining to the improvement of academic competence. Both studies emphasized the difficulties ex-

perienced by those wishing to contribute to this field. Brammer and Shostrom (1982) maintain that these difficulties are magnified when working with adolescents due to their impatience. This they ascribe to the fact that the adolescent finds himself in a transitional period from childhood to adulthood, which is characterized by conflicts and confusion relative to long-term satisfaction and immediate pleasure. In terms of academic competence improvement attempts, this would imply that the adolescent's expectations could have been unrealistic and strategies rejected when not supplying an immediate achievement improvement.

A more detailed investigation of results obtained reveals a number of similar factors which could have contributed to the outcome.

It would appear that the program goals were not as enthusiastically received as the presentation and contents of the program nor evaluated as positively as subjective experiences during the implementation of the program. The program goals thus warrant attention when discussing factors which could have influenced the results obtained.

According to the principles of the cybernetic cycle, discussed previously, the goals of a self-regulating process play an important role in the determination of strategies to be implemented and also with respect to the feedback supplied to the system. If the goals of the program were unacceptable to the subjects, it would lead to either rejection of subject goals or neglect of strategies directed at the achievement of these goals. In both cases this would result in a disturbance of the linkage between trainer and subject systems (Fig. 3.5).

One of the first considerations with respect to the program goals would pertain to the period after which the program was evaluated. The implementation took place between the second and seventh weeks of the third school term. Three weeks after the implementation of the program the group faced examinations. This implied that the methods and techniques introduced in the program as strategies to improve academic functioning were scarcely proposed when they were expected to give account of these methods and techniques. The post-testing with respect to the goal of the program (improved academic functioning) was completed before allowing for the practicing of new strategies or for the effect of positive experiences associated with goal attainment. The program goal pertaining to the evaluation of the effect of a learning development program on the improvement of academic functioning after a period of six weeks could therefore be considered unrealistic.

An aspect closely related to the first consideration refers to the period of implementation. During a period of five weeks the subjects were expected to regard, implement and strengthen strategies pertaining to:

- (a) achievement;
- (b) time structuring;
- (c) work methods; and
- (d) revision.

Subjects set goals for themselves with respect to the above mentioned aspects, but before adequate feedback could be supplied with respect to the implementation of the strategies, directed at the attainment of these goals, the following strategy was introduced. This could have resulted in resistance to the goals and strategies and terminated in a return to the previous level of functioning. Being a cyclic process, the

neglect of one aspect will essentially lead to unfavourable results on the following. This would imply that the neglect of sufficient time spent with regard to the strategies implemented, would essentially lead to less favourable feedback with respect to the goals set. Considering the fact that a large amount of the strategies implemented by the subjects were oriented towards self-control, trainer contact fading could have been extended to ensure greater emphasis on feedback to the system before the implementation of self-regulatory techniques. It can therefore be concluded that either the program was too lengthy for the period available or the period was inadequate for the effective implementation of the program.

The fact that the presentation and contents of the program were evaluated positively in the program evaluation questionnaire may pertain to the success of the implementation of psycho-technology as a component of a psycho-educational program. It would therefore appear that the work book and its contents were effective in supplying a medium for the training process. The development of this work book may therefore be regarded as an effective aid in the development of learning. Furthermore, the positive reaction towards the presentation reflects the success of direct-training in group regard. This method of psycho-education was apparently received very positively, suggesting that direct training programs, implemented in group regard, could satisfy the need for instruction with regard to learning development. This finding also supports those of Baymur and Patterson (1971) who proposed that group counselling is the preferred method of counselling with regard to cognitive problems such as improving academic achievement. It can therefore be concluded that the implementation of the work book in the direct-training group played an important role in the positive evaluation of subjective experiences during the implementation.

These elements can also be regarded as important factors in the enhancement of achievement motivation and will therefore meet the first requirement of the three-component model suggested by Kirschenbaum and Perri (1982) to improve academic competence, namely motivational factors.

The results of the program evaluation questionnaire must, however, be interpreted with great care as a result of the subjectivity involved. The possibility that the subjects became sensitive to the researcher's goals cannot be ignored.

Another aspect to be considered with respect to the results obtained refers to the contamination between groups. In terms of the principles of the General Systems Theory the selection of subjects from a population of std 7 boarders at a given school implies that the already existing system (characterized by well defined boundaries and well established intrasystemic forces) is subdivided into two groups. These two groups may be regarded as displaying weaker intrasystemic forces and consequently possessing highly permeable boundaries. In this way the restriction of the energy input to one subsystem is complicated.

Suggestions for future studies would include the following:

- (a) greater emphasis on the internalization of training goals;
- (b) an extended period before post-testing is implemented, hereby ensuring that the effects of the program have been realized and that strategies have been implemented before a re-evaluation of the situation takes place;
- (c) implementation of the program over an extended period to ensure greater emphasis on feedback and the required extended trainer contact fading;

- (d) re-implementation of a psycho-educational program in group regard and by means of direct training for the improvement of academic functioning; and
- (e) the restriction (as far as possible) of inter-group contamination. This could be brought about by the selection of subjects from different school or hostel settings. The suggestion here pertaining to the restriction of existing intra-systemic forces prior to the selection of subjects.

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CHAPTER 6

SUMMARY

Counsellors are constantly being faced with the dilemma of academic failure of students displaying the required intellectual abilities. It would seem that factors pertaining to effective study skills, habits and attitudes play an important role in this situation. Furthermore, the shortage of manpower with respect to both the teaching profession and counsellors implies a neglect of instruction in this field, resulting in academic-failure and associated emotional problems pertaining to lowered self-esteem and unsuccessful career development.

This study aimed to supply answers to these needs by the implementation of a learning development program for adolescents. Being directed at the adolescent population, it was necessary to review the normal development of the adolescent, his cognitive development and cognitive styles employed. The latter also served to emphasize the importance of cognition in the development of a *learning* development program. Aspects such as the formal operational stage of cognitive development (Piaget) and the field dependent and field independent cognitive styles (Witkin) received attention. Suggestions followed pertaining to an integrated approach, incorporating both styles.

Motivation was regarded as an important catalyst to the learning process and suggestions were made with respect to the acquisition and enhancement of achievement motivation in learning. Furthermore, a review of recent strategies implemented to improve academic functioning was made and conclusions were reached with respect to the effectiveness of certain orientations. From these theoretical considerations involved

in the learning process of the adolescent, a learning development program was developed on the principles of the General Systems Theory, cybernetics and psycho-education.

The General Systems Theory approach enabled the trainer to regard the adolescent as a self-regulating open system, capable of energy exchange with his environment. This energy exchange between systems was regarded in terms of the principles of the cybernetic cycle. These, in turn, formed the basis of the theoretical model underlying pscho-education. The implications of psycho-education included the following:

- (a) an orientation towards preventative services;
- (b) the consideration of man's development across his entire life-span;
- (c) the development of more complex systems;
- (d) the activation of a cyclic process, ensuring feedback to the system; and
- (e) the development of psycho-education.

The program was therefore developed on the grounds of these considerations and in this way aimed to improve academic functioning in the adolescent. For the purpose of this study, academic functioning was considered in terms of academic achievement, study habits and attitudes and time structuring.

The program reflected the following structuring:

- (a) situation analysis;
- (b) formulation of goals;
- (c) implementation of strategies; and
- (d) feedback (control) to the system.

The program was implemented to a sample (N = 30) of std. 7 hostel pupils of an English secondary school for boys. These subjects were selected at random and randomly ascribed to an experimental and control group (N = 15). The selection of an experimental and control group met the requirements of a before after control experimental design which was implemented to determine the effect of the program. The effect of the independent variable (program) on the dependent variables (achievement, study habits and attitudes and time structuring) was determined by the comparison of before and after measures of the experimental and control groups.

The effect of the program on the dependent variables was determined by the implementation of the following measuring instruments:

- (a) achievement - average achievement and achievement in History - mark schedules;
- (b) study habits and attitudes - The Survey of Study Habits and Attitudes (SSHA); and
- (c) time structuring - a time record.

On these measuring instruments, the before and after measures were compared with regard to the experimental and control groups. These results were obtained by the implementation of the t-test for independent groups. In this way a number of hypotheses were formulated and tested with respect to the effectiveness of the program in improving academic functioning.

Academic functioning was considered to be a function of:

- (a) achievement (average achievement and achievement in History);
- (b) study habits and attitudes; and
- (c) time-structuring.

The hypotheses were formulated with respect to the effect of the program on all these dependent variables.

It appeared that the program had no significant effect on academic functioning as determined by achievement, study habits, attitudes and time-structuring. Reasons for this may be found in terms of: the time of implementation of the program; the unrealistic goals with respect to the amount wished to be achieved in the limited time available; the period prior to post-test re-evaluation and the contamination between groups.

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A P P E N D I X A

A LEARNING DEVELOPMENT
PROGRAM FOR ADOLESCENTS

W J SCHOEMAN
A GROBLER
S J WESSELS

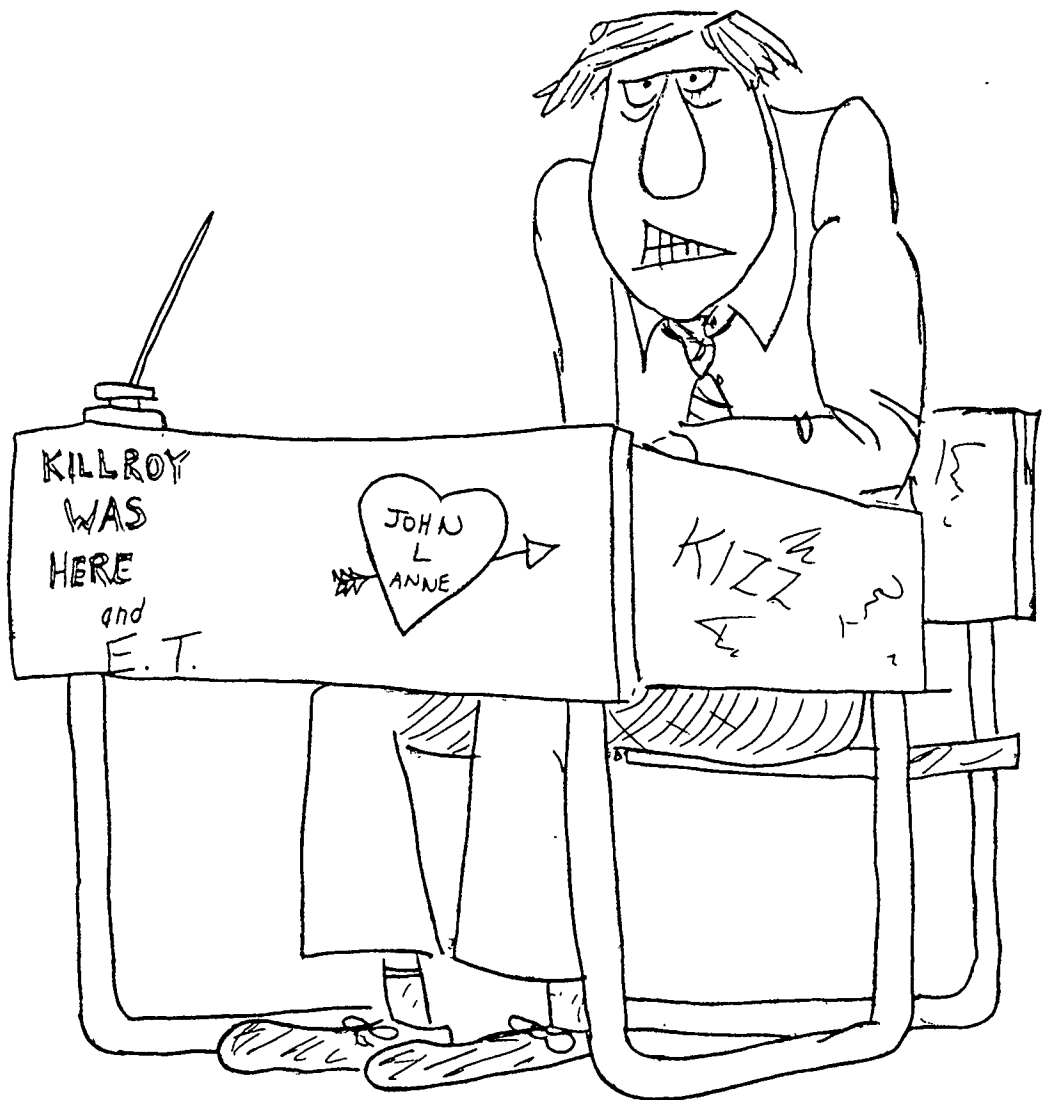
ACKNOWLEDGEMENTS TO:

- The Human Science Research Council for financial support of this project as component of a larger HSRC project titled: the creation of learning development programs based upon the cognitive learning styles of learners for primary, secondary and tertiary levels of education. Any opinions or deductions reached in this study are solely that of the authors and should not be regarded as reflective of any opinions or conclusions held by the HSRC.
- H. Versfeld for illustrations appearing in the work book.
- The authors of the ABC study system, for study aids used in this project.

C O N T E N T S

MODULE 1	INTRODUCTION	M1.1 - M1.12
MODULE 2	ACHIEVEMENT	M2.1 - M2.7
MODULE 3	TIME STRUCTURING	M3.1 - M3.12
MODULE 4	WORK METHODS	M4.1 - M4.16
MODULE 5	REVISION	M5.1 - M5.6

Module 1.



Introduction.

EXERCISE 1

- Complete the following questionnaire as truthfully as possible, noting the following:

O = Often

R = Rarely

Place a cross (X) over the answer which you prefer.

- | | | | |
|----|--|---|---|
| 1 | I waste time during prep, doing the unnecessary or day dreaming | O | R |
| 2 | I watch T.V., listen to music OR ramble about when I should be studying | O | R |
| 3 | I have enough time to do the things I enjoy doing | O | R |
| 4 | I feel discouraged at the amount of work to be learnt | O | R |
| 5 | I feel that my marks don't really give a true reflection of what I know before a test or examination | O | R |
| 6 | I make summaries of all work to be learnt | O | R |
| 7 | I lose concentration while studying | O | R |
| 8 | I test myself after learning to determine what I can remember | O | R |
| 9 | I feel that I forget what I've learnt before the examination or test | O | R |
| 10 | I don't feel rushed to complete a section of work before a test or examination | O | R |
| 11 | My marks are generally disappointing | O | R |
| 12 | I am positive and enthusiastic towards my school work and homework | O | R |

- Now compare these ANSWERS to those given by you and determine your own PROBLEM AREAS.

1 R
2 R
3 O
4 R
5 R
6 O
7 R
8 O
9 R
10 O
11 R
12 O

- MARK OBTAINED

12

- This program has been developed to help you CORRECT these problems which you are experiencing with regard to your school work, homework and marks.

To learn more about TIME UTILIZATION, better STUDY METHODS and improved ACHIEVEMENT, follow this course carefully, paying specific attention to the areas which you neglect in your own studies.

PROGRAM GOALS

This program will deal with the following problem areas:

ACHIEVEMENT	- Why?
	- How?

TIME STRUCTURING	- Why?
	- How?

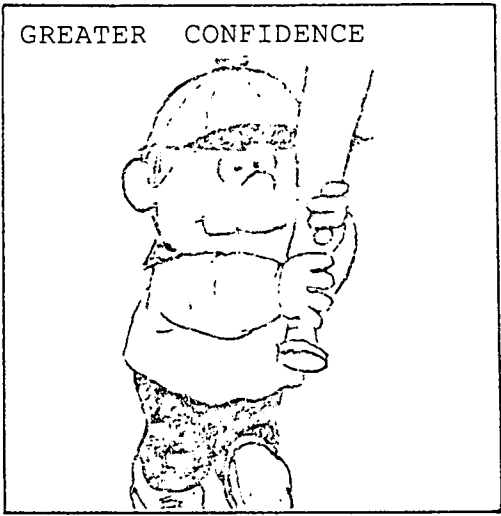
SELECTION AND STRUCTURING OF LEARNING

MATERIAL	- Why?
	- How?

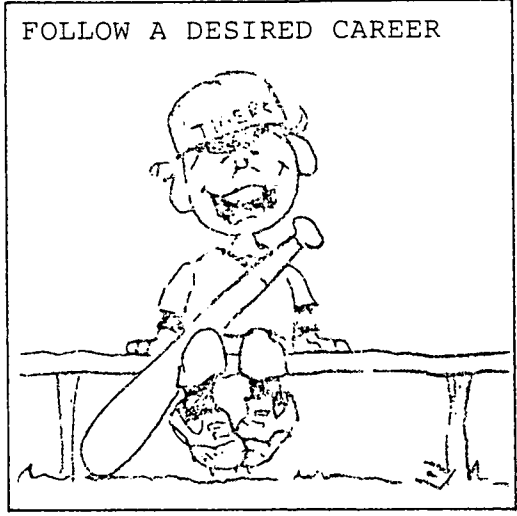
REVISION	- Why?
	- How?

WHY IMPROVE ACHIEVEMENT?

• GREATER CONFIDENCE



• FOLLOW A DESIRED CAREER



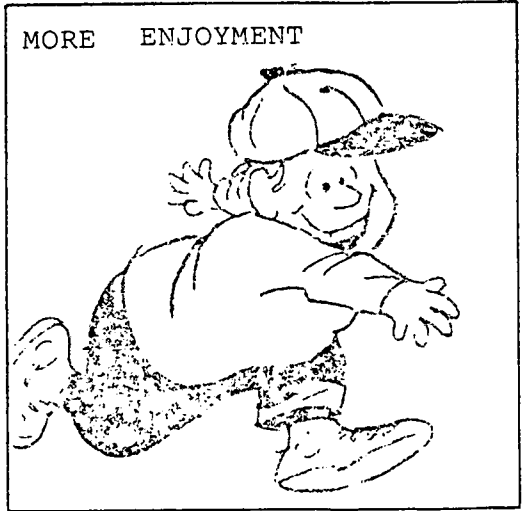
• FOR ME?

A large rectangular box with a solid border and five horizontal dashed lines inside, intended for a student to write their own answer to the question "FOR ME?".

• PRAISE

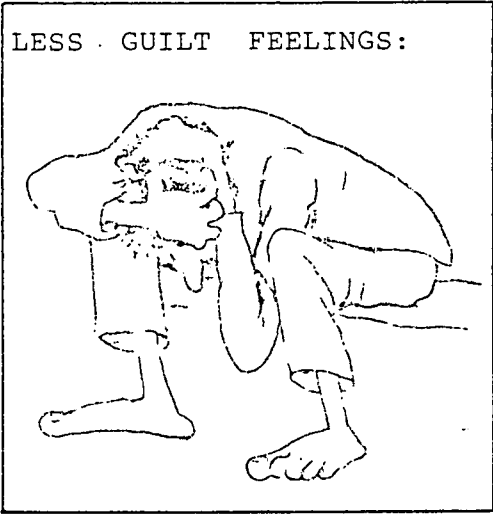


• MORE ENJOYMENT

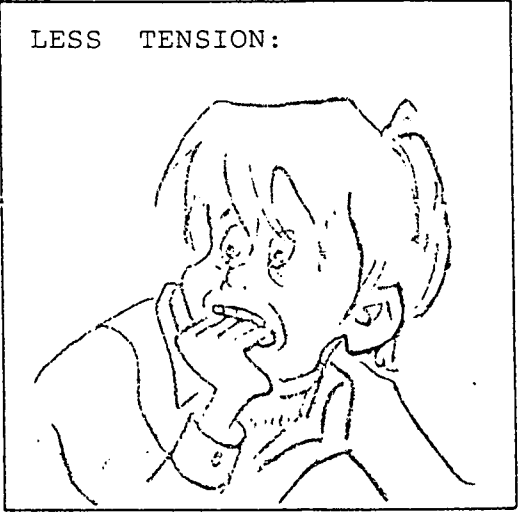


WHY STRUCTURE TIME?

• LESS GUILT FEELINGS:



• LESS TENSION:




• FOR ME?

• MORE RELAXATION:



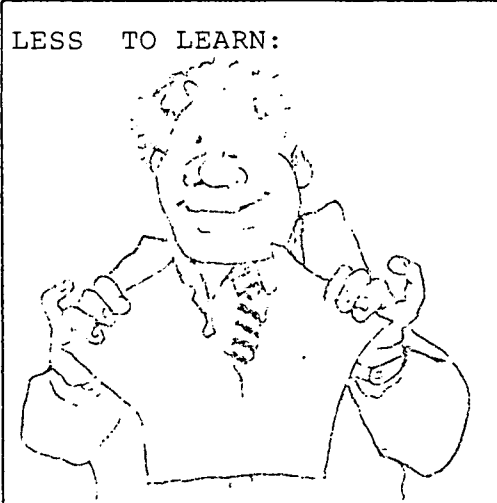
M1.6

• BETTER RESULTS:

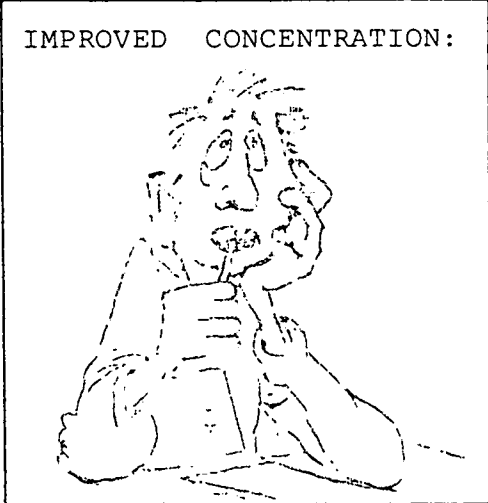


WHY SELECT AND STRUCTURE LEARNING MATERIAL?

● LESS TO LEARN:

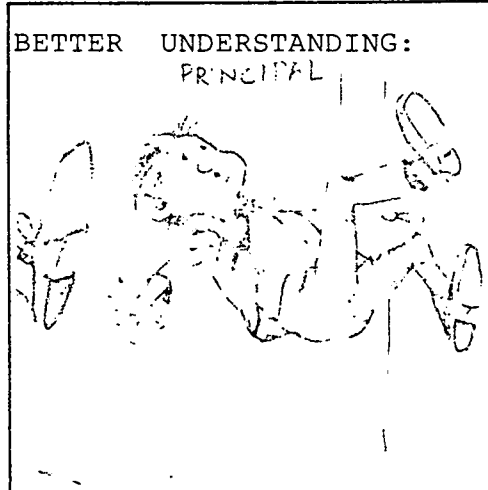


● IMPROVED CONCENTRATION:




● FOR ME?

● BETTER UNDERSTANDING:
PRINCIPAL

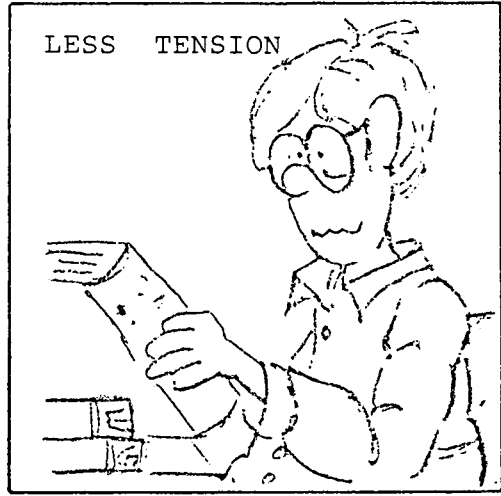
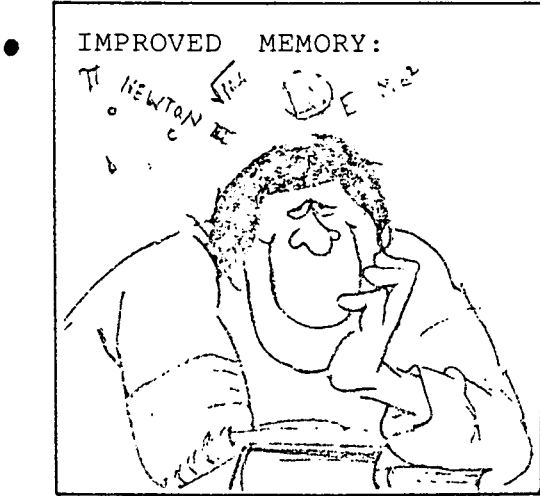


M1.7

● BETTER RESULTS:

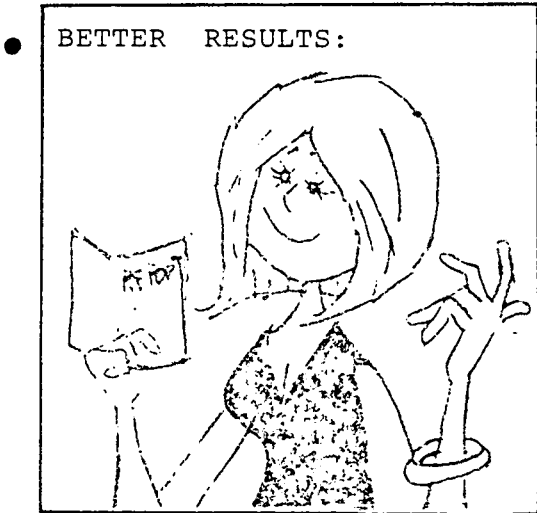
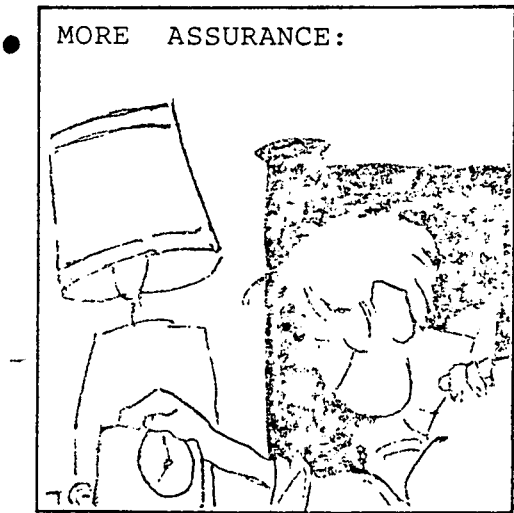


WHY DO REVISION?



● FOR ME?

A large rectangular box with a solid border and five horizontal dashed lines inside, intended for a student to write their answer to the question "FOR ME?".



EXERCISE 2

The following chart is to be used to record the TIME which you spend, as indicated, during this week.

NAME: -----

ACTIVITIES	SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
SCHOOL							
FIXED HOURS (MEALS, MUSIC, CHURCH)							
SPORT (ORGANIZED)							
RECREATION (FILMS; TOWN; VISITS etc.)							
HOMEWORK							
REVISION							
TOTAL							

EXERCISE 3

Complete the SURVEY OF STUDY HABITS AND
ATTITUDES questionnaire supplied.

These results will be made known to you.

TASKS

- Use the stickers supplied to remind you to complete your TIME RECORD each evening; and
- Bring the completed time record to class next week.

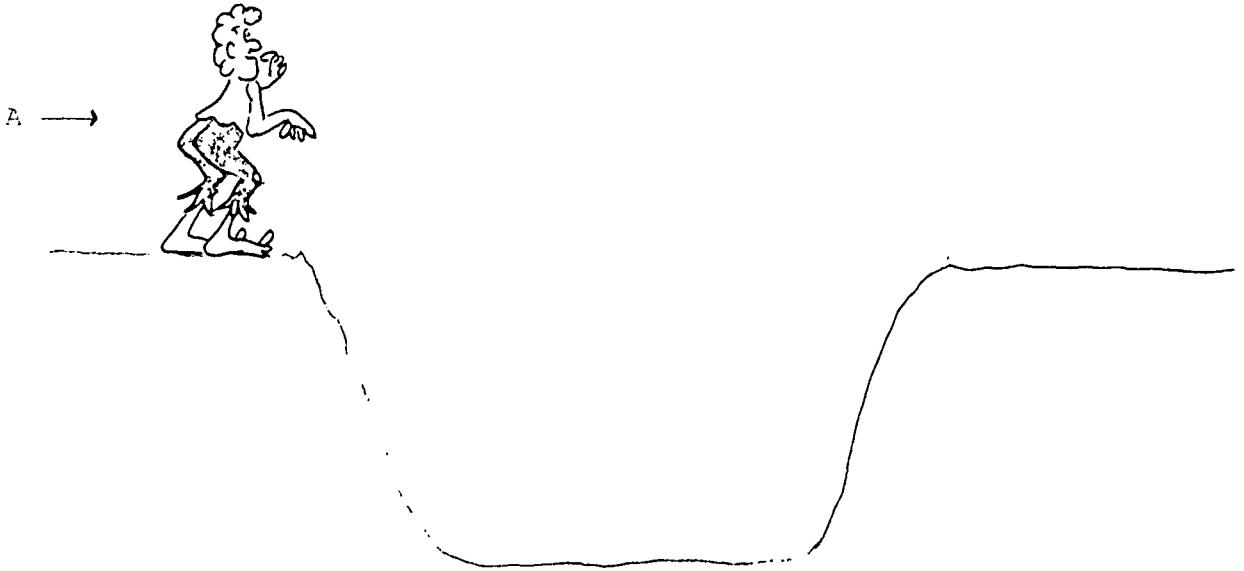
Module 2.



Achievement.

ACHIEVEMENT GOALS

Consider mountaineer A below and the task which he faces, viz. to cross the chasm, without any tools or equipment.



How many of the following statements are possibilities with respect to his success? Mark (✓) those which you feel are possibilities.

He feels DISCOURAGED at the beginning and decides that the task is impossible.

He decides to leap and FALLS to eternity.

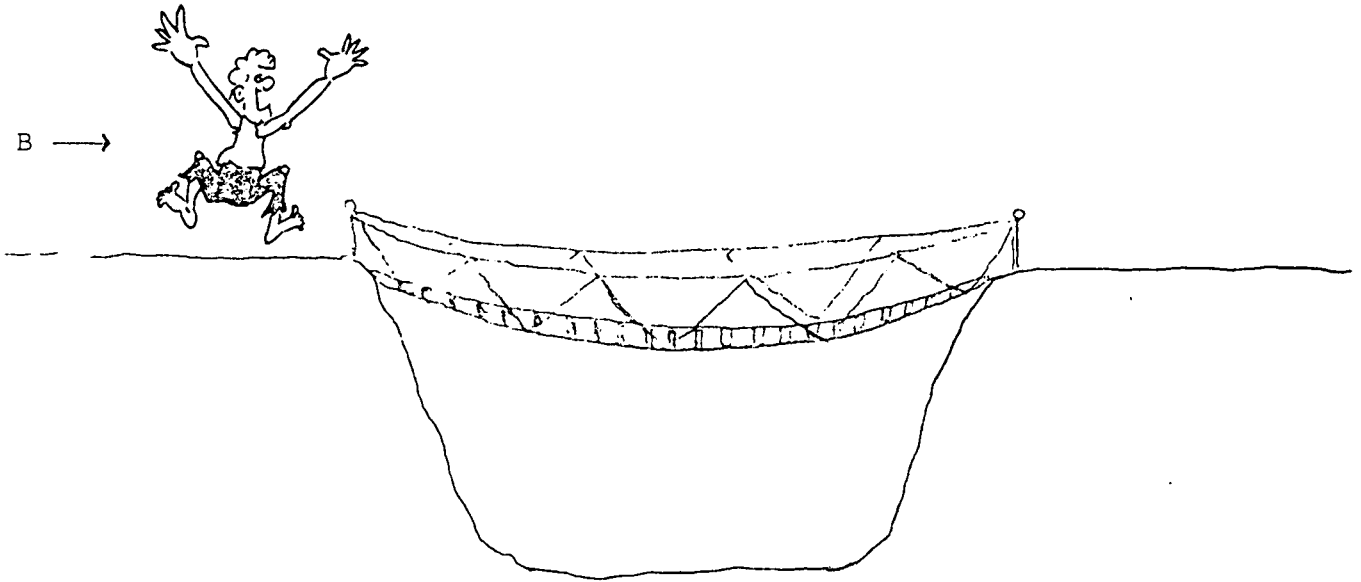
He keeps taking run ups, but fails to actually leap, thus experiencing FRUSTRATION and LACK OF CONFIDENCE in himself.

He leaps and REACHES the other side.

NUMBER POSSIBLE

4

Now consider mountaineer B and the exact same task.
The only difference being the presence of a rope ladder.



How many of the following statements could characterize his success?

He takes each step carefully, knowing that he is one step nearer to the other side.

He is LESS ANXIOUS because the steps are within reach and the possibility of falling is far less.

He feels CONFIDENT, knowing that he has a MEANS of crossing the chasm, without expecting the impossible.

He REACHES the other side in good time.

He feels DISHEARTENED.

NUMBER POSSIBLE ---5---

EXERCISE 1

Compare these two mountaineers with respect to their TASKS, their PREPAREDNESS, their GOALS, their EXPECTATIONS, their FEELINGS while completing the task and their SUCCESS.

- TASK: A: -----

B: -----

- PREPAREDNESS: A: -----

B: -----

- GOALS: A: -----

B: -----

- EXPECTATIONS: A: -----

B: -----

- FEELINGS: A: -----

B: -----

- SUCCESS: A: -----

B: -----

HINTS

The goals which we set for ourselves must thus comply to the following:

- They must be REALISTIC and OBTAINABLE.
- LONG-TERM goals must be broken down into SMALLER SHORT-TERM goals (LADDER).
- Our goals MUST be ATTRACTIVE and apply to something which we REALLY wish to accomplish.
- We must have a MEANS by which to reach these goals.

EXERCISE 2

Now apply these ideas to your own personal goals with respect to your marks. The MEANS will follow during the next three meetings. STRATEGIES will then be discussed and PRACTISED to bring about this goal which you are now going to set for yourself.

Complete the following chart, placing your subjects on the vertical axis and your own, personal goal per subject in the upper block, with the actual mark obtained to be placed directly beneath it.

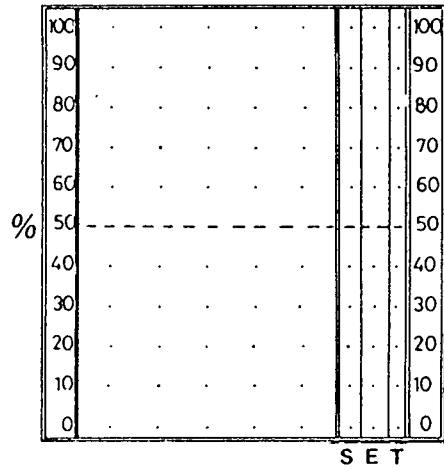
EXERCISE 3

The CONTROL sheet is to help you plot your successes per subject in an easily observable manner. You are thus able to compare your marks obtained with previous achievement and immediately be aware of an upward/downward tendency.

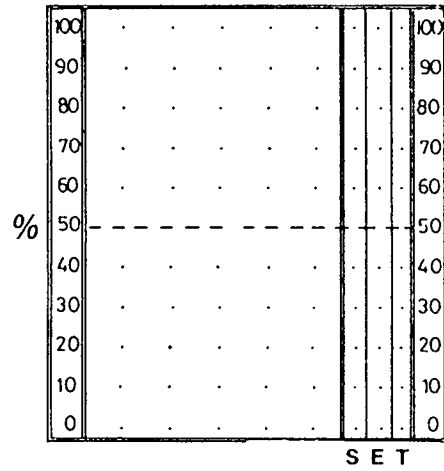
KONTROLE/CONTROL



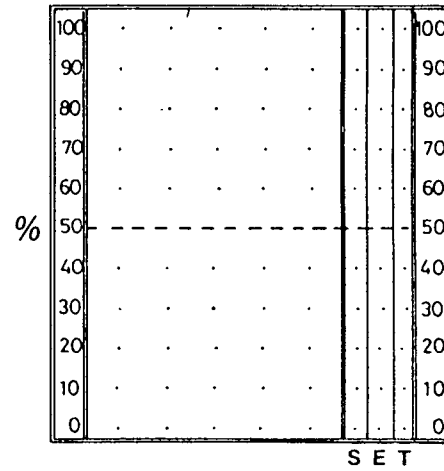
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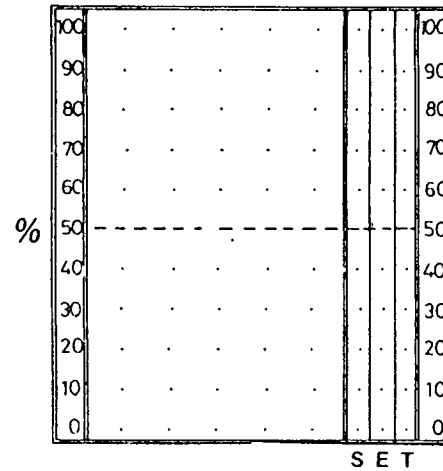
VAK/
SUBJECT



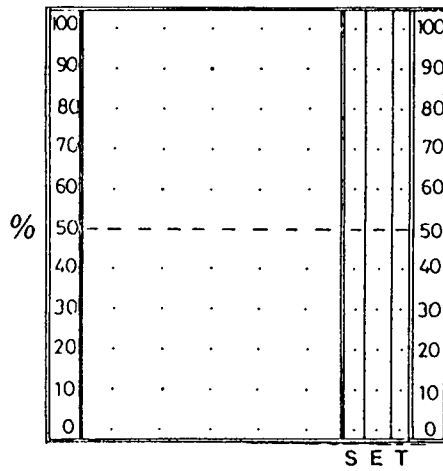
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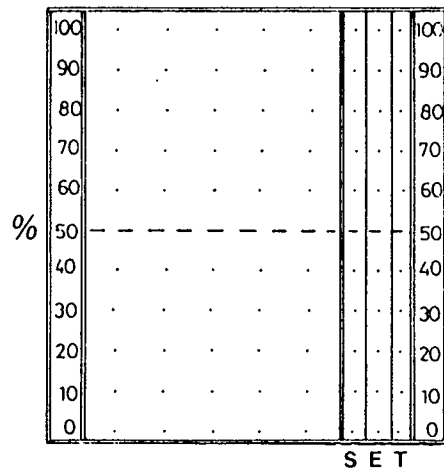
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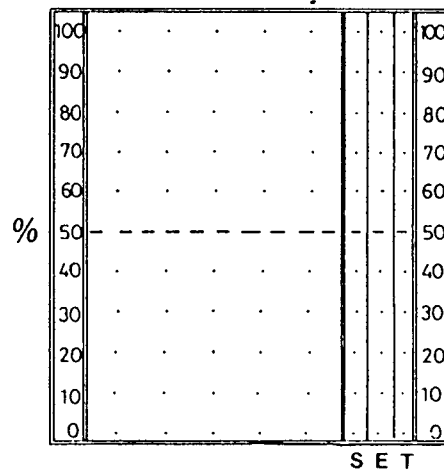
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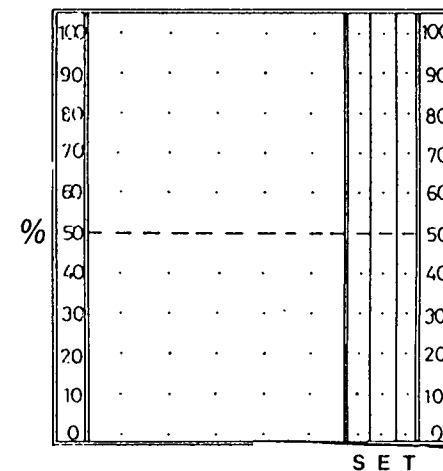
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SUMMARY

Now that you know what you expect of yourself and what the task is which you face, your success will be determined by:

Your ATTITUDE towards the goal.

The REALISM of the goal.

The MEANS which you implement to obtain the goal.

The next three sessions will be directed at the last point viz. HOW to obtain the goal and will involve the following:

TIME STRUCTURING

SELECTION AND STRUCTURING OF LEARNING MATERIAL

REVISION

Contract.

I, the undersigned, hereby undertake to
present _____ with chocolates
to the value of R2,00 (two rand) should
I fail to meet my achievement goals.

signature

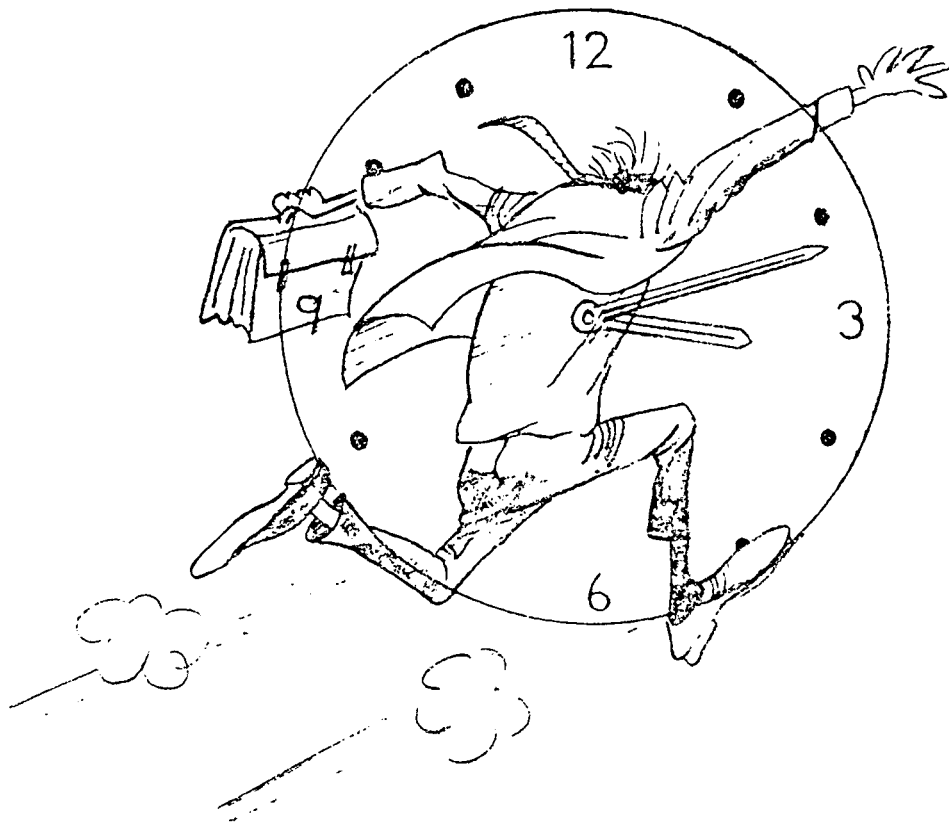
date

Contract.

I, the undersigned, hereby undertake to present
_____ with chocolates to the value
of R2,00 (two rand), should he be
successful in attaining his achievement goals.

signature

date



Module 3.

Time Structuring.

INTRODUCTION

As discussed during last week's session, the theme for this week is TIME - why it is necessary to structure time and how it is possible to do just this.

One of the major problems pupils confront is using their time effectively - leaving them enough time to do what they enjoy doing without feeling guilty about neglected or "forgotten" school work. Too often pupils put off doing school work and revision, only to find that they worry about it during relaxation or do badly as a result of limited time to complete large amounts of work. Even the relaxation times then become less enjoyable.

A reasonable balance between Study time and recreation is thus essential for achieving ACADEMIC success and PERSONAL enjoyment at school.

This module will show you HOW to schedule and maximize efficient use of your time so as to meet your own personal and academic goals.

SSHA RESULTS

According to the SURVEY OF STUDY HABITS AND ATTITUDES (SSHA), completed during the first module, your results reflect the following:

You have obtained the following percentile for
DELAY AVOIDANCE:

This indicates to what extent you promptly complete your assignments, avoid delay and are not inclined to unnecessary waste of time.

EXERCISE 1

Consider the TIME RECORD made previously. (See p. M1.9.)

The following table is now to be used to determine your own specific needs with respect to time. Complete the table, illustrating where you feel you need more time, where you need less and where you are satisfied with the present allocation.

e.g. Homework - less
Revision - more

ACTIVITIES	LESS	SAME	MORE
Eg. Homework	X		
Revision			X
School			
Fixed			
Recreation			
Sport			
Homework			
Revision			

EXERCISE 2

This exercise is designed to help you determine what your goals for your own personal time structuring are and how far these deviate from your present functioning.

ACTIVITIES	AVERAGE TIME SPENT NOW PER DAY	IDEAL/ GOAL	DIFFERENCE
Eg. Homework Revision	6 0	4 1	2 1
School Fixed hours Sport Recreation Homework Revision			

EXERCISE 3

Complete the following before continuing, placing a cross (X) in the appropriate block.

- | | YES | NO |
|---|--------------------------|--------------------------|
| • Do your ideals/goals satisfy your needs? | <input type="checkbox"/> | <input type="checkbox"/> |
| • Are your goals directed at greater success? | <input type="checkbox"/> | <input type="checkbox"/> |
| • Do you feel certain that these goals are obtainable? | <input type="checkbox"/> | <input type="checkbox"/> |
| • Are you eager to test yourself to determine whether you will be able to meet these goals? | <input type="checkbox"/> | <input type="checkbox"/> |

IF you have answered NO to any of these questions, review your goals!

They might be too high and you thus feel discouraged before even starting.

EXERCISE 4

Now that you know how much time you want to spend with regard to fixed hours, sport, recreation and studies, complete the following.

NAME: -----

TIMES	MON.	TUES.	WEDNES.	THURS.	FRI.	SATUR.	SUN.
08h00-09h00							
09h00-10h00							
10h00-11h00							
11h00-12h00							
12h00-13h00							
13h00-14h00							
14h00-15h00							
15h00-16h00							
16h00-17h00							
17h00-18h00							
18h00-19h00							
19h00-20h00							
20h00-21h00							
21h00-22h00							
22h00-23h00							
Recreation							
Sport							
Revision							
Homework							

EXERCISE 5

To help you evaluate your success with this task, the following TIME GRAPH may be of use - showing exactly when you do more than expected and when less.

This graph is to be completed at the end of each day. You might find this difficult at first, and the suggestion is thus that you work in pairs ensuring that there is someone to remind you.

- Start by illustrating the graph of your TIME GOALS in RED.
- Your actual performance during this week is plotted in BLUE.
- Week 2 is completed in BLACK.
- Week 3 is completed in GREEN.

This will enable you to immediately become aware of the times when you cross the RED graph to either more or less time spent than intended.

TIME EVALUATION

<u>TIME SPENT ON HOMEWORK</u> (MINUTES)	MORE							
	240							
	210							
	180							
	150							
	120							
	90							
	60							
	30							
<u>DAYS</u>	<u>MONDAY</u>	<u>TUESDAY</u>	<u>WEDNESDAY</u>	<u>THURSDAY</u>	<u>FRIDAY</u>	<u>SATURDAY</u>	<u>SUNDAY</u>	

M3.9

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TIME EVALUATION

TIME SPENT ON REVISION (MINUTES)	MORE							
	240							
	210							
	180							
	150							
	120							
	90							
	60							
	30							
<u>DAYS</u>	<u>MONDAY</u>	<u>TUESDAY</u>	<u>WEDNESDAY</u>	<u>THURSDAY</u>	<u>FRIDAY</u>	<u>SATURDAY</u>	<u>SUNDAY</u>	

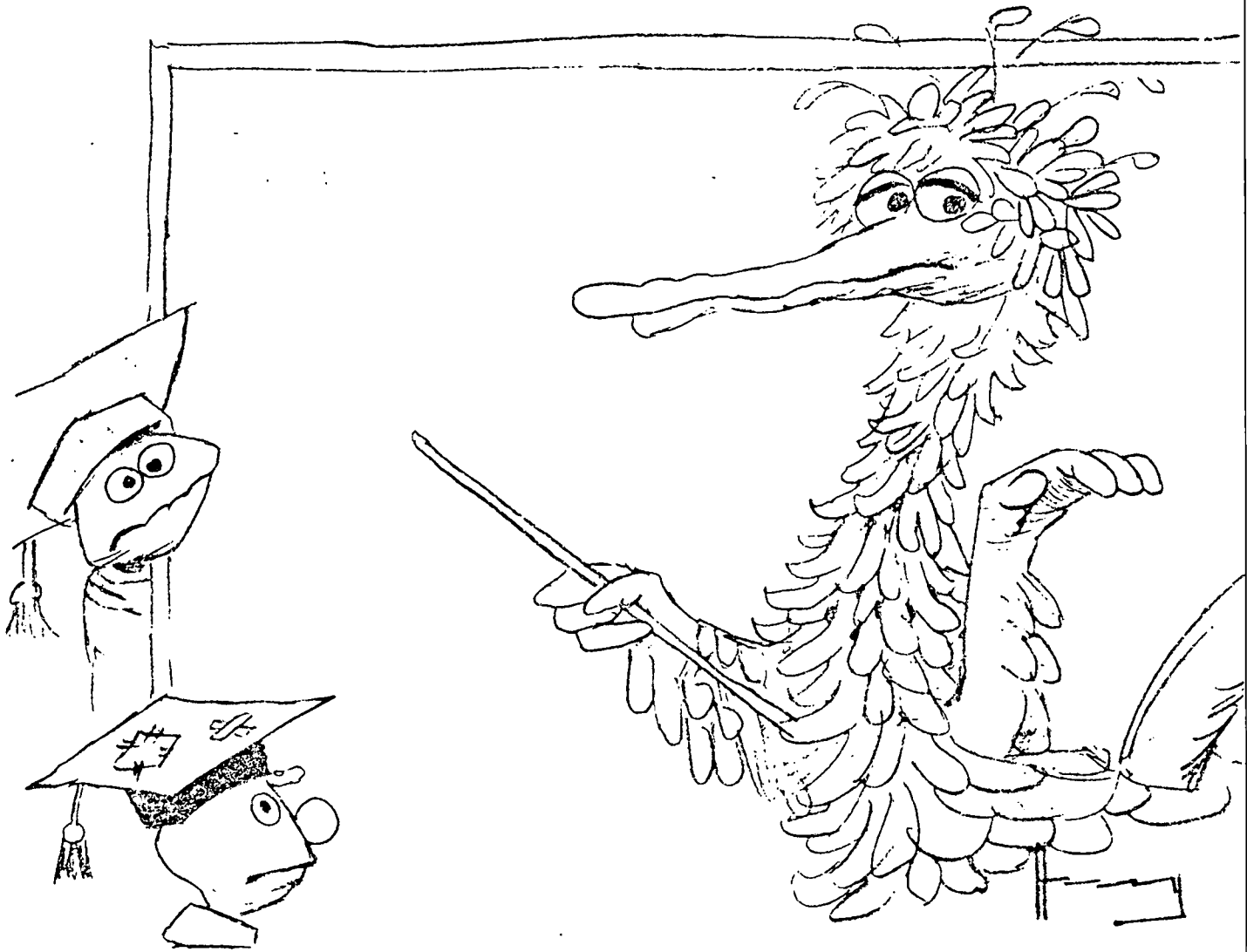
M3.10

TIME CONTROL

- Name the PROBLEMS which you experienced when trying to meet your TIME GOALS

- What can you do to MINIMIZE these problems?

Module 4.



Work Methods.

INTRODUCTION

Correct work and study habits are surely the most vital part of academic success. This could mean the difference between long hours spent with learning material and still experiencing failure or disappointment and EFFECTIVE, GOAL DIRECTED and SUCCESSFUL studies.

Correct study habits and methods should ensure the following:

- Improved CONCENTRATION
- Improved UNDERSTANDING
- REDUCTION in learning material
- MEMORY assistance

This module will thus supply you with a frame of reference for your studies - a structured method which will ensure the above mentioned requirements.

Are your WORK METHODS sufficiently effective to ensure optimal utilization of your TIME, ABILITY and TALENTS?

YES

NO

SSHA RESULTS

According to the results of the SURVEY OF STUDY HABITS and ATTITUDES (SSHA), you have obtained the following percentile for WORK METHODS

----- .

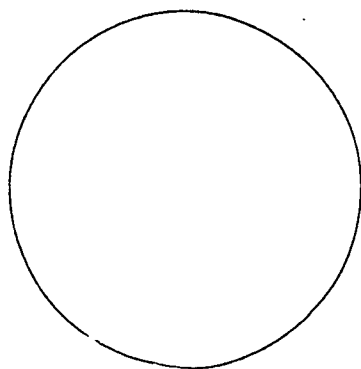
This is an indication of your use of EFFECTIVE STUDY METHODS, your efficiency in doing assignments and the extent to which you set about your school work in the most effective way.

HOW can you improve on this?

EXERCISE 1

Consider your everyday environment and discover how you learn from, and perceive, it.

Take the following as an example:



What do you see before you? .

Although the figure does not represent a completed circle, we are inclined to complete the picture in our mind's eye and recall "A CIRCLE".

The whole thus being the more SPONTANEOUS way of perception.

EXERCISE 2

You have now identified the WHOLE, but is this sufficient?
Consider the following:



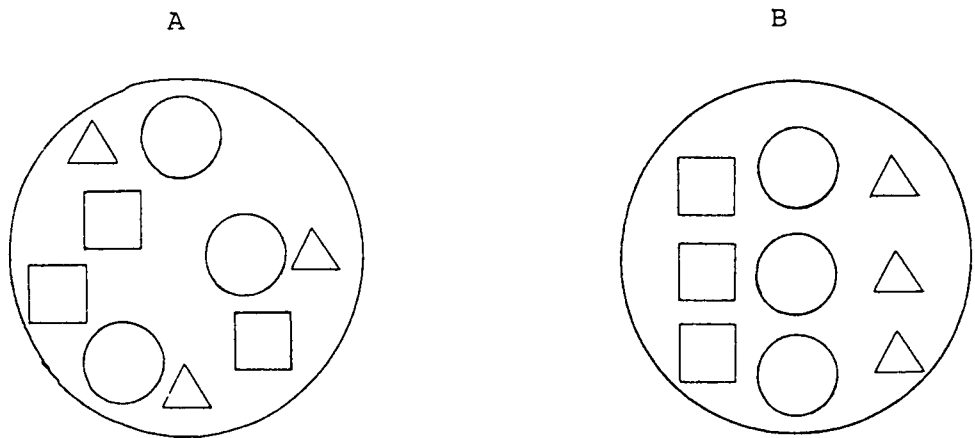
Both are faces; both have two eyes, a nose and a mouth.
These elements are exactly the same in both cases.
Yet, there is a difference.

To determine what the difference is, it becomes important to ANALYSE the elements with respect to their position, shape and meaning. This will then account for the difference we see.

EXERCISE 3

When perceiving the WHOLE, with its PARTS, certain aspects make the process of RECALLING it, far easier.

Consider the following and decide which would be easier to recall.



It would thus seem that STRUCTURE and ORDER play an important role in the learning process.

The second illustration enables one to recall a specific image of the given elements.

You have thus identified the following as important aspects of learning:

- Formation of the WHOLE
- ANALYSIS of the whole
- STRUCTURING of the whole and its parts

Can you adapt these to your learning work?

EXERCISE 4

Read through the question received so as to obtain a global idea of the contents.

You are thus to identify the WHOLE.

CLUE: HEADING + SUB-HEADINGS

Underline these in RED

EXERCISE 5

Read through the question once again, identifying the PARTS.

CLUE: KEY WORDS AND CONCEPTS

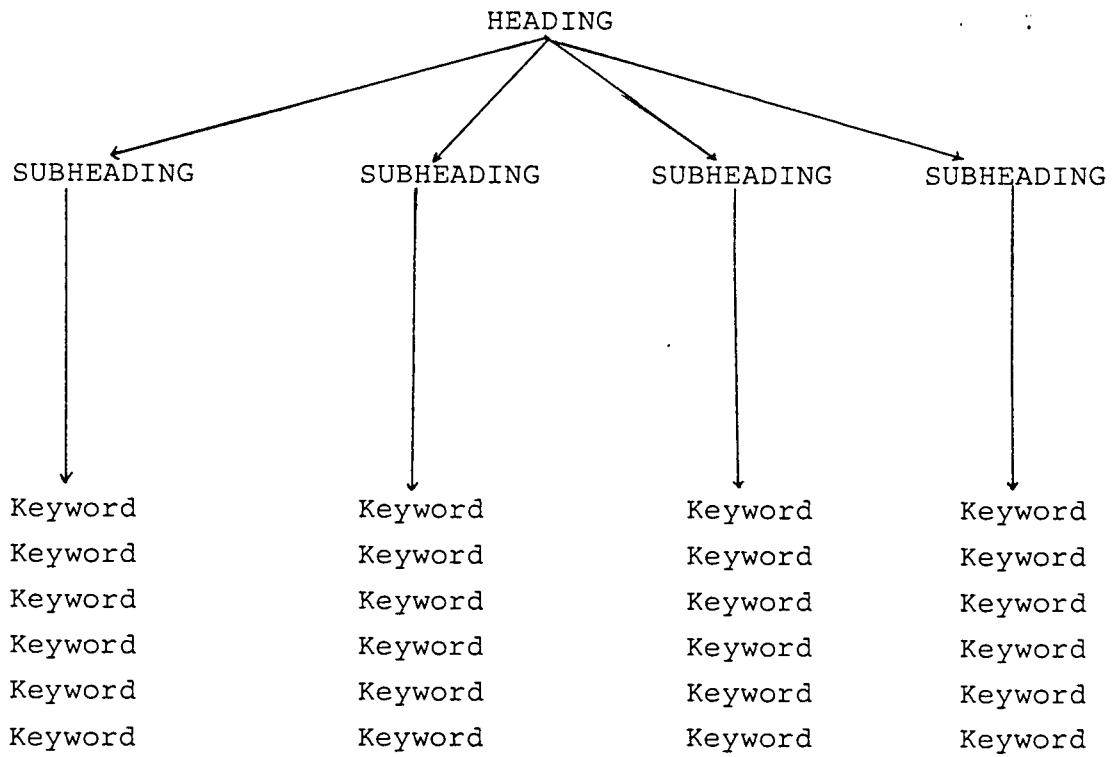
Underline these in BLUE

EXERCISE 6

This WHOLE and its PARTS may now be STRUCTURED in a number of different ways.

Consider the example given and select an example for the particular WHOLE and PARTS which you have identified.

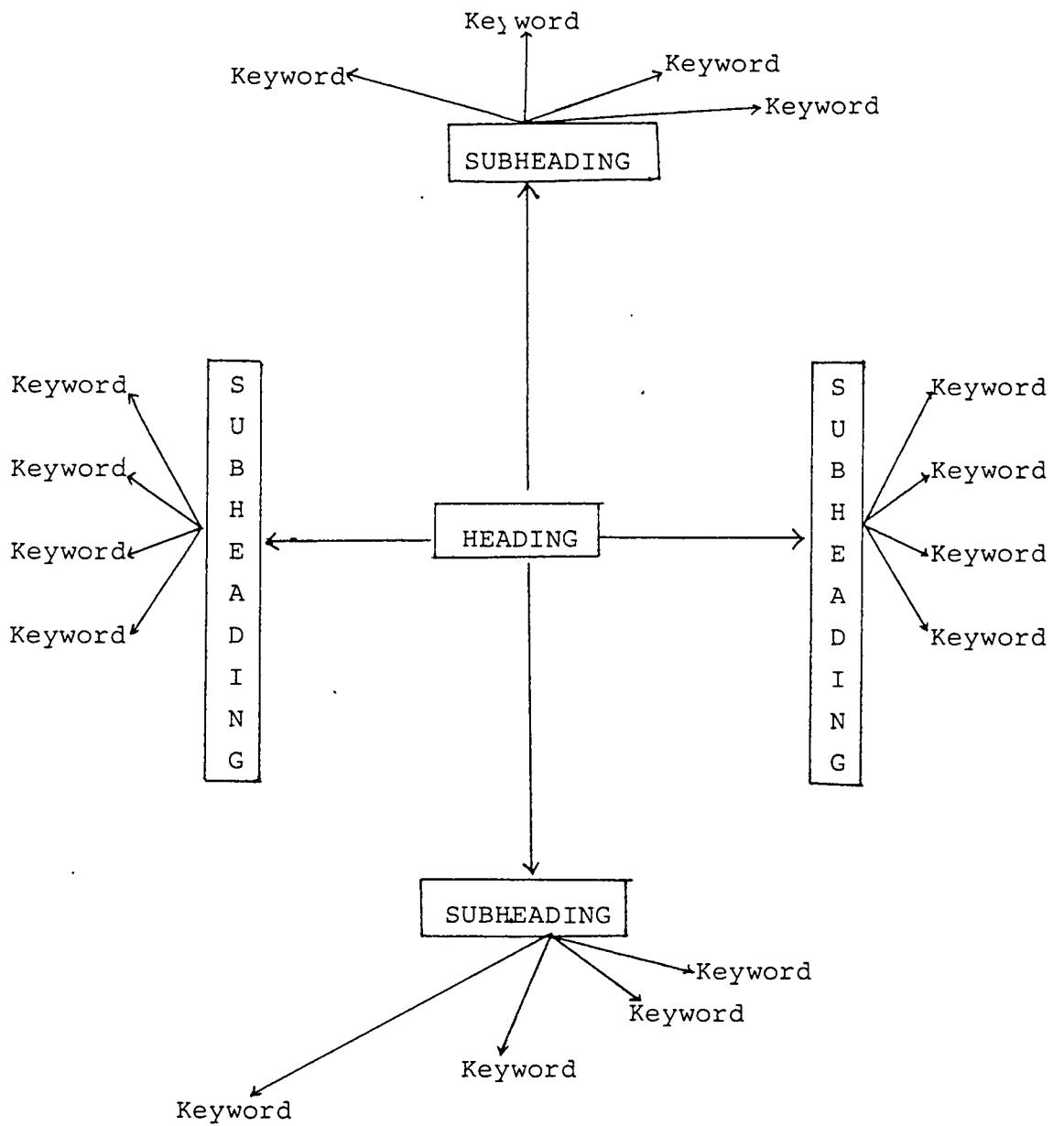
EXAMPLE 1



EXAMPLE 2

	HEADING	
A	SUBHEADING	Keyword Keyword Keyword Keyword Keyword Keyword
B	SUBHEADING	Keyword Keyword Keyword Keyword Keyword Keyword
C	SUBHEADING	Keyword Keyword Keyword Keyword Keyword Keyword
D	SUBHEADING	Keyword Keyword Keyword Keyword Keyword Keyword

EXAMPLE 3



TASK

Choose the example best suited to your personal preferences.

Now complete the question supplied.

Module 5.



Revision.

EXERCISE 1

Read through the given passage ONCE and immediately after doing so, turn the page and attempt answering the questions.

MARKS OBTAINED

10

EXERCISE 2

Read through the second passage THREE times.

Turn the page and once again attempt the questions.

MARKS OBTAINED

10

From the exercises done, it is therefore clear that repeated learning is an important factor when wishing to recall facts.

This principle can be used with regard to your school work and studies, especially now that you know how to summarize and structure your work.

Important factors regarding revision, are:

- UNFAMILIAR facts learn HARDER than those which you have revised previously.
- You will be LESS PRESSED FOR TIME if you have compiled a well balanced revision time-table.
- You will be LESS ANXIOUS about work to be learnt if you know that there is sufficient time for all the work to be learnt in.
- Revision ASSISTS your MEMORY when you are expected to recall the learnt material.
- An improved memory leads to IMPROVED MARKS!

EXERCISE 3

Complete the following record, enlisting all the headings to be learnt for these examinations. The first column is used to show when you have summarized the specific section and the second for when this section has been revised.

A heading followed by one tick (✓) will therefore imply that this section has been summarized, but not, as yet, learnt.

EXERCISE 4

To enable you to be well prepared for tests and examinations, the following chart has been designed to denote the division of work before D-date.

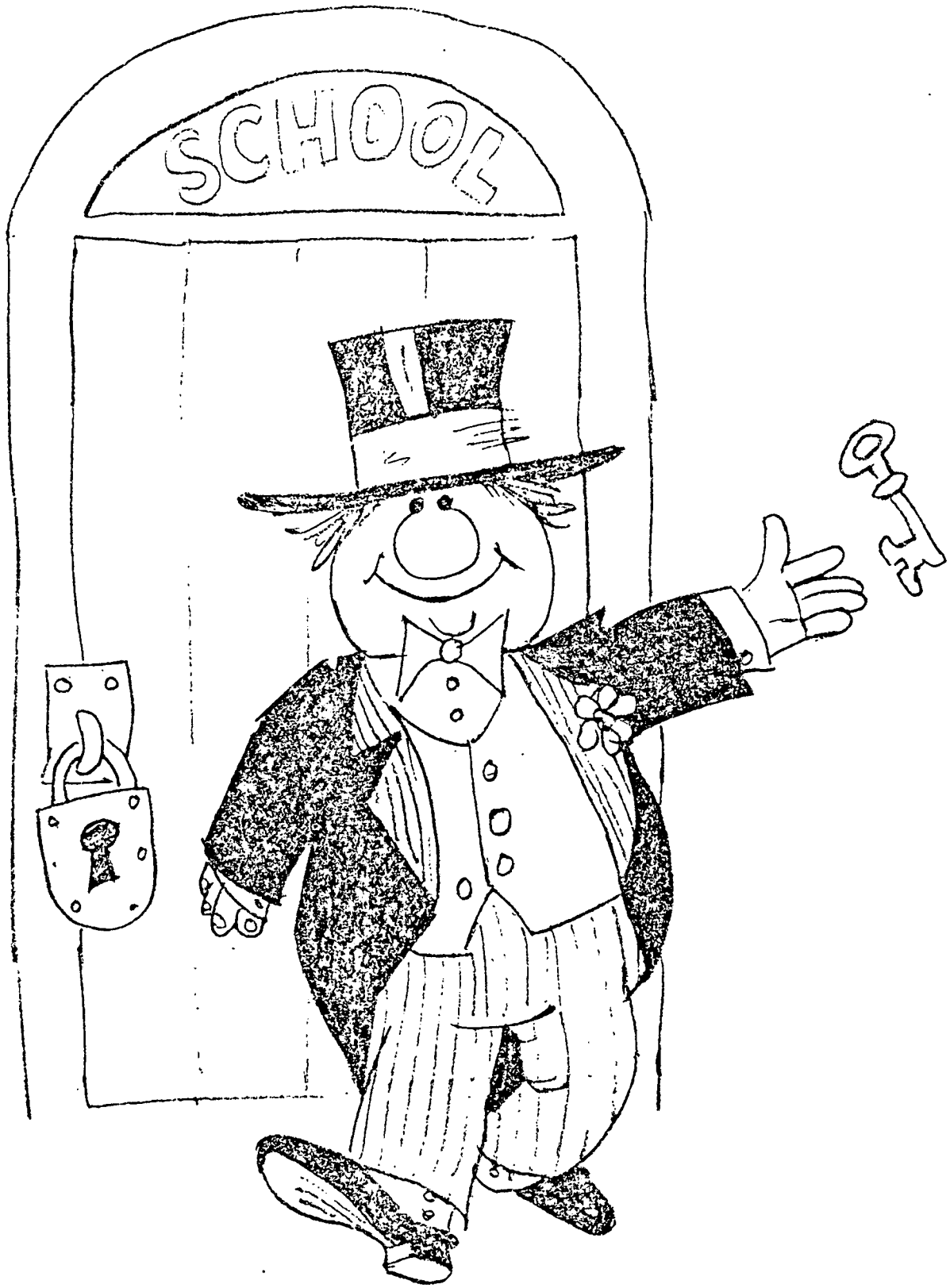
Only the right-hand side graph is to be used. The horizontal axis is to denote the months of this term and the vertical axis the days of each month. Test and examination days are thus to be coloured in RED with the appropriate subject written in next to it.

The "OPEN" days are then to be used to prepare for the "RED" days. The work to be done can then be divided among the OPEN days preceding a test or examination.

TASK

Complete all your headings according to your REVISION CHART. These are to be completed before the scheduled test and examination dates as they appear on your PLANNER.

Your Revision Chart is then to be signed by a friend the day of the test or examination to ensure that you are prepared before your test or examination.



Conclusion.

A P P E N D I X B

INSTRUCTOR'S MANUAL
TO ACCOMPANY

A LEARNING DEVELOPMENT
PROGRAM FOR ADOLESCENTS

W J SCHOEMAN
A GROBLER
S J WESSELS

ACKNOWLEDGEMENTS TO:

- The Human Science Research Council for financial support of this project as component of a larger HSRC project titled : the creation of learning development programs based upon the cognitive learning styles of learners for primary, secondary and tertiary levels of education. Any opinions or deductions reached in this study are solely that of the authors and should not be regarded as reflective of any opinions or conclusions held by the HSRC.
- H. Versfeld for illustrations appearing in the work book.
- The authors of the ABC study system, for study aids used in this project.

C O N T E N T S

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Appendix B						
Appendix C						

MODULE 1

NOTES

INTRODUCTION

- Ensure that the program attenders are comfortable and at ease in apartment chosen.

- All-round introductions are made.

- Introduction of program - encouraging group participation - directed at determining the need and motivation for improved study skills and achievement among group members.

- Enforce hope by stressing their ability to achieve their ideals and offer the program as an aid.

- Supply group members with the program and introduce module 1. Supply necessary stationery.

- Exercise 1 (p. M1.1) is completed according to instructions and answers compared to those supplied (p. M1.2). The mark obtained is shown in the block supplied. This mark reflects the general academic functioning of the individual.

NOTES

- Allow for a comparison of marks obtained.

- Group members are asked to read through p. M1.3 and encouraged to ask questions.

- Broad outlines of the program are supplied (p. M1.4) and pupils are then asked to consider why they specifically wish to improve achievement, time structuring, study skills and revision by completing the central block (FOR ME?) on pages M1.5; M1.6; M1.7 and M1.8 respectively. The sketches supplied serve as examples of possible reasons. They are not to feel bound by these suggestions. Examples on transparencies (T. A-D).

- Group divided into smaller groups of 3-4 and asked to determine the most popular reason given among group members for each aspect to be improved.

- Create expectations by suggesting that these ideals are to be re-evaluated at the end of the program.

NOTES

- Consider exercise 2 (p. M1.9). This record of the time they spend during the ensuing week is to be given as a task to be completed at the close of each day, recording the time spent during that specific day. Example on transparency (T.E.)

- Supply stickers (RED) which are to be pasted in their homework notebooks as reminders to complete exercise 2 (p. M1.10).

- Supply each member with a Survey of Study Habits and Attitudes (SSHA) and its answer sheet. This questionnaire is completed according to standardized instructions.

(NB. Only registered test-users are allowed to administer this test.)

- Re-collect questionnaire booklets and answer sheets, ensuring pupils that these results will be made known to each individual.

- Summarize tasks for next meeting (see p. M1.12).

- Finalize arrangements for next meeting.

MODULE 2

NOTES

ACHIEVEMENT

- Allow for discussion of task given during Module 1 (Exercise 2). The following may serve as an example of the questions which could be used to facilitate discussion - eg. What difficulties were experienced?

- Introduce Module 2.

- Complete ACHIEVEMENT GOALS (Page M2.1) and (Page M2.2).

- Subdivide group into smaller groups (3 or 4 members) and allow them to complete Exercise 1 (Page M2.3) as a group.

Determine how each member would prefer to set his/her goals, in terms of the goals set by M.A. and M.B.

- Ask each group member to ascertain which prerequisites his own personal goals should meet, after considering the HINTS suggested on page M2.4, by adding to the list given if considered necessary.

- Complete Exercise 2 (Page M2.5). See transparency (T.F). The mark indicated in the upper block refers to the goal set for the specific subject by the individual. The mark obtained is then placed directly beneath this goal and is easily compared to it. Exami-

NOTES

nation marks obtained and the goals set with respect to them are placed in the larger blocks with test results and goals in the narrower blocks.

- This chart is to be completed before and after each test/examination. Before, to determine the goal to be attempted and after, to compare this to the actual mark obtained.

- Exercise 3 (Page M2.6) is completed by allowing each pupil to plot his present achievement in each subject. Consequent results are plotted on the same graph and the individual is then made aware of increased/decreased achievement. Example on transparency (T.G).

- Exercise 2 (Page M2.5) and Exercise 3 (Page M2.6) are to be completed during the term/year.

- Summarize (Page M2.7).

- The contracts supplied are completed and exchanged with a similar contract from the trainer.

MODULE 3

NOTES

TIME STRUCTURING

- Discuss implementation of exercise 2 and 3 of module 2.

- Introduce Module 3.

- Ask each member to read through the INTRODUCTION individually.

- The results of the Survey of Study Habits and Attitudes with respect to Delay Avoidance are made known to each member individually. This is to be shown in the space provided (Page M3.2).

- Complete Exercise 1 (Page M3.3). See transparency (T.H).

- Complete Exercise 2 (Page M3.4). See transparency (T.I).

- Complete Exercise 3 (Page M3.5). See transparency (T.J).

- Complete Exercise 4 (Page M3.7). The total hours allocated per day with respect to recreation, sport,

NOTES

revision and homework are shown at the end of each day in the spaces provided. See transparency (T.K).

- Complete Exercise 5 (Page M3.8). See transparency (T.L). Extra control sheets may be supplied for a longer period than 3 weeks.

Exercise 5 (Homework and Revision) is to be completed during the week. (Homework task.)

MODULE 4

NOTES

WORK METHODS

- Complete TIME CONTROL, page M3.11 and page M3.12.

- Introduce Module 4.

- Each member is to read through the INTRODUCTION (page M4.1) and ask any questions they may have.

- Ask each to answer the question set on page M4.2 by placing a cross (X) in the appropriate block.

- The Survey of Study Habits and Attitudes results with respect to work methods are given to each individually. Their own person result is shown on the dotted line provided.

- Complete Exercise 1 (see page M4.5).

- Allow each member to read the answer on page M4.6 and determine how many perceived the sketch correctly, by asking these to raise their hands.

- Complete Exercise 2 (see page M4.7), by asking each member to read the instructions and then to discuss

NOTES

the differences perceived in their small groups (3-4 members). Record these differences and draw a conclusion.

- Exercise 3 (page M4.8) is completed by flashing (5 seconds) diagram A and B respectively on the overhead projector (T.M and T.N). After each displayal, the pupils are asked to jot down what they saw (as they saw it). They are now asked to page to page M4.8 and read through the exercise.

- Ask each to read through page M4.9 and then to consider exercise 4 on page M4.10.

This exercise is based on a section of the work prescribed in the Std. 7 syllabus. This section is then given as a "hand-out" upon which the pupils are asked to complete Exercise 4 (p. M4.10) and Exercise 5 (p. M4.11). (See Appendix A for an example from the History Syllabus).

- Complete Exercise 5 (p. M4.11) on this "hand-out". Class-notes may serve as clues to keywords and concepts.

- Ask each pupil now to consider the structured examples of Exercise 6 (p. M4.12) and to select one example to structure the headings, subheadings and keywords identified in the previous two exercises. Encourage the use of colour to emphasize demarcations.

- The next Section (5) may then be given as a homework task to complete in a similar manner.

MODULE 5

NOTES

REVISION

- Re-consider the homework task. Determine the problems they experienced during the implementation of the examples given and ensure that these are solved before expecting pupils to complete the following section(s) for homework.

- Introduce Module 5.

- Exercise 1 (p. M5.1) is completed with respect to a paragraph chosen from the subject matter of the Std 7 syllabus. (See Appendix B for an example of a paragraph chosen and the possible questions set).

- A similar procedure is followed for Exercise 2 (p. M5.2) (Appendix C).

After completion of both exercises, the marks obtained, (after comparing answers to answers supplied) are shown in the spaces provided.

- Allow for small group (3-4 members) discussion on the importance of revision (if any?). Discuss in large group.

- Each group member is now asked to read through page M5.3 and encouraged to ask questions.

- Complete Exercise 3 (p. M5.4) according to instructions.

NOTES

- Complete Exercise 4 (p. M5.5) according to instructions and display an example on transparency (T.O).

- Discuss task to be completed (p. M5.6).

C H U R C H I L L

EARLY POLITICAL CAREER

PRIME MINISTER

GRAND ALLIANCE

POST WAR PERIOD

Grand alliance formed

North Africa

Second front

Reich occupied

APPENDIX A

CHURCHILL FORMS THE GRAND ALLIANCE AGAINST HITLERThe Grand Alliance is formed

In July 1941 Hitler launched his attack against the Soviet Union. Churchill immediately declared that, although he was opposed to Communism, it was Hitler who had to be defeated at this critical stage. To accomplish this aim he welcomed the Soviet Union as an ally. He sent missions to Stalin to formulate an agreement and he also sent war materials round Norway.

In December Japan unexpectedly attacked the American naval base at Pearl Harbour in the Hawaiian Islands. As Japan was his ally, Hitler declared war on the U.S.A. Consequently Churchill now received more war supplies from America. A large American army was raised to help Britain in her struggle. The forging of the Grand Alliance between Britain, the U.S.A. and the Soviet Union was the turning point in the war and the guarantee that Hitler's Reich would be vanquished.

North Africa and the attack on Hitler's stronghold

In 1942 Stalin pressed strongly for the opening of a second front in France. The Allies were not yet prepared for such a dangerous campaign on account of Hitler's stronghold in Western Europe. This stronghold had been reinforced in France by a strong West Wall which had been erected by means of forced labour. Churchill flew to Moscow to explain the position and had to brave Stalin's wrath. Meanwhile shiploads of American war material were sent to the Soviet Union around the north of Norway.

In November 1942 an American army landed in North Africa and assisted the British army to defeat Rommel. In January 1943 Churchill met Roosevelt at Casablanca. He succeeded in persuading the American president to attack Hitler's stronghold

through Italy. Sicily was first occupied and then southern Italy. In September the Italians deposed Mussolini and Italy withdrew from the war. This was one of the first results of the campaign conducted by the Grand Alliance.

Creation of a second front

Meanwhile Churchill and Roosevelt met in Quebec and finalised Overload, the plans for the second front. The supreme command was entrusted to an American army leader, General Eisenhower. At Teheran at the end of 1943, Churchill advocated an attack through the Balkan rather than through France. He was concerned about Russian influence in Eastern Europe which increased alarmingly as the Soviet Union Armies approached the frontiers of the Reich. But Roosevelt wanted to assist Stalin. Besides, Churchill, now almost seventy years old, was temporarily out of action on account of pneumonia that had been brought on by his exhausting journeys.

D-day arrived on June 6th, 1944. A vast armada carried a large Allied army with its equipment from the English coast. At daybreak and in stormy weather the landing took place in Normandy. After strong Nazi opposition the second front was established. Meanwhile heavy air-attacks were made in France and on German cities and on railway lines, to disorganise Hitler's system. The Allies gained superiority in the air and the invasion continued. In August Paris was occupied and France was freed from Nazi occupation.

The Reich is occupied

As a result of strong Nazi resistance the Allied armies could not cross the Rhine until February 1945. Churchill wanted the troops to advance quickly deep into Eastern Europe in order

to curtail the influence of the Soviet Union in that region. Eisenhower did, however, not share his view. The Soviet army could therefore occupy Berlin in May and gain control over half of Germany.

All Nazi opposition then collapsed. The leaders of the Grand Alliance met in Potsdam to consider plans for a defeated Germany. Churchill had achieved his aim: Hitler and the Nazi regime had been destroyed.

APPENDIX B

De Gaulle's policy of detente and co-operation with countries behind the Iron Curtain, cemented by trade and cultural relations between France and the Soviet bloc and Communist China, was designed to help France play a large role in world politics. De Gaulle envisaged a "Europe from the Atlantic to the Urals", but found it well nigh impossible to implement. He often appeared to oppose American domination, despite being dependent on the US for nuclear defence. His allies in Europe objected to his anti-American policy, which he seemed to show during his state tours to Canada. "Desatellization" or the loosening of the Soviet hold on Eastern European countries, was proved to be impracticable when Czechoslovakia was invaded by the USSR in 1968, a source of great disappointment to De Gaulle's political ideals. Other attempts to become the leader of an internationally influential France included his decision to remain neutral in the Vietnamese war and his tours of Latin-American states.

- Why was France forced to rely on the US?
- Which group objected to De Gaulle's policy towards the US?
- What is "desatellization"?
- When was Czechoslovakia invaded?
- How did De Gaulle attempt to achieve co-operation between France and the Communist States?
- Why did De Gaulle become involved in the Communist countries?
- Name one country where De Gaulle seemed to be anti-America?
- What was De Gaulle's policy in the Vietnamese war?
- What does "Europe from the Atlantic to the Urals" mean?
- What was a disappointment to De Gaulle's political ideals?

APPENDIX C

Charles de Gaulle used the European Economic Community, or EEC, to serve his country's needs, particularly the agricultural sector. He also wished to create a specifically European political community, but failed to do so without German aid. He was responsible for the rejection of Britain's application to the EEC, and gradually withdrew his support for NATO because he believed in "national independence" and international cooperation, not based on any one organization. He was re-elected for a third time on 21 December 1965, having used the idea of freedom of choice or "national independence" in his campaign. On 7 March 1966, he announced France's withdrawal from NATO, though not from the Atlantic Alliance. De Gaulle resigned on 28 April 1969, after being defeated in a national referendum. He retired to his home Colombey-les-deux-Englises, to complete his memoirs. He died of a heart attack on 9 November 1970.

- What is the EEC?
- Which specific French group benefited from the EEC?
- Why did Britain not join the EEC?
- Why did De Gaulle lessen his support for NATO?
- How many terms did De Gaulle serve as president of France?
- When did France withdraw from NATO?
- Why did De Gaulle resign on 28 April 1969?
- On what was De Gaulle's last election campaign based?
- In which political aim was De Gaulle unsuccessful?
- When did Charles De Gaulle die?

APPENDIX C

PROGRAM EVALUATION

The following questionnaire is to be answered as truthfully as possible by considering the scale below:

A = Excellent/ly	(80 - 100%)
B = Good/Well	(60 - 79%)
C = Average	(40 - 59%)
D = Poor/ly	(20 - 39%)
E = Very Poor/ly	(0 - 19%)

Now place a cross (x) over the letter which is the most applicable to you.

- | | | | | | | |
|----|---|---|---|---|---|---|
| 1 | My understandig of what the program entailed was | A | B | C | D | E |
| 2 | My motivation to follow the course was | A | B | C | D | E |
| 3 | The enjoyment I experienced while following the program was | A | B | C | D | E |
| 4 | The presentation of the program was .. | A | B | C | D | E |
| 5 | I can put what I have learnt to use .. | A | B | C | D | E |
| 6 | To what extent did the program enable you to achieve your goals? | A | B | C | D | E |
| 7 | To what extent will you be able to apply what you have learnt to future studies? | A | B | C | D | E |
| 8 | To what extent do you feel you use your time more effectively, now | A | B | C | D | E |
| 9 | Evaluate the improvement you have experienced in your achievement ... | A | B | C | D | E |
| 10 | Evaluate the improvement you have experienced in your work methods ... | A | B | C | D | E |

- 11 Evaluate the improvement you have experienced in your revision A B C D E
- 12 Evaluate your own participation in following the course faithfully ... A B C D E
- 13 The material supplied was A B C D E
- 14 My feelings of tension and/or anxiety were lessened during the presentation of the program A B C D E
- 15 My experience of freedom to express my opinion was A B C D E
- 16 During group discussions other opinions broadened my knowledge A B C D E
- 17 The amount of modules was A B C D E
- 18 During the course problems or uncertainties, experienced by me, were dealt with A B C D E
- 19 My experience of freedom to ask questions was A B C D E
- 20 The goals of the program were A B C D E
- 21 The time of presentation of the program was A B C D E
- 22 To what extent did other activities (eg. play) influence your participation in the program? A B C D E
- 23 To what extent did you feel more confident about work learnt? A B C D E
- 24 Evaluate what you have learnt by following the program. A B C D E
- 25 My criticism of the program:

26 I found the following of value:
