

# **THE RELATIONSHIP BETWEEN INSTRUCTIONAL METHODS AND THE LEARNING STYLES OF ESL STUDENTS**

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Dedicated to my Mother and the memory of my Father.

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*"The best way to find things out is not to ask questions at all. If you fire off a question, it is like firing off a gun – bang it goes, and everything takes flight and runs for shelter. But if you sit quite still and pretend not to be looking, all the little facts will come peck around your feet, situations will venture forth from thickets, and intentions will creep out and sun themselves on a stone; and if you are very patient, you will see and understand a great deal more than a person with a gun does".*

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## SUMMARY

**Keywords:** Computer-assisted instruction; lecturing; instructional methods; learning styles; field independence/dependence; English Second Language; PLATO.

The purpose of this study was to determine whether instructional method (i.e. lecture vs CAI vs combined) affects language achievement differentially for ESL students with dissimilar learning styles. The following research questions were formulated:

- What does the learning style “profile” of this specific group of first year ESL students look like, and how does this “profile” compare with other “profiles” compiled in similar South African studies?
- What learning styles, if any, can be regarded as the most significant predictors of the language achievement of this specific group of students?
- Does instructional method affect language achievement differentially for ESL students with dissimilar learning styles?
- What are the implications of these results for ESL teaching/learning and teacher training?

A review of the literature indicated that the nature of the interaction between instructional methods, and learning styles is very complex. The identification of learner characteristics can be used to assign students selectively to appropriate methods of instruction and it can also provide an exciting opportunity to improve the delivery of language teaching to a more diversified student body.

The accessible population included a total of 186 first year students taking English at a university in the North West Province. Students participating in this study were randomly divided into three treatment groups:

- Students that received instruction via lecturing only;
- Students that received instruction via CAI only; and
- Students that received instruction via a combination of lecturing and CAI.

A t-test was used to compare the mean scores of two groups in order to determine whether the two means differed statistically significantly from each other. A two-way analysis of covariance (ANCOVA) was calculated to determine the interaction between instructional methods and learning styles. Follow-up post-hoc Tukey HSD tests were calculated to determine where the differences in the mean performances occurred. A stepwise multiple regression analysis was performed to determine which learning styles, if any, could be regarded as the most effective predictors of the language achievement of this specific group of students.

The results of the study indicated that students with dissimilar learning styles achieved differentially as a result of instructional method. The interaction between learning styles and instructional method was statistically significant.

While the lecture method is employed traditionally at most schools and universities over the world, it is mainly geared towards students that have a decided auditory modality preference. Auditory students have the best chance of succeeding and excelling in a traditional lecture-based instructional scenario. The results of this study indicated that the majority of the students had a decided visual modality preference across gender and language. Auditory students did statistically significantly better in the lecture only group and visual students did statistically significantly better in the CAI only group. While pairing of students to a specific instructional method based on sensory preference will definitely increase student performance, this is not practically feasible in most academic institutions. Combining methods of instruction seems to be the most

practical and cost effective way of accommodating all students regardless of sensory preference, and offering all students a fair chance of excelling in a specific course.

An understanding of the way students learn is an important factor in improving educational opportunities for students. No single instructional modality may be optimal for all students; therefore, an awareness of individual learner characteristics and their association with learning outcomes is essential. Computer-assisted instruction holds significant potential for language instruction. If used properly, technology can interest and motivate learners, expand access to a greater number of learners, provide flexibility of instruction, and develop learners' competence and expertise in certain aspects of language. However, technology is not a panacea that suddenly transforms all learning. The effectiveness of educational technology depends on how it is employed to meet educational goals for particular kinds of students in specific language learning environments. The implications of the results for ESL teaching/learning and teacher training are discussed.

Second language learning achievement depends on so many variables. In the final aspect, what the student has learned and what the student can achieve with that knowledge are the most important measures of success. Understanding and accommodating individual differences in our second language learning and teaching can facilitate better achievement as well as better student performance. Further exploration and clarification of the relationship between technology and students with different cognitive characteristics should contribute to the knowledge required to develop optimal learning environments as well as a better understanding of the human-machine teaching relationship relative to student achievement.

## OPSOMMING

**Sleutelwoorde:** Rekenaargesteunde onderrig; lesing; onderrig; onderrigmetodes; leerstyle; veld afhanklik/onafhanklik; Engels tweedetaal, PLATO.

Die doel van hierdie studie was om te bepaal of onderrigmetode (die lesingmetode, rekenaargesteunde onderrig, of 'n kombinasie) die taalprestasie van Engels tweedetaal studente met verskillende leerstyle daadwerklik beïnvloed. Die volgende navorsingsvrae is geformuleer:

- Hoe lyk die leerstyl "profiel" van hierdie spesifieke groep eerstejaar Engels tweedetaal studente en hoe vergelyk hierdie "profiel" met ander "profile" wat in soortgelyke studies saamgestel is?
- Watter leerstyle, indien enige, kan as die belangrikste voorspellers van taalprestasie van hierdie spesifieke groep studente gesien word?
- Het die onderrigmetode wat toegepas word 'n daadwerklike invloed op die prestasie van Engels tweedetaal studente met verskillende leerstyle?
- Wat is die implikasies van hierdie resultate vir Engels tweedetaal onderrig/leer en die opleiding van onderwysers?

'n Oorsig oor die literatuur het aangedui dat die wisselwerking tussen onderrigmetodes en leerstyle baie kompleks is. Die identifikasie van leerdereienskappe kan gebruik word om studente selektief in gepaste onderrigmetodes in te deel en sodoende die taalonderrig aan 'n groep studente met verskillende leerstyle te verbeter.

Die groep studente wat in hierdie studie bestudeer is, bestaan uit 'n totaal van 186 eerstejaar studente, wat ingeskryf het vir Engels by 'n universiteit in die Noordwes provinsie. Studente wat aan die studie deelgeneem het is ewekansig in drie toetsgroepe verdeel:

- Studente wat onderrig deur lesings alleenlik ontvang het;

- Studente wat onderrig deur rekenaargesteunde onderrig alleenlik ontvang het; en
- Studente wat onderrig deur 'n kombinasie van lesings en rekenaargesteunde onderrig ontvang het.

'n T-toets is gebruik om die gemiddelde (mean) puntetellings van die twee groepe te bepaal en vas te stel of die twee gemiddelde puntetellings statisties beduidend van mekaar verskil het. 'n Tweerigting ko-variensie analise (ANCOVA) is bereken om die interaksie tussen onderrigmetode en leerstyle te bepaal. Opvolg post-hoc Tukey HSD toetse is bereken om te bepaal waar die verskille in die gemiddelde prestasies voorgekom het. 'n Stapsgewyse meervoudige regressieanalise is uitgevoer om te bepaal watter leerstyle beskou kan word as die mees effektiewe voorspellers van die taalprestasie van hierdie spesifieke groep studente.

Die resultate van die studie het aangetoon dat studente met verskillende leerstyle verskillende prestasies behaal het as gevolg van die onderrigmetode wat gevolg is. Daar is bevind dat die verband tussen leerstyle en onderrigmetode statisties beduidend was.

Hoewel die lesingmetode tradisioneel by meeste skole en universiteite regoor die wêreld gebruik word, is hierdie metode hoofsaaklik gerig op studente wat 'n besliste ouditiewe modaliteitsvoorkeur het. Ouditiewe studente het die beste kans op sukses en prestasie in 'n tradisionele lesinggebaseerde onderrigomgewing. Die resultate van hierdie studie het aangetoon dat die meerderheid van studente, ongeag taal en geslag, 'n besliste visuele modaliteitsvoorkeur gehad het. Ouditiewe studente het statisties beduidend beter gevaar in die groep wat onderrig deur lesings alleenlik ontvang het. Visuele studente daarenteen het statisties beduidend beter gevaar in die groep wat slegs onderrig deur rekenaargesteunde onderrig ontvang het. Hoewel die indeel van studente in groepe wat volgens 'n spesifieke onderrigmetode onderrig ontvang beslis studente se prestasie sal verbeter, is so 'n verdeling by

meeste akademiese inrigtings nie prakties uitvoerbaar nie. 'n Kombinasie van onderrigmetodes blyk die mees praktiese en koste-effektiewe manier te wees om alle studente, ongeag sensoriese voorkeure, te akkommodeer en sodoende aan alle studente 'n regverdige kans te gee om in 'n spesifieke kursus te presteer.

Begrip van die manier waarop studente leer is 'n belangrike faktor in die verbetering van onderriggeleenthede vir studente. Geen enkele onderrigmetode is optimaal vir alle studente nie en daarom is 'n begrip van individuele leerdereienskappe en hulle wisselwerking met leeruitkomste baie belangrik. Rekenaargesteunde onderrig het besliste potensiaal vir taalonderrig. Indien dit behoorlik gebruik word, kan die tegnologie leerders se belangstelling prikkel en hulle motiveer. Rekenaargesteunde onderrig kan ook toegang tot onderrig verleen aan 'n groter hoeveelheid leerders, die onderrig meer buigsaam maak, en leerders se bevoegdheid en deskundigheid met betrekking tot sekere aspekte van die taal verhoog. Tegnologie is egter nie die wonderbestanddeel wat alle onderrig skielik sal verander nie. Die effektiwiteit van onderrigtegnologie hang af van hoe dit toegepas word om aan die opvoedkundige doelstellings van spesifieke tipes studente in spesifieke taalonderrigomgewings te voldoen. Die implikasies van die resultate van hierdie studie vir Engels tweedetaalonderrig/leer, asook die opleiding van onderwysers word in die studie bespreek.

Tweedetaal leerprestasie hang van baie veranderlikes af. Uiteindelik is die belangrikste aanduiding van sukses hoeveel die student geleer het en hoeveel die student kan bereik met die kennis wat tydens die leerproses opgedoen is. Die verstaan en akkommodering van individuele verskille in tweedetaalonderrig en leer kan beter prestasie by studente tot gevolg hê. Verdere navorsing en toeligting van die verwantskap tussen tegnologie en studente met verskillende kognitiewe eienskappe behoort by te dra tot die kennis wat benodig word om optimale leeromgewings te ontwikkel sowel as 'n beter begrip van die mens-masjien verwantskap en studente se prestasie.

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## LIST OF ABBREVIATIONS

ANCOVA	Analysis of Covariance
AT	Ambiguity Tolerance
CAI	Computer-assisted instruction
CAL	Computer-assisted learning
CALL	Computer-assisted language learning
CAT	Computer-assisted testing
CBE	Computer-based education
CBI	Computer-based instruction
CBL	Computer-based learning
CBT	Computer-based training (can also designate computer-based testing in some sources)
CD-ROM	Compact Disc - Read-Only Memory
CEI	Computer-enriched instruction
CMI	Computer-managed instruction
EFL	English Foreign Language
ENG 111	Code for the English 111/First year Academic Course
ENG 112	Code for the English 112/Practical Course
ESL	English Second Language
FD	Field Dependence
FI	Field Independence
GEFT	Group Embedded Figures Test
GFT	Gottschaldt Figures Test
IT	Information Technology
KR <sub>21</sub>	Kuder-Richardson Formula 21
L1	First Language
L2	Second Language
LAN	Local Area Network
M	Mean
N	Number of subjects

OBE	Outcome-Based Education
PC	Personal Computer
PLATO	Refers to PLATO software
PSA's	Problem Solving Activities
SD	Standard Deviation
SLA	Second Language Acquisition
SAS	Style Analysis Survey
TOEFL	Test of English as a Foreign Language
US	United States of America
UK	United Kingdom

# Chapter 1

## Introduction

### 1.1 The problem statement

There has not yet been a systematic effort in higher education to understand the ways in which students learn. In contrast, there has been interest in experimenting with technology to improve learning (cf. Bok, 1985; Carland & Carland, 1997; Brothen, 1998; Nory & Rice, 2000). As Bok (1985:17) points out, “it remains an embarrassing anomaly that professors, who spend so much time evaluating and criticising their institutions, devote so little effort to finding ways to improve their own methods of instruction”. One of the technological solutions that has recently generated much enthusiasm in teaching ESL is computer-assisted instruction (CAI). Although the few experimental and quasi experimental studies to date often compare CAI to another teaching method, the implicit assumption of these studies has been that CAI makes a difference. However, these traditional comparison studies do not consider whether or not certain teaching methods work better in connection with certain student attributes. No single instructional modality may be optimal for all learners (Yoder, 1994). Little research has been done to identify which learners do best with CAI, which do better with lecturing, or do better with a combination approach. According to Brink (1994), 50% of the student population is not taught in their preferred style. This lack of research has not stopped language educators from enthusiastically embracing the technology.

Surveys of computer usage in higher education indicate that lecturers use computers for both research and instructional purposes. The availability of computers in college and university settings has increased dramatically over

the past few years with most institutions making resource centres available to the general student population. As a result, use of computer-based instruction as an adjunct to traditional instructional methods is becoming more common. Several distinctions are made between the function of instructional software and extent of use in the instructional process. With regard to extent of use, computer-based learning can be described as primary or adjunct (MacGregor et al., 1988). Primary computer-based instruction provides stand-alone instruction for a course, and is used frequently for distance learning situations. In contrast, adjunct computer-based instruction supplements traditional instruction, and is the type used by university lecturers to complement lectures. Instructional software that provides elaboration of a concept or practice problems to develop concepts previously introduced is likely to be used for adjunct instruction.

The functions of courseware can be categorised as drill and practice, tutorial or simulation (Burke, 1982; Twigg, 2000). Drill and practice courseware provides opportunities for students to review concepts covered in class and receive immediate feedback about performance. The English Second Language (ESL) Plato<sup>®</sup> courseware, to be used in this study, is primarily a drill and practice curriculum of lessons in two skill areas: grammar and reading comprehension. The primary motivation at the university level for using software of the type described is to provide more adequate instructional methods and to take advantage of the unique interational capabilities of computer technology (MacGregor et al., 1988). The combination of effective instruction and savings in instructional time is significant because the time saved can be used for activities not suited to computer presentation.

General findings related to the effectiveness of using the computer as an instructional tool across educational levels indicate that the computer stimulates motivation (Lepper, 1985; Abouserie & Moss, 1992; Charischak, 2000), can be as effective or superior to traditional instructional approaches (cf. Kearsley,

1977; Paden et al., 1977; Dence, 1980; McKay, 1999), and facilitates faster learning by the student (cf. Murphy & Appel, 1977; Massy & Zemsky, 1995). The effectiveness of computer-based university instruction has been evaluated by a number of researchers. Meta-analyses of these studies indicate that computer-based instruction significantly raises students' examination marks, has a moderate effect on students' attitudes toward the subject studied, and reduces the amount of time needed for instruction (cf. Kulik & Kulik, 1986). Though general in nature, the findings of studies clearly indicate that use of computer-assisted instruction as an adjunct to traditional methods can be a beneficial instructional approach.

One concern related to the use of any instructional method, however, is the possible discriminatory effect of that particular approach in students with specific traits, most notably, different learning styles. Although many researchers have investigated the general effectiveness of specific CAI programs, only a few have carefully examined the interactions between CAI and individual learner differences. A question which arises is: Is it possible that students with certain learning styles benefit from CAI while those with other learning styles demonstrate higher achievement via more traditional methods (e.g., the lecture)?

Research into learning styles has its roots in the late 19th and 20th centuries. This early research emphasised "finding the one perceptual mode that would best increase learning or retention" (Keefe, 1987:6). Researchers began to recognise, however, that different learners had different cognitive styles (cf. Messick, 1976). Researchers have attempted to identify and isolate specific traits of learners to describe the unique processes of learning. Learning style theory postulates that students will be motivated to learn if taught the way they prefer and will learn better. The underlying assumption is that individual learning preferences will affect performance. The ever-growing quantity of research continues to reinforce one central theme: variations in student learning style can have important implications for the instructional process.

Although many researchers have examined learning style and CAI as separate entities, “research is just beginning to catch up with the concept of studying the relationships between CAI and learning preferences” (Geisert et al., 1990:298). In a few of these studies, no interaction effects were found (Cordell, 1991; Willett & Netusil, 1989), but several of them indicated that interactions exist between various learning styles and the relative high achievement of students involved in CAI (Davidson et al., 1992; MacGregor et al., 1988; Post, 1987). These studies have shed some light on the relative effectiveness of CAI approaches for students with a variety of learning styles. However, research investigating the relationship between cognitive style and the effects of CAI on achievement is inconclusive (e.g., Burger, 1985). Hahn (1984) found that field independent learners tend to do equally well with different instructional methods, whereas field dependent college students benefit from CAI. Although students succeed in learning environments that may be mismatched to their cognitive style, learning may be optimised with a style-instructional match. Tailoring instruction to students’ learning style may make students more motivated to learn, although few research studies have been conducted to explore this view. In a literature review of student learning styles, motivation, and learning strategies and CAI, Shih and Gamon (1999:3) found that learning styles, motivation, and learning strategies seem to be related to achievement, but that more research was needed to understand the relationship between CAI, learning styles, motivation, learning strategies, and achievement. Ester (1995) states that the nature of the interaction between CAI and learning style is quite complex. One conclusion seems clear, however: Further research involving learning styles and instructional methods is needed to provide the broad base of information necessary to define any general trends with respect to the interaction between CAI and learning style.

The following questions, therefore, need to be addressed:

- What does the learning style “profile” of a group of first year ESL students look like, and how does this “profile” compare with other “profiles” compiled in similar South African studies?
- Which learning styles, if any, can be regarded as the most significant predictors of the language achievement a group of first year ESL students?
- Does instructional method affect language achievement differentially for ESL students with dissimilar learning styles?
- What are the implications of the results for ESL teaching/learning and teacher training?

## **1.2 The purpose of this study**

The purpose of the study is to determine:

- What the learning style “profile” of a group of first year ESL students looks like, and how this “profile” compares with other “profiles” compiled in similar South African studies.
- What learning styles, if any, can be regarded as the most significant predictors of the language achievement of a group of first year ESL students.
- Whether instructional method affects the language achievement differentially for ESL students with dissimilar learning styles.
- What the implications of the results are for ESL teaching/learning and teacher training.

## **1.3 Hypothesis**

The following hypothesis is formulated for this study:

- Students taught by means of an instructional method favouring their learning style will achieve better than those students who are taught by an instructional method dissimilar to their preferred style.

## **1.4 Method of research**

A review of the literature indicated that the nature of the interaction between instructional methods, including CAI, and learning styles is very complex. The identification of learner characteristics can be used to assign students selectively to appropriate methods of instruction and it can also provide an exciting opportunity to improve the delivery of language teaching to a more diversified student body.

The accessible population included 186 first year students taking English as a Second Language at a University in the North West Province. The students "intact" (e.g., ENG 112 [full time], ENG 112 [part time] and ENG 111 [full time]) were assigned to one of the three experimental groups (e.g. lecture, CAI, and a combined lecture-CAI).

The treatment spanned a fourteen-week semester. All students wrote a pre-test and a post test, which constituted the language achievement measure, developed by the researcher, at the beginning of the year. These tests focused on grammar and reading comprehension. In addition to these language tests, the following tests (SAS, GFT and the biographical questionnaire) were administered during the first scheduled language period.

The data was analysed using the STATISTICA software package. A t-test was used to compare the mean scores of two groups in order to determine if the two means differed significantly from each other. A stepwise multiple regression analysis was performed to determine which learning styles, if any, could be regarded as the most effective predictors of the language achievement of this specific group of students. A two-way analysis of covariance (ANCOVA) was calculated to determine the interaction between instructional methods and learning styles. Follow-up post-hoc Tukey HSD tests were calculated to determine where the differences in the mean performances occurred. Cohen's (1977) effect size  $d$  was used to calculate

the difference between two means and to determine if the difference was practically significant.

### **1.5 Chapter division**

In chapter 2 a critical analysis and review is given of a selected range of affective and general variables that can influence language learning success.

Chapter 3 focuses on a review of the literature on selected learning styles. The discussion focuses on definitions and the relationship to language achievement.

In chapter 4 the discussion focuses on instructional methods, namely the lecture, computer-assisted instruction (CAI) and a combination of the lecture and CAI.

Chapter 5 focuses on the method of research used in this study.

In chapter 6 the collected data are presented and discussed.

In chapter 7 the conclusion, implications for ESL teaching/learning and teacher training and recommendations for future research are presented.

# Chapter 2

## Individual Learner Differences

### 2.1 Introduction

For millennia teachers seemed to be at the centre of the teaching or learning process. Learners, or students, were rewarded with positive feedback if they sat quietly, listened attentively and acted only when prompted by the teacher (Carland & Carland, 1997:4). The focus was very much on rote learning and acceptance of the learning material imparted by the teacher. For all practical purposes, this practice of lecturing to a strict curriculum continues to the present (cf. Albright & Graf, 1992; Ellis, 1994).

The increasing awareness that individual learners differ has led to a shift in research concerns in the field of second language learning and teaching (Wenden, 1987:3). Research has shifted from the methods of teaching to learner characteristics and their possible influence on the process of acquiring a second language (cf. Berwick & Ross, 1989; Carroll, 1981; Crookes & Schmidt, 1991; Cohen & Aphek, 1981; Ellis, 1994; Ehrman & Oxford, 1989; Gardner, 1985; Gardner & Lambert, 1972; Oxford, 1990; Oxford et al., 1993a; Thomas & Harri-Augstein, 1990; Wenden, 1987).

Birckbichler and Omaggio (1978:336) state that:

The importance of researching and understanding individual learner differences is embedded in the fact that language teaching can be improved vastly if we have a better understanding of the language learner and the factors that influence the language learning process in individuals.

The purpose of this chapter is to analyse and review critically a selected range of affective and general variables as well as language learning strategies that can potentially influence language learning success. It is, however, a fact that learning never occurs in a vacuum. Characteristics of the learner, contextual variables, instructional methods, and learning strategies interact in a complex fashion to affect the goals, achievement and/or learning outcomes of students. The following variables are discussed: motivation, attitude, anxiety, tolerance of ambiguity, risk-taking, age and language learning strategies. These variables were selected in order to give an overview of all the individual learner differences that can potentially have an effect on second language acquisition and achievement (cf. research question 2, section 1.2) (cf. Gardner & Smythe, 1975; Gardner, 1985; Claxton & Murrell 1987; Oxford 1990; Oxford et al. 1991; Wallace and Oxford 1992; Oxford & Ehrman 1993; Scarcella & Oxford, 1992).

## **2.2 Classifying individual learner differences**

According to Ellis (1994:471), researchers have defined “a veritable plethora of individual learner variables”. This has in turn resulted in a profusion of terms when describing various profiles of behavioural characteristics leading to vague, divergent, overlapping and sometimes problematic classifications with no well-defined definitions of terms (Van der Walt, 1997:9).

Some of the most prominent taxonomies of individual learner variables are summarised by Van der Walt (1997:10) (cf. Table 1).

**Table 1: Taxonomies of individual learner differences**

Ellis (1985)	Skehan (1989)	Larsen-Freeman and Long (1991)	Brown (1994)
<p><b>1. Personal factors</b></p> <ul style="list-style-type: none"> <li>• <i>Group dynamics</i></li> <li>• <i>Attitudes to the teacher and course materials</i></li> <li>• <i>Individual learning techniques</i></li> </ul> <p><b>2. General Factors</b></p> <ul style="list-style-type: none"> <li>• <i>Age</i></li> <li>• <i>Aptitude</i></li> <li>• <i>Cognitive Style</i></li> <li>• <i>Motivation</i></li> <li>• <i>Personality</i></li> </ul>	<p><b>1. Language aptitude</b></p> <p><b>2. Motivation</b></p> <p><b>3. Language Learning Strategies</b></p> <p><b>4. Cognitive and Affective Factors</b></p> <ul style="list-style-type: none"> <li>• <i>Introversion/ extraversion</i></li> <li>• <i>Intelligence</i></li> <li>• <i>Field independence</i></li> <li>• <i>Anxiety</i></li> </ul>	<p><b>1. Age</b></p> <p><b>2. Aptitude</b></p> <p><b>3. Social-psycho-logical factors</b></p> <ul style="list-style-type: none"> <li>• <i>Motivation</i></li> <li>• <i>Attitude</i></li> </ul> <p><b>4. Personality</b></p> <ul style="list-style-type: none"> <li>• <i>Self-esteem</i></li> <li>• <i>Extraversion</i></li> <li>• <i>Anxiety</i></li> <li>• <i>Risk-taking</i></li> <li>• <i>Sensitivity to rejection</i></li> <li>• <i>Empathy</i></li> <li>• <i>Inhibition</i></li> <li>• <i>Tolerance of ambiguity</i></li> </ul>	<p>Styles and Strategies (Variations in learning)</p> <p><b>1. Style</b></p> <ul style="list-style-type: none"> <li>• <i>Field independence / dependence</i></li> <li>• <i>Left-vs-right brain processing style</i></li> <li>• <i>Ambiguity tolerance</i></li> <li>• <i>Reflective and impulsive style</i></li> <li>• <i>Visual and auditory</i></li> </ul> <p><b>2. Strategies</b></p> <ul style="list-style-type: none"> <li>• <i>Metacognitive</i></li> <li>• <i>Cognitive</i></li> <li>• <i>Socio-affective</i></li> </ul>

Ellis (1985)	Skehan (1989)	Larsen-Freeman and Long (1991)	Brown (1994)
		<p><b>5. Cognitive Style</b></p> <ul style="list-style-type: none"> <li>• Field independence / dependence</li> <li>• Category width</li> <li>• Reflexivity/ impulsivity</li> <li>• Aural/Visual</li> <li>• Analytic/gestalt</li> </ul> <p><b>6. Hemisphere Specialization</b></p> <p><b>7. Learning Strategies</b></p> <p><b>8. Other factors</b></p> <ul style="list-style-type: none"> <li>• Memory</li> <li>• Language disability</li> <li>• Interest</li> <li>• Sex, birth order</li> <li>• Prior experience</li> </ul>	<p><b>3. Affective Domain</b></p> <ul style="list-style-type: none"> <li>• Personality: <ul style="list-style-type: none"> <li>▪ <i>Self-esteem</i></li> <li>▪ <i>Inhibition</i></li> <li>▪ <i>Risk-taking</i></li> <li>▪ <i>Anxiety</i></li> <li>▪ <i>Empathy</i></li> <li>▪ <i>Extraversion</i></li> <li>▪ <i>Myers-Briggs character types</i></li> <li>▪ <i>Motivation</i></li> </ul> </li> <li>• Sociocultural: <ul style="list-style-type: none"> <li>▪ <i>Cultural stereotypes</i></li> <li>▪ <i>Attitudes</i></li> <li>▪ <i>Acculturation</i></li> <li>▪ <i>Social distance</i></li> <li>▪ <i>Language, thought and culture.</i></li> </ul> </li> </ul>

(Van der Walt, 1997:10).

The above comparison highlights the problems that exist with defining and classifying variables. For example, Skehan (1989) classifies field dependence/independence under "Cognitive and Affective Factors", Larsen-Freeman and Long (1991) classify it under "Cognitive Style", and Brown (1994) classifies it under "Style". Although classifications differ, Van der Walt (1997:12) points out that these classifications have value in giving an overview of essential factors that play a role in second language learning and teaching, as well as how these variables may interact in the second language learning process. It is, however, very difficult to synthesize the results of research owing to the fact that classifications often overlap.

In this chapter the focus with regards to individual learner differences is on selected variables in the affective dimension as well as age, which is classified as a general factor. Special attention is given to the relationship between these selected variables and second language achievement. Chapter 3 is devoted to a discussion of selected learning styles that can have an effect on ESL achievement.

### **2.3 A synthesis and analysis of research on selected affective learner variables and achievement**

Various learner variables have an impact on the learning process and achievement of students (Jonassen & Grabowski, 1993:3). According to Moskowitz (1978:40) and Ellis (1994:479), learners' affective states are of crucial importance in accounting for individual differences in learning outcomes. Learners' affective states tend to be volatile, affecting not only overall progress, but responses to particular learning activities on a day-to-day and even moment-by-moment basis. Variables that are going to be discussed are motivation, attitude, anxiety, tolerance of ambiguity, and risk-taking. These factors were selected because a review of the research has shown that these factors have a definite influence on second language

achievement (cf. Gardner, 1985; Gardner & Smythe, 1975; Genesee & Hamayan, 1980; Scarcella & Oxford, 1992). In this study achievement refers to an individual's level of language development with relation to a particular curriculum.

### **2.3.1 Motivation**

As early as the 1940s it was recognised that aptitude and intelligence alone could not account for the large degree of variation in levels of achievement in second language acquisition. Studies soon began to place considerable importance on affective variables, specifically the motivation of the learner (Randhawa & Korpan, 1973:24). According to Gardner (1985:85), motivation is the single most influential factor in language learning success.

Motivation is important because it influences:

- How often students use second language learning strategies,
- How well they do in achievement tests,
- How high their general proficiency level becomes, and
- How long they persevere and maintain second language skills after language study is over (Ely, 1986, Scarcella & Oxford, 1992).

According to Van der Walt (1997:32), motivation is crucial for language learning, and it is important to understand what the students' motivations for acquiring a second language are. Understanding second language learning motivation, however, is still regarded as problematic in terms of the lack of consensus in defining second language learning motivation (Oxford & Shearin, 1994:13).

#### **2.3.1.1 Definition**

According to Jonassen and Grabowski (1993:381), motivation is what energizes us into action and includes needs, values, attitudes, interests, aspirations, and incentives. Ellis (1985:385) suggests that it is the

motivation of learners “that initiates and maintains the learning process, or that leads to the avoidance or rejection of learning; the stated reasons and perceived goals, as well as the subconscious drives and needs that prompt and sustain the learning effort or lead to its inhibition or rejection”. Motivation itself, according to Gardner (1985), is composed of a goal, a desire to attain the goal, positive attitudes toward learning the language, and effortful behaviour to that effect. The goal or motivation helps to define the motivational orientations of the student. According to Gardner (1985), there can be two possible motivational orientations:

- (a) *Instrumental*, for enhancing career or academic prospects, and
- (b) *Integrative*, for fitting in with the people who speak the language natively.

The problem is that a student might test for a certain motivational orientation, but might lack the actual motivation (or drive) to implement his/her motivational orientation.

Van der Walt (1997:33) points out that the same terminology (instrumental and integrative) is used in Gardner’s (1979, 1985) books to describe motivation and motivational orientation, and this has led to confusion. Oxford and Shearin (1994:14) clarify this confusion by stating that: “Motivation alludes to the power to attain the goal which is reflected in the motivational orientation.”

Crookes and Schmidt (1991) have proposed a more comprehensive definition of second language learning motivation. According to Crookes and Schmidt (1991), the motivation to acquire a second language comprises seven aspects of which four are internal features and three are external features:

The *Internal* (or attitudinal) features are:

1. Interest in the second (target) language,

2. Perception of relevance of the language to the person, including perception of personal needs for achievement, affiliation, and power,
3. Expectancy of success or failure, and
4. Perception of rewards.

The *External* (or behavioural) features are:

1. Overt decision to learn, pay attention, etc.,
2. Persistent learning behaviour over time, and
3. High involvement leading to a high language activity level.

Crookes and Schmidt's (1991) definition makes it clear that external and internal motivational factors influence the effect of motivation on second language learning. Internally, the interest and perception of relevance can relate to motivation to learn a second language in order to become part of another culture, or, in conjunction with perception of rewards refer to someone being motivated to learn a second language for career purposes and the belief that learning the language will lead to better progress in a job, and/or better remuneration. The external or perceivable features of motivation to a great extent are the manifestation of the internal features and include positive learning behaviour and dedication over a period of time.

Dornyei (1994:279) claims that second language (L2) motivation is "an eclectic, multifaceted construct", and that several facets of L2 learning motivation do not agree with earlier models. He consequently emphasizes further embracing components:

1. Intrinsic and extrinsic motivation;
2. Proximal goal-setting;
3. Cognitive components such as learned helplessness and self-efficacy;
4. Self-confidence;
5. Need-for-achievement; and

#### 6. Course-specific, teacher-specific, and group specific motivational components.

Dornyei's definition indeed points to the complexity of motivation as a construct and gives an indication of the variety of factors that can influence a person's motivation to learn a second language. Dornyei's notion of specific motivational components (e.g. course- and teacher-specific components) underlines the fact that motivation can be very specific and that a person's general motivation may conflict with the motivation towards learning a specific second language, for example, the person might be a highly motivated student generally, but might not like the second language lecturer, or might not perceive much value in the second language curriculum, and subsequently be less motivated to learn the second language compared to his/her general motivation to learn other subjects.

Van der Walt (1997:33) points out that while recognising the value of Gardner's (1985) work on motivation, additional concepts of motivation need to be researched and included in order to understand and describe language learning motivation fully. However, owing to the undisputed and great influence that the work and thinking of Gardner has on language motivation and research conducted on motivation, it is important to have a clear understanding of Gardner's socio-educational model of second language learning.

#### **2.3.1.2 The socio-educational model of Gardner (1985)**

Gardner's (1985) model was developed to explain second language learning in classroom settings – in particular the foreign language classroom. Through the years the model has changed slightly, with the result that it exists in several versions (cf. Gardner, 1979; 1985).

According to the socio-educational model, learning outcomes are influenced by the social and cultural milieu in which learners grow up. This, in turn, determines the attitudes and motivational orientation that the learner holds

towards the target language, its speakers and its culture, thus determining the learning outcome in the end (Ellis, 1994:723).

The aim of the model is to interrelate four aspects of second language learning:

1. The social and cultural milieu;
2. Individual learner differences;
3. The setting; and
4. Learning outcomes (Ellis, 1994:236).

Gardner (1979:193) summarises the essence of the socio-educational model by stating that it is not just a matter of learning new information, but of “acquiring symbolic elements of a different ethnolinguistic community”.

Gardner’s (1985) model assumes the presence of a goal. The goal helps to define the motivational orientation (either integrative or instrumental, cf. 2.3.1.3) of the student. Apart from a goal (i.e. to learn a foreign language) students also exhibit attitudes toward learning the language. These attitudes are influenced by the social and cultural milieu the individual finds himself/herself in (e.g. living in Johannesburg, learning French may be regarded as quite a suave thing to do, whereas learning Accadian might be regarded as a waste of time) (cf. Osterloh, 1980; Van der Walt, 1997). In fact, Gardner (1985) reports finding the social and cultural milieu of the learner to be determinative of the learner’s attitude, motivation and performance when it comes to learning a language. According to this model, it is clear that Gardner’s (1985) concept of a social and cultural milieu (cultural beliefs) determines two things: the extent to which a learner wishes to identify with the target-language culture (its integrativeness or integrative motivation), and the extent to which the learner holds positive attitudes towards the learning situation (i.e., the teacher, the instructional programme, etc.). Both of these factors contribute to the learner’s motivation, influencing both its nature (how integrative it is) and its strength. Motivation is seen as independent of language aptitude. Where motivation

is seen to have an impact on both formal and informal language learning, aptitude is only seen to influence the informal learning context (Ellis, 1994:237).

Learners' motivations to learn a foreign language is also influenced by individual learner differences, such as language aptitude and motivation that were identified by Gardner (1985) as the two variables that are the most important predictors of second language learning proficiency.

The setting also has an influence on the learner's motivation to learn the foreign language. This includes both the type of setting as well as the type of learning that will take place. The setting may be a classroom setting with great emphasis on grammar and syntax and little practical interaction with the target culture at first. Certain types of students may find this very motivating as they can learn the language before being exposed to the target culture. Another type of student may regard this setting very negatively and perceive it as a waste of time. A student that just wants to learn a language in order to be able to speak to the target language audience in their language (e.g. the limited vocabulary required for conversing with locals during a holiday abroad), might not want a formal classroom setting, but rather an informal group setting with a fluent mother tongue speaker presenting the language as spoken and explaining the target culture without spending too much time on grammar and syntax.

The above examples also draw the attention to the last aspect that has an influence on the learners' motivation, namely the learning outcome – what the learner wants to achieve with learning a second/foreign language. If the learner is motivated to become a translator, for instance, he/she might be driven to understand the grammar and syntax of the language. If the learner only wants to learn enough of the basic conversational aspects of the second/foreign language in order to find his or her way during an overseas holiday, there might be no drive to extend the effort to learn and

understand the grammar and syntax of the second/foreign language in detail.

### **2.3.1.3 Types of motivation**

Various types of motivation have been identified in the literature. The following types are discussed with emphasis on their relationship with achievement:

- Integrative motivation, and
- Instrumental motivation.

In his socio-educational model, Gardner (1985) refers to integrative orientation. It is important to emphasise the difference between orientation and motivation. Whereas “orientation” refers to the underlying reasons for studying a second language, “motivation” is defined by Gardner (1985:10) as the “combination of effort plus desire” to achieve the goal of learning the language plus favourable attitudes toward learning the language.

#### **2.3.1.3.1 Integrative motivation**

According to Gardner’s (1985) socio-educational model, an integrative orientation to learn a second language involves an interest in learning the second language because of “a sincere and personal interest in the people and culture represented by the other language group”. The integrative orientation contrasts with an instrumental orientation (cf. 2.3.1.3.2), which concerns “the practical value and advantages of learning a new language” (Lambert, 1974:98).

According to Gardner (1985), motivation is made up of integrativeness and motivation toward the learning situation. Van der Walt (1997:35) gives a multilevel explanation of what integrative motivation is which simplifies this complex issue:

First level – Integrative orientation (the individual’s desire for

cultural or linguistic integration).

Second Level – Integrativeness and attitudes toward the second language-learning situation.

Third Level – Effort (Motivational intensity), desire to learn the language (“valence”) and attitudes toward learning the language.

The sum of these three levels, then, is viewed as the learner’s integrative motivation.

Gardner and Smythe (1975:219) define integrative motivation as reflecting a desire to learn the language of another language community in order to communicate with, interact with, or to become (in a small way) a part of the other language community. The integrative motive is not the only motivational base that will promote second language acquisition, but it seems to be one that is particularly effective in many cultural settings (i.e. monolingual societies, such as the US and the UK) where second language acquisition is neither necessary nor perceived as an accepted fact of life:

An integrative orientation is typical of someone who identifies with and values the target language and community and who approach language study with the intention of entering that community. Such an individual is thought to have an internal, more enduring motivation for language study and is therefore likely to make the cumulative effort that is necessary to achieve language learning success and, in addition, may be less likely to withdraw from language study (Skehan, 1991:284).

Combined with instrumental motivation, integrative motivation is a powerful predictor of success in formal contexts. Learners with integrative motivation are more active in class and are less likely to drop out. However, integrativeness is not always the main motivational factor in second language learning – some learners, such as those living in bilingual areas, may be more influenced by other factors, such as self-confidence or

friendship. There are also a number of limitations to the research paradigm that has been used to study integrative motivation. In particular, it takes no cognisance of the potential effect that learning experiences can have on learners' motivation, as opposed to the effect that motivation has on language learning (Ellis, 1994:513).

#### **2.3.1.3.1.1 The relationship between integrative motivation and achievement**

A consistent correlation between second language achievement and integrative motivation has been found in studies of English-speaking Canadians learning French. In Gardner and Lambert's (1972) study, integrative motivation was seen as a more powerful predictor of achievement in formal situations than instrumental motivation. Gardner and Smythe (1975:224) come to the same conclusion. Gardner et al. (1976:243) also found that attitudes and the integrative motive correlated with achievement in a second language. In later research, Gardner (1985) continued to emphasise the importance of integrative motivation, although also acknowledging that instrumental motivation can lead to successful language learning (Gardner & MacIntyre, 1991). Gardner (1985:85) states that: "The single most influential factor [in language learning success] is motivation (general motivation), because motivation, along with attitudes, determines the extent of active personal engagement in language learning." Ellis (1994:511) argues that Gardner's change in reference from integrative motivation to a more general reference was due to the fact that his empirical measure of motivation included variables relating to both integrative and instrumental motivation, although primarily to integrative motivation. However, according to Van der Walt (1997:36), Gardner argued that although instrumental motivation emerged as a significant factor in some studies, integrative motivation has been reported to be more specifically related to second language achievement in the majority of research results.

Ellis (1994:511) does, however, report some studies that have failed to find a positive relationship between second language achievement and integrative motivation, and cites the research conducted by Oller et al. (1977) on Mexican women in California. Their results indicate that the women, who rate L1 English-speaking people negatively, are more successful in learning English than those who rated them positively. Oller and Perkins (1978) also report a motivation to excel because of a negative attitude towards the L1 target language speakers and postulated that this might be as a result of what they termed Machiavellian Motivation (i.e. a desire to manipulate and overcome the people of the target language). Gardner (1980) defends his results by pointing to the numbers of studies that found a positive correlation between language achievement and integrative motivation, as well as criticizing the design of the self-report questionnaires used by Oller and his colleagues in their research.

It is possible that the differences between Gardner and Ollers' findings are due to the environment in which their research was done. Gardner did his research in Canada on subjects living in a bilingual society, while Oller et al. (1977) did their research in a monolingual society. This suggestion does, however, have to be researched properly for us to come to any concrete conclusion.

According to Skehan (1991:284), however, Kruidenier and Clément (1986) were the first to prove that Gardner's original distinction between integrative and instrumental motivation was lacking in universal relevance. Kruidenier and Clément (1986) report that a friendship orientation has the greatest impact on the motivation levels of French-speaking learners, while English-speaking learners are more influenced by a knowledge orientation. A travel orientation is more important for students learning a minority language (e.g. Spanish), while learners of languages that have an official status in the country concerned (e.g. French learners of English) were more influenced

by an instrumental orientation. This might also be the case with regard to learning English as a Second Language in South Africa.

### **2.3.1.3.2 Instrumental motivation**

It is important to emphasize that the two types of motivation, integrative and instrumental, are not mutually exclusive and both types of motivation can have an effect on an individual student. Gardner and MacIntyre (1993:4) emphasize this when they state that “the important point is that motivation itself is dynamic. The old characterisation of motivation in terms of integrative vs instrumental orientations is too static and restricted”.

According to Skehan (1991:294), instrumental motivation is the motivation to learn a language because it will enable the learner to do useful (practical) things. This motivation sees learning a language as a means to an end. Instrumentally motivated learners, therefore, will be motivated if they see language-learning capacity as having, for example, beneficial career prospects or enabling them to study in the foreign language, or simply to use transactional language whilst they deal with speakers of the language concerned (Skehan, 1991:284).

Instrumental motivation has been described by Morgan and King (1971:187) as a cycle with three aspects:

1. A motivating state within the subject;
2. Behaviour aroused and directed by this state; and
3. A goal towards which the behaviour is directed.

When the goal is achieved, the state that caused the behaviour subsides, thus ending a cycle until the state is aroused again in some way. A goal can be positive (something an individual attempts to reach) or negative (something an individual tries to escape or avoid).

It seems that there is a distinct difference in instrumental motivation as far as second (where the language has official status or a recognized function

in a specific country) versus foreign language learning environments are concerned (Van der Walt, 1997:38). According to Ellis (1994:514), instrumental motivation has been found to be only a weak predictor of foreign language achievement in several Canadian studies (e.g. Gardner & Lambert, 1972), but it appears to be much more powerful in other contexts where learners have little or no interest in the target-language culture, and few or no opportunities to interact with its members.

#### **2.3.1.3.2.1 The relationship between instrumental motivation and achievement**

Oxford et al. (1993a:46) found that *course level* affected instrumental/general motivation but not integrative/personal use motivation. In the lower course levels, students can often be encouraged to see the usefulness of the language being learned, and the chances of continuing language study will be increased by promoting the instrumental motivation of the learner. Previous language learning experience influenced only one kind of motivation (instrumental/general) and did not affect learning strategy use or achievement.

Research on the direct effect of instrumental motivation (where a reward is given for learning) has shown positive effects. Gardner and MacIntyre (1991) report a study in which 46 university psychology students were rewarded with \$10 if they succeeded in a paired-associate (English-French) vocabulary task, while members of a control group was just told to do their best. Not surprisingly, the students offered the reward did significantly better. This has generally been seen as a major disadvantage of instrumental motivation as the positive effects may cease as soon as the reward stops (Ellis, 1994:514).

With regard to the question of motivation and aptitude, Gardner and Smythe (1975:224) found that L2 French achievement is related to two independent factors, language aptitude and motivation. This suggests that

a student can reach a relatively high level of proficiency if he/she has a high level of aptitude. Alternatively, a student can also achieve a high level of proficiency in L2 French if he/she has the appropriate motivation. That is, there are two independent avenues of success in learning L2 French.

A study of 97 students in the tenth and eleventh grade who were learning French, German and Spanish showed that there was a significant relationship between motivation and achievement in German ( $r=0,43$ ) and French ( $r=0,32$ ). However, a significant low negative correlation ( $r=-0,16$ ) was found between motivation and achievement in Spanish. A significant positive correlation between motivation and study time was found for all three language groups, but the correlation ( $r=0,34$ ) for the Spanish group was only half as strong as that of the German and French groups (coefficients in the 0,60s) (Oxford et al., 1993a:33). Various influences could explain the anomaly of the Spanish score in this study. One can only speculate as to what influence culture, the family, teachers and the classroom situation had on the fact that the Spanish score did not correlate with that of the German and French results.

According to Oxford et al. (1993a:33;45), an investigation of the relationship between language achievement and motivational variables, as well as other situation specific affective variables in a series of beginning Japanese courses in an American university showed that instrumental motivation was one of the best predictors of students' Japanese achievement (cf. Pimsleur et al., 1962:167). Together with better achievement, Whitehall and McDonald (1993:295) also found that instrumental motivation resulted in increases in the amount learned, the level of difficulty of problems chosen, and persistence shown by the learners.

It is very difficult to measure the motivational variables that are likely to determine success in second-language learning. Motivational variables such as the need to succeed or fear of failure and short term motivational

variables that could explain the success in short term goals (such as passing a test), as well as long term motivational variables that could explain the need to master a second language (such as learning a language to emigrate) are very difficult to pinpoint exactly (Gardner & Lambert, 1972:12).

#### **2.3.1.4 Conclusion**

The importance of motivation in the complicated process of second language acquisition has been proved empirically in several independent studies and has also received a lot of attention in second language acquisition studies (cf. 2.3.1.3.1.1 and 2.3.1.3.2.1).

Research on instrumental motivation and achievement has shown a general positive trend (cf. Gardner & MacIntyre, 1991). Although these studies could be replicated in the language learning situation, research results are limited with regard to the language learning situation specifically (cf. 2.3.1.3.2.1). Research discussed in 2.3.1.3.1.1 has indicated a general positive relationship between integrative motivation and second language learning achievement (cf. Ellis, 1994:513). There have, however, been reports of some studies that have not found a positive relationship between achievement and integrative motivation (Ellis, 1994:511).

What has become clear from the results of studies on language learning motivation, however, is that motivation is not as simple as the traditional integrative-instrumental split might suggest. Gardner's (1985) model is not sufficient to explain all the complex nuances and interrelationships with regard to motivation in second language learning. Oxford et al. (1993a:34) state that motivation is a complex mixture of many internal attitudes and external behaviours, and that the role of motivation is indicated as significantly influential in most studies involving motivation and language achievement, but the nature of this influence differs across studies. A new encompassing model for understanding the complex nature of motivation is

needed to clarify exactly which motivational variables do in fact have a positive relationship with second language learning achievement.

### **2.3.2 Attitude**

Within second language learning literature the distinction between motivation and attitude and the relationship between motivation and attitude is not very clear. Reyneke (1994:19) ascribes this to the abstractness of these concepts.

For effective learning to take place, the learner must engage in the self-management or self-control of his or her own learning. To assume this responsibility requires among other things that learners have appropriate attitudes toward learning (McCombs, 1988:153), as attitude can act as a self-fulfilling hypothesis with regards to student achievement, and thus, according to Bartley (1970:383), attitude is a very important factor in academic success.

#### **2.3.2.1 Definition**

Morris (1976:577) states that attitude towards something has three major components:

1. Beliefs about the object;
2. Feelings about the object; and
3. A tendency to behave in certain ways toward the object.

Beliefs include facts, opinions and the general knowledge we have about the object. Feelings include love, hate, like, dislike, and similar sentiments (Reyneke, 1994:11).

Spolsky (1969:273) emphasises that it is not only the learner's attitude that has an impact on his/her performance, but the attitudes of the teacher, peers and parents, etc. also have an impact on the learner's motivation to acquire the language. Some attitudes are formally taught as part of the educational process and others are learned informally by identification and

modelling, reference groups, and groups that humans value and identify with. According to Morris (1976:580), these groups reinforce the individual for expressing appropriate attitudes and provide him/her with models of correct attitudes to imitate (Reyneke, 1994:11).

According to Gardner and Lambert (1972:131), attitude is the persistence shown by the learner while he/she is striving for a goal. Attitudes are related to motivation by serving as supports of the learner's overall orientation.

### **2.3.2.2 The relationship between attitude and achievement**

The teaching techniques associated with the grammar-translation approach, such as tedious grammar exercises and translations, and those associated with audio-lingualism, such as pattern drills and memorization and recitation of dialogues, can foster negative attitudes toward the target language and language learning in general. According to Koch and Terrell (1991:109), research has confirmed that attitudinal factors relate to success and failure in second language acquisition and this would seem to imply that language instruction must consider these factors.

Gardner and Lambert (1972:114) concluded from a study of Canadian high school students that achievement in French most likely stems from the attitude and value atmosphere of the family. According to Gardner and Lambert (1972:114), the factors that will make a young person excel in academic work (including learning languages), originates from a well to do family (i.e. one that encourages and expects good results at school, and one that instils a motivation system focused on achievement and success), and good intellectual aptitude.

Spolsky (1969:281) found in a study of foreign students at American universities that attitude was one of the most important factors explaining the degree of proficiency students achieved when learning a second

language. The students' attitude towards speakers of that language will have a great effect on how students learn. Spolsky (1969:281) concludes that a person learns a language better when he/she wants to associate with the group speaking that language.

Apart from the external cultural pressure, internal positive attitudes toward the culture of the target language and the language group are associated positively with second language achievement (Gardner & Lambert, 1972:134). Stern (1975:313) confirms that a tolerant and outgoing approach to the target language and empathy with its speakers is an aid to successful language acquisition as it helps the student in acquiring spoken competence and the cultural background information leads to a better comprehension, and a more positive attitude towards the language that is to be acquired.

Gardner and Lambert (1972:144) note that children often bring the attitudes of their parents or closest friends to school with them and much can be done by sympathetic and skilful teachers in drawing these private views out and examining them through discussion. Children, fortunately, can unlearn almost as rapidly as they can learn, and they can change the attitudes that they brought with them to the second language class.

Apart from the attitude towards the culture of the target language, the political nature of second language acquisition has often been noted, but not very well researched (cf. Keefe, 1987). The attitudes of second language learners are affected by the politics of the target culture. Normally, the second language learner is in a situation where the target language is the majority language of a community and the native language is the minority language. The majority language is usually English. People learn the majority language because they need to, as they find themselves in the midst of a community where the language in which they must interact is not a language they can speak (Edelsky & Hudelson, 1980:36). The

political situation can thus “force” someone to learn a language in order to interact with society on a day to day basis.

### **2.3.2.3 Conclusion**

Although the distinction between attitude and motivation is not always clear in the literature, it is clear that positive attitudes have a definite effect on achievement in second language learning. These attitudes include personal attitudes, attitudes about the teacher, classmates and school, attitudes about the culture of the target language, and possible political attitudes. It is also noted that negative attitudes can have a possible detrimental effect on achievement in a second language.

Attitudes are mostly made up of beliefs and conceptions about the subject that can be altered by experience. It is important to note that attitudes can also be altered by introducing different beliefs to the student or challenging beliefs that are less desirable. A teacher can, therefore, challenge learners’ attitudes and also prompt them to modify their beliefs to have more positive attitudes as this can have a positive influence on achievement, regardless of the students’ aptitude or intelligence.

### **2.3.3 Anxiety**

#### **2.3.3.1 Introduction**

Anxiety is a common form of reaction that every person experiences to a certain extent during his or her lifetime. Anxiety drives us to perform in order to reach certain goals and can be constructive in the sense that moderate anxiety can lead to positive task performance. Too much or too little anxiety can lead to negative task performance. Abnormal levels of anxiety can become rather destructive and can have a negative impact on the thinking and behaviour of the individual leading to less than optimal performance (Reyneke, 1994:12).

### 2.3.3.2 Definition

Spielberger (1972:xi) describes anxiety as a fundamental human emotion regarded by many as a basic condition for human existence. McReynolds (1989:3) states that there is no generally accepted overall theory of anxiety, but rather a number of restricted conceptions that concentrate upon limited aspects of the human anxiety experience. According to Scovel (1978:129), investigations into the effect of anxiety on second language learning have led to inconclusive and rather mixed results in the past. One of the reasons is the complex nature of anxiety and the lack of an established definition. He therefore suggests that, "anxiety can be viewed, not as a simple unitary construct, but as a cluster of affective states, influenced by factors which are intrinsic and extrinsic to the foreign language learner" (Scovel, 1978:131-132). He contends that these "confusing results" are perhaps due to an inability to translate a clear-cut relationship between anxiety and measures of language proficiency, and "that it is perhaps premature to relate it [anxiety] to the global and competitive task of language acquisition".

Anxiety, a part of an individual's emotional structure, is most commonly used in modern psychology to denote a "transitory emotional state or condition characterised by feelings of tension and apprehension and heightened autonomic nervous system activity" (Spielberger, 1972:24). This emotional state has been stated to cause both negative and positive effects – effects that motivate and facilitate as well as disrupt and inhibit cognitive actions such as learning. Although many feel that anxiety is synonymous with fear, this is an incomplete perception (Jonassen & Grabowski, 1993:309).

Freud regarded anxiety as "something felt", an unpleasant affective state or condition of the human organism (Spielberger, 1972:24). Callanan (1992:51) elaborates on this definition by defining anxiety as "an unpleasant emotion that is characterised by feelings of dread, worry, nervousness or fear". Anxiety is an emotion that may be experienced in response to

particular events, situations, people, or phenomena or in anticipation of such stimuli. The stimulus may be external or internal (Reyneke, 1994:13).

Horwitz et al. (1986:125) define anxiety as the subjective feeling of tension, apprehension, nervousness, and worry associated with the autonomic nervous system. Just as anxiety prevents people from performing successfully in science or mathematics, many people find foreign language learning especially in classroom situations, particularly stressful. This definition of Horwitz et al. (1986:125) is significant as it also points to the physiological effects of anxiety on the body.

Jonassen and Grabowski (1993:309) define anxiety as being comprising of a combination of interacting fundamental effects: neuro-physiological (such as tremors, sweating hands, flushing, increased heart rate, high blood pressure) behavioural-expressive, and phenomenological or subjective. Anxiety includes fear reactions plus two or more basic emotions: distress, anger, shame (including shyness and guilt), on the negative side, and interest and excitement representing the positive side. Individuals differ in the intensity of their reactions to anxiety depending on their predisposition to experiencing anxiety and the level of anxiety-causing stimuli.

Williams (1991:25) defines anxiety in the foreign language classroom as a response to a condition in which the external element is, or is perceived as presenting, a demand that threatens to exceed the students' capabilities and resources for meeting it. The acceptance of the situation as threatening then manifests itself as a psychological emotion, and/or a physiological response which acts as a distracter that divides and diverts the student's focus and, therefore, lowers the amount of attention and the effort that otherwise could be used to master the task presented.

Horwitz et al. (1986:130) hypothesize that language learning anxiety may be seen as a combination of three components:

- 1 Communication apprehension (a type of shyness characterized by fear of or anxiety about communicating with other people).
- 2 Fear of negative social evaluation (a broad category that may occur in situations such as interviews or speaking in foreign language classes).
- 3 Test anxiety (a type of performance anxiety stemming from a fear of failure).

Communication apprehension is described by Horwitz et al. (1986:130) as foreign language speakers' fear to communicate in the foreign language with mother-tongue speakers or speakers that are more proficient than they are. This apprehension is grounded in a fear of negative social evaluation (i.e. the person does not want to appear stupid when speaking in the foreign language). Test anxiety, generally stemming from a fear of failure is also a very real part of the language learning experience. This is related to the students' fear of "not making the grade". This form of anxiety not only plagues average or below average students, but students across the performance spectrum (cf. 2.3.3.4.1.1) (Horwitz et al., 1986:130).

### **2.3.3.3 Types of anxiety**

#### **2.3.3.3.1 Facilitating and debilitating anxiety**

Alpert and Haber (1960:213) perceive facilitating anxiety as a source of motivation, in contrast to debilitating anxiety, which is seen as a "distracter". Scovel (1978:139) maintains that: "Facilitating anxiety motivates the learner to 'fight' the new learning task; it gears the learner emotionally for approach behaviour", prompting them to make extra efforts to overcome their feelings of anxiety. Horwitz (1986:561) suggests that this may only occur in fairly simple learning tasks. According to Scovel (1978:139): "Debilitating anxiety motivates the learner to 'flee' the new learning task; it stimulates the individual emotionally to adopt avoidance behaviour in order to avoid the source of anxiety".

Williams (1991:21) suggests that the distinction between these two types of anxiety may correspond to the intensity of the anxiety, with a low-anxiety state having a facilitating function and a high-anxiety state a debilitating effect. In addition, the two kinds of anxiety may sometimes cancel each other out, resulting in no apparent effect on achievement (Ellis, 1994:483). Facilitating and debilitating anxiety, therefore, represent different ends of the same anxiety continuum (Williams, 1991:21).

According to Scovel (1991:22), the terms *facilitating anxiety* and *debilitating anxiety* are very appropriate for describing the impact of anxiety on the language learning process as both positive and negative. Scovel (1978:139) regards facilitating and debilitating anxiety as products of the limbic system, “the source of all affective arousal”. A good performance in music, sport, language learning, especially in speaking, depends on enough anxiety to arouse the neuromuscular system to optimal levels of performance, but, at the same time, not so much that the complex neuromuscular systems underlying these skills are disrupted.

The emotional state of facilitating anxiety may be equivalent to a low-anxiety state that diverts the student’s attention only slightly from the language-learning task. Debilitating anxiety would represent a high anxiety state that diverts a substantial (debilitating) amount of the student’s attention (Van der Walt, 1997:46). Williams (1991:21) suggests that educators look at students as individuals who have the potential to respond differently to anxiety.

### **2.3.3.3.2 Trait anxiety, state anxiety and situation specific anxiety**

#### **2.3.3.3.2.1 Trait anxiety**

In trait-state anxiety theory, Spielberger et al. (1970) distinguish between anxiety as a relatively enduring personality trait as well as a temporary state, with trait anxiety being more like a permanent characteristic of one’s

personality, and state anxiety being anxiety specific to a certain moment in time. According to Spielberger et al. (1970:3), "trait anxiety refers to relatively stable individual differences in anxiety proneness, that is, to differences between people in the tendency to respond to situations perceived as threatening with elevations in A-state [state anxiety] intensity". Scovel (1978:137), in turn, defines trait anxiety as "a more permanent predisposition to be anxious". Lalonde and Gardner (1984), and MacIntyre and Gardner (1989) maintain that studies based on past research have shown that trait anxiety seems to have little effect on language learning. Both the Taylor Manifest Anxiety Scale (Taylor, 1953) and the Sarason Test Anxiety Scale (Sarason, 1958) failed to produce consistently significant correlations.

According to Ellis (1994:80), test *trait anxiety* is a "more permanent predisposition to be anxious" and it can be viewed as an aspect of personality. Trait anxiety (A-Trait) refers to the relatively stable individual differences in anxiety proneness, that is, to differences in the disposition to perceive a wide range of stimuli as dangerous or threatening, and to the tendency to respond to such threats with A-state reactions. Persons who are higher in A-trait anxiety tend to perceive a larger number of situations as dangerous or threatening compared to persons who test lower in A-trait anxiety. Persons with high A-trait anxiety also tend to respond to threatening situations with A-state elevations of higher intensity (Spielberger, 1972:39). The more trait anxiety individuals possess, the more likely they are to become anxious in many different situations (Jonassen & Grabowski, 1993:309).

#### **2.3.3.3.2 State anxiety**

Ellis (1994:80) defines *state anxiety* as a combination of trait and situation specific anxiety that manifests itself as the apprehension that is expected at a particular moment in time as a response to a definite situation.

State anxiety (A-state) is conceptualised by Spielberger (1972:39) “as a transitory emotional state or condition of the human organism that varies in intensity and fluctuates over time”. Spielberger (1972:31) defines state anxiety (A-state) as referring to the complex emotional reactions that are evoked in individuals who interpret a specific situation as threatening, irrespective of the presence of real (objective) danger. State anxiety is characterised by subjective, consciously perceived feelings of tension and apprehension, and activation of the autonomic nervous system (Spielberger, 1972:39).

According to Jonassen and Grabowski (1993:309), state anxiety is defined as the type of anxiety that varies depending on an event or combination of events experienced at the time. It represents a transient emotional mood or condition. State anxiety is determined by the interaction of trait anxiety and the situational threat perceived, and is thus responsive to situational factors. An individual who generally responds to any number of situations with low anxiety may react with high anxiety if there are simple anxiety-causing conditions present (Jonassen & Grabowski, 1993:309).

The fact that state anxiety can play an important role in learning situations, is corroborated by Heinrich and Spielberger (1982:159), who state that “the research literature provides strong evidence that the impact of stress and task difficulty on complex learning is mediated by state anxiety”. When threatened, the intensity and duration of this A-state reaction will be determined by the amount of threat that is perceived, and by the persistence of the individual’s interpretation of the situation as dangerous (Spielberger, 1972:31).

#### **2.3.3.3.2.3 Situation specific anxiety**

Ellis (1994:480) defines situation specific anxiety as “anxiety that is aroused by a specific type of situation or event such as public-speaking, examinations or class participation.” McGrath (1976) enumerates stressful

conditions as being physical, ego and interpersonal threats, while Horwitz et al. (1986) maintain that anxiety in the formal foreign language classroom consists of three related components: communication apprehension, test anxiety and fear of negative social evaluation.

The language learning situation, and more specifically public speaking/class participation and the language anxiety experienced in that specific setting, (when one attempts to learn a second language and to communicate in it), can be termed a “specific type of situation” according to the definition of Ellis (1994). Consequently, Gardner and MacIntyre (1993:5) define language anxiety “as the apprehension experienced when a situation requires the use of a second language with which the individual is not fully proficient.” In other words, there is an anxiety specific to second language learning.

Situation specific anxiety is defined as anxiety that occurs consistently over time in a given situation. Taking tests might cause situation specific anxiety in some students, whereas in others, it may be giving an oral report that causes the anxiety (Jonassen & Grabowski, 1993:310).

#### **2.3.3.4 Potential sources of anxiety in the second language classroom**

Recognising and identifying the underlying causes of anxiety experienced by L2 learners is one step nearer to reducing these anxieties (Van der Walt, 1997:47). MacIntyre and Gardner (1991) maintain that language anxiety *per se* is initially absent in a language learner’s experience, and that language anxiety only develops once certain attitudes and emotions have been formed, and after encountering certain language learning problems.

Young (1991:429) suggests that, if one accepts this hypothesis, it indicates that, “the problem is not so much in the student, but in the language learning experience, i.e. the methodology. Student language anxiety might

be an indication that we are doing something fundamentally unnatural in our methodology”.

English-class anxiety is a form of state anxiety and it is defined as the degree to which the student feels uncomfortable and nervous in the L2 classroom. Because research has found anxiety to be both positively (e.g. Chastain, 1975; Kleinmann, 1977) and negatively (e.g. Gardner et al., 1976; Swain & Burnaby, 1976) related to performance in various language situations, a distinction has been proposed, namely “facilitating” and “debilitating” anxiety (cf. 2.3.3.3.1) (Scovel, 1978). The effects of English-class anxiety on L2 acquisition appear to depend on the amount and kind of anxiety that the learner has, as well as on the L2 environment (Chapelle & Jamieson, 1986:34).

On the basis of interviews, diaries, and self report questionnaires, Young (1991:427) identifies six sources of language anxiety which pertain to the language learner, the educator and teaching procedures:

- Personal and interpersonal anxieties.
- Learner beliefs about language learning.
- Instructor beliefs about language learning.
- Instructor-learner interactions.
- Classroom procedures.
- Language testing.

The language learner, who is overly anxious, either in a typical language classroom or in a more serious culture shock situation, is likely to be inhibited and unwilling to take even moderate risks. Successful language learning necessitates overcoming inhibitions and learning to take reasonable risks, as in guessing meanings, or speaking up despite the possibility of making a mistake. Inhibited learners are paralysed by actual or anticipated criticism from other people and themselves. Self-

encouragement and anxiety-reducing strategies can help learners lower their inhibitions and take appropriate risks (Oxford, 1990:142).

#### **2.3.3.4.1 Personal and interpersonal anxieties**

Personal and interpersonal anxieties embrace feelings of self-esteem and competitiveness (Van der Walt, 1997:48). Research done on students' diaries indicates that learners' competitive natures can act as a source of anxiety. Bailey (1983:103) analysed the diaries of 11 learners and found that they tended to become anxious when they compared themselves with other learners in the class and found themselves performing not as well as their peers did. If they perceive themselves becoming more proficient and, therefore, better able to compete, their anxiety decreases. Bailey (1983:103) also identified other sources of anxiety, including tests and learners' perceived relationship with their teachers.

Other personal and interpersonal related anxieties are communication apprehension (Kleinmann, 1977; Horwitz et al., 1986; Young, 1990), social anxiety (Young, 1990), and anxiety specific to language learning (Young, 1991). When anxiety does arise relating to the use of the second language, it seems to be restricted mainly to speaking and listening, reflecting learners' apprehension at having to communicate spontaneously in the second language (Horwitz, 1986:561; Horwitz et al., 1986:126). Savignon (1972) emphasizes the importance of "spontaneous conversational interactions" in improving communicative competence, while Krashen (1976) contends that the ability to extricate meaning from a second language utterance is of prime importance in the development of a second language.

According to Leary (1982:102), "some of these terms such as audience anxiety, speech anxiety, and communication apprehension, are typically used when people experience social anxiety while performing or speaking

before others". Leary (1982:102) defines social anxiety as "the prospect or presence of interpersonal evaluation in real or imagined social settings".

#### **2.3.3.4.2 Learner beliefs about language learning**

Learner beliefs about language learning contribute greatly to anxiety experienced in learning situations. Based on research concerning learner's beliefs, Horwitz et al. (1986:126) and Horwitz (1988:291) came to the following conclusions. The learners:

- Believed two years was enough time to become fluent in another language.
- Attached great importance to the correctness of their utterances.
- Presupposed that over-studying will compensate for their lack of performance.
- Regarded speaking without a foreign accent of prime importance.
- Supported the idea that language learning is essentially translating from English.
- Believed that some learners were more capable of learning languages than others.
- Imagined that all foreign language input must be understood before complete comprehension of the target language is possible.

#### **2.3.3.4.3 Instructor beliefs about language learning**

It is the duty of the teacher to create an atmosphere conducive to learning for the L2 student, which will in turn make him or her feel more positive towards the target language. However, the general attitude adopted by teachers is that a certain distance should be kept in the student-teacher relationship and "that a little bit of intimidation [is] a necessary and supportive motivator for promoting students' performance" (Brandl, 1987:50). Many teachers are, therefore, not prepared to make any allowances for errors made. They believe that discipline will be undermined should group work be introduced, and that teaching must primarily be seen

as a dictatorial exercise instead of a two-way communication process. Should this be the attitude of the teacher, it will only result in a heightened feeling of anxiety and stress on the student's part, which might reflect negatively in his/her acquiring the target language (Van der Walt, 1997:50).

#### **2.3.3.4.4 Instructor-learner interactions**

Instructor-learner interactions have been found to be of the greatest importance in achieving success in L2 learning (Horwitz et al., 1986; Young, 1990). Horwitz et al. (1986:126) report that students "tend to 'freeze' in a role-play situation" and that anxious students "complain of difficulties discriminating the sound and structures of a target language message". Young (1991:428) found that "learners consistently report anxiety over responding incorrectly, being incorrect in front of their peers, and looking or sounding 'dumb'". Young (1991:428) states that, "some error correction is necessary. The issue for the student, then, is not necessarily error correction but the manner of error correction – when, how often, and, most importantly, how errors are corrected". If the general assumption is that learners with low anxiety will learn better, students who feel at ease in the classroom and like the teacher may seek out more intake by volunteering and may be more accepting of the teacher as a source of input (Van der Walt, 1997:50).

#### **2.3.3.4.5 Classroom procedures**

Several tests have been devised to measure language anxiety specifically in a classroom situation (e.g., the French Class Anxiety Scale developed by Gardner & Smythe, 1975). Horwitz et al. (1986), referring to language classroom anxiety as "a complex experience", devised a Foreign Language Classroom Anxiety Scale based on conversations with beginner learners, who identified themselves as being anxious. Speaking in class has frequently been cited by learners as their greatest concern, as communicating in a second language involves self-presentation by a

learner, in a language in which only a limited competency has been achieved. Nevertheless, Van der Walt (1997:51) reports that voices of dissent have also been heard from researchers such as Kleinmann (1977) and Steinberg (1982) who have found the opposite to be true.

Kleinmann (1977) found that her students' oral performance was positively affected by facilitating anxiety. Young (1990) reported that more than sixty-eight percent of interviewed students felt more comfortable when it was not required of them to "get in front of the class to speak", while Bailey (1983:27) found that one student attributed her anxiety to the "stressful competitive nature of oral public performance". Horwitz et al. (1986:128), therefore, perceive foreign language anxiety "as a distinct complex of self-perception, beliefs, feelings, and behaviours related to classroom language learning arising from the uniqueness of the language learning process".

#### **2.3.3.4.6 Language testing**

A testing situation can be regarded as a major source of anxiety, which more often than not leads to poor performance, accompanied by feelings of inadequacy and loss of self-esteem. According to Horwitz et al. (1986:127), test-anxiety, when specifically related to foreign language classes, "refers to a type of performance anxiety stemming from fear of failure". In a second language testing situation this type of anxiety is often aggravated when the students seem to have unrealistic expectations and especially when the situation is novel or highly evaluative (Daly, 1991).

Young (1991:429) also regards consistency between teaching methods and test formats as being of prime importance and cites the following example as a case in point: "If an instructor has a communicative approach to language teaching but then gives primarily grammar tests, this likely leads students not only to complain, but also to experience frustration and anxiety". Test anxiety is directly related to fears of negative evaluation, dislike of tests, and less effective study skills (Hembree, 1988:73).

### **2.3.3.5 The relationship between anxiety and achievement**

Research on the relationship between anxiety and achievement in second language learning has been hampered by the absence of a validated measure of anxiety specific to language learning. Although teachers and students generally feel that anxiety is an obstacle to be overcome in learning a second language, the empirical literature does not substantiate a clear cut relationship between anxiety and second language achievement or performance (Horwitz, 1986:559; Horwitz et al., 1986:126). With regards to foreign language learning, however, Horwitz (1986:561) notes that results to date suggest that foreign language anxiety can be reliably and validly measured and that it plays an important role in language learning.

Researchers have recognized the important role played by anxiety in language learning, and more specifically its potentially negative effects (Van der Walt, 1997:52). Studies on foreign language anxiety have resulted in several conflicting results in the past. While some of the results have shown that anxiety may have a facilitating or debilitating effect (Kleinmann, 1977; Bailey, 1983), some findings have suggested that there is no relationship between anxiety and performance (Backman, 1976), while other results have shown unexpected relationships (Chastain, 1975; Swain & Burnaby, 1976).

Kleinmann (1977) found in his study of Spanish and Arabic-speaking learners of English that students with high levels of debilitating anxiety were more likely to avoid difficult grammatical constructions compared to students who scored high on facilitative anxiety. Backman (1976) reported that two of her weakest Spanish-speaking students learning English, obtained the highest and the lowest scores on the anxiety measures that she used in her study. Chastain (1975) concluded from studying students enrolled in French, German and Spanish courses that some anxiety about a

test is positive, while “too much anxiety can produce negative results”. Swain and Burnaby (1976) studied English-speaking children in a French immersion programme and the results showed a negative correlation between anxiety and the children’s proficiency in French.

#### **2.3.3.6 Conclusion**

While it is generally accepted that anxiety does have a negative effect on second language acquisition, more research is needed to explain the inconsistent findings of the past. One possible reason for the inconsistent results may be due to the inappropriate levels of instrument specificity (MacIntyre & Gardner, 1989). One is also reminded by Ellis (1994:483) that, “anxiety (its presence or absence) is best seen not as a necessary condition of successful L2 learning, but rather as a factor that contributes in differing degrees in different learners.”

### **2.3.4 Tolerance of ambiguity**

#### **2.3.4.1 Definition**

Jonassen and Grabowski (1993:333) define tolerance of ambiguity as “the tendency to perceive ambiguous situations as desirable”. Oxford and Ehrman (1995:364) define tolerance of ambiguity as “acceptance of confusing situations”.

Tolerant individuals accept or invite new situations in which the rules or procedures are not known. They are also complex problem situations where the answers are uncertain. We expect tolerant individuals to perform well when faced with a learning situation containing a great deal of novelty, complexity, contradiction and/or lack of structure. Tolerant individuals are more likely to be risk takers and persistent processors. They can also hypothesise well and provide their own structure for learning (Jonassen & Grabowski, 1993:333).

Ambiguity tolerance refers to an individual's willingness to accommodate or adapt to encounters with ambiguous situations or ideas. Ambiguous situations develop from novel circumstances that have no familiar cues, complex situations with many cues to be considered, contradictory situations where different elements or cues suggest different structures, or unstructured situations containing cues that cannot be interpreted. For instance, travel to a foreign country produces many ambiguous situations that are novel, confusing and demanding. Individuals differ in their abilities to adapt to these strange situations (Jonassen & Grabowski, 1993:333).

The acceptance of confusing situations (tolerance of ambiguity) may be related to willingness to take risks (and also reduction of both inhibition and anxiety). According to Oxford (1990:142), moderate tolerance of ambiguity, like moderate risk-taking is most probably the most desirable situation for a language learner. Learners who are moderately tolerant of ambiguity tend to be open-minded in dealing with confusing facts and events, which are part of learning a new language. In contrast, low ambiguity-tolerant learners, wanting to categorise and compartmentalise too soon, have a hard time dealing with unclear facts and events (Oxford, 1990:142).

Students who can tolerate moderate levels of ambiguity are more likely to persist in language learning than students who cannot tolerate moderate levels of ambiguity. Ambiguity tolerance is related to the frequency of use of many different kinds of learning strategies. Tolerance of ambiguity is also related to risk-taking ability. Those who can tolerate ambiguity are more likely to take some risks in language learning; and risk-taking is an essential factor for progress. Students who avoid risks are influenced by anticipated criticism from others or by self-criticism, and their language practice becomes stunted (Oxford & Ehrman, 1995:364).

Intolerance of ambiguity is "the tendency to perceive ambiguous situations as sources of threat" (Jonassen & Grabowski, 1993:333). Learners who

are intolerant of ambiguity are expected to avoid learning situations that possess unknown goals or expectations, unstated criteria for success, or unclear procedures on how to perform. Intolerant learners have difficulty providing structure to learning situations that they perceive to be ambiguous in nature. We might expect that such learners are detail-oriented and unable or unwilling to view situations in global terms. Intolerant learners also seem unable to hypothesise well and do not enjoy taking risks. In addition, these students also tend to give up quickly when faced with an ambiguous learning task (Jonassen & Grabowski, 1993:334).

#### **2.3.4.2 The relationship between tolerance of ambiguity and achievement**

Larsen-Freeman and Long (1991:191) point out that it is not too difficult to imagine the effect of tolerance of ambiguity on language learning. New stimuli with which the language learner is confronted, are often ambiguous – especially at the beginning. The student with a low tolerance of ambiguity might “experience frustration and diminished performance” as a result of everything not being immediately clear. This may lead to underachievement regardless of the fact that the individual might possess aptitude and intellect to acquire the language successfully.

Naiman et al. (1978) found a positive relationship between tolerance of ambiguity and scores on a listening comprehension test. They failed to find any relationship with scores on a listening comprehension test. Chapelle and Roberts (1986) also found low correlations between tolerance of ambiguity and criterion measures of second language proficiency. According to Ellis (1994:519), these inconsistencies in results can be attributed to the lack of a proper theoretical basis for predicting which personality variables are positively or negatively related to which aspects of second language proficiency.

### **2.3.4.3 Conclusion**

Although the research results may contradict each other currently, tolerance of ambiguity arguably has a great influence on second language acquisition and achievement, especially with freshmen (Larsen-Freeman & Long, 1991:191).

### **2.3.5 Risk-taking**

#### **2.3.5.1 Introduction**

During a lifetime, every individual is confronted with having to make decisions, and in this decision-making process comes the probability of having to take a risk. Risk-taking is applicable in both naturalistic settings and classroom situations. Beebe (1983:40) states that:

I have long believed that the good language learner is one who is willing to take risks. Learning to speak a second or foreign language involves taking the risk of being wrong, with all its ramifications. In the classroom, these ramifications might include a bad grade in the course, a fail on the exam, a reproach from the teacher, a smirk from a classmate, punishment or embarrassment imposed by oneself. Outside the classroom, individuals learning a second language face other negative consequences if they make mistakes. They fear looking ridiculous; they fear the frustration coming from a listener's blank look, showing that they have failed to communicate; they fear the danger of not being able to communicate and thereby get close to other human beings. Perhaps worst of all, they fear loss of identity.

There is obviously a close link between self-esteem and the risk-taking factor, for a person with a high self-esteem will not easily be put off should his/her attempts lead to possible errors or should he/she feel the need to take risks. However, not everyone is inclined towards taking the same quantity of risks, nor are they prepared to be as risky as others when having

to make a choice. Furthermore, Kogan and Wallach (1967:113) maintain that, “these two aspects of decision situations, the lack of certainty and the prospect of loss or failure, lend a risky character to the decision making process”.

### **2.3.5.2 Definition**

Risk-taking is a personality dimension that refers to an individual’s preference for selecting high payoff/low probability or low-payoff/high probability alternatives. In educational and training situations, numerous opportunities exist in which the decisions individuals make involve actual or perceived risk to their self-esteem, success, or well being. Examples include responding in class, selecting response strategies for achievement or standardised ability exams, selecting courses that are “known” to be difficult, or even learning new patterns of study (Jonassen & Grabowski, 1993:403).

Risk-taking may be defined as a situation where an individual has to make a decision involving choice between alternatives of different desirability; the outcome of the choice is uncertain; there is the possibility of failure (Beebe, 1983:39).

Ely (1986:8) attributes four behaviours to risk-taking:

- a lack of hesitancy about using a newly encountered linguistic element,
- a willingness to use linguistic elements perceived to be complex or difficult,
- a tolerance of possible incorrectness or inexactitude in using that language, and
- an inclination to rehearse a new element silently before attempting to use it aloud.

### **2.3.5.3 The relationship between risk-taking and achievement**

The high-risk taker continuously faces the probability of failing or the opportunity to succeed under the specified odds. Coupled with high anxiety and defensiveness, high-risk takers have been shown to make poor decisions in cases where only partial knowledge exists, especially in standardised exams when a penalty for wrong responses is added. Moderate risk-taking, however, has been associated with increased performance, perceived competence, self-knowledge, pride and satisfaction (Jonassen & Grabowski, 1993:403).

Cautiousness, or fear of risk-taking, can also impede learning. Students who fear failure may avoid beneficial learning experiences. Extreme cautiousness has been linked to perfectionism. Such students maintain extremely high standards, most often with impossible goals, and ultimately measure their self-worth entirely in terms of productivity and accomplishment. Perfectionists are very impatient with a trail and error style of learning. They can actually paralyse themselves, avoiding new experiences for fear of failure. Perfectionists suffer excessive anxiety and panic attacks about their academic responsibilities (Jonassen & Grabowski, 1993:403).

Creativity is strongly tied to the dimension of risk-taking. An individual who presents new ideas opens him- or herself to the possibility that the ideas may be wrong, inappropriate, or socially unacceptable. The greater the departure from the standard, the greater the risk (Jonassen & Grabowski, 1993:403).

Risk-taking leads to greater proficiency in the second language being learned, and according to Oxford and Shearin (1994:22), "the key lies in the classroom climate, which should be non threatening and positive at all times". The language learner, who is overly anxious, either in a typical language classroom or in a more serious culture shock situation, is likely to

be inhibited and unwilling to take even moderate risks. Successful language learning necessitates overcoming inhibitions and learning to take reasonable risks, as in guessing meanings or speaking up despite the possibility of making a mistake. Inhibited learners are paralysed by actual or anticipated criticism from other people and themselves. Self-encouragement and anxiety-reducing strategies can help learners lower their inhibitions and take appropriate risks (Oxford, 1990:142).

#### **2.3.5.4 Conclusion**

Research seems to suggest that risk-taking is an important characteristic for successful learning of a second language. Learners have to be able to *gamble* a bit with the language and take the risk of being wrong. Although it is not possible at this stage to describe an optimal level of risk-taking for all individuals and situations, the implications for learning and teaching are important. A balance needs to be struck in order to provide just enough risk as to stimulate the individual and not too much so that the cautious individual is put off the task.

### **2.4 General factors**

General variables are more physical in nature than affective variables. For the purposes of this study the focus is on only one general factor, i.e. age and its relationship to achievement.

#### **2.4.1 Age**

Age as a general factor is not so much about chronological age *per se*, but rather has to do with the effects of ageing on the learner and the learning process, for example, loss of plasticity in the brain. Krashen et al. (1979:573) note three generalisations concerning the relationship between age, rate, and eventual attainment in second language acquisition:

- Adults proceed through the early stages of syntactic and morphological development faster than children do (where time and exposure are held constant).
- Older children acquire faster than younger children do (again, in early stages of morphological and syntactic development where time and exposure are held constant).
- Acquirers who experience natural exposure to second languages during childhood generally achieve higher second language proficiency than those who begin to experience such exposure as adults.

One popular belief about age and second language acquisition is that younger-is-better, that younger acquirers are better at second language acquisition than older acquirers are (Krashen et al., 1979:573). This is supported by the *critical period hypothesis*, according to which there is a fixed span of years during which language learning can take place naturally and effortlessly, and after which it is very difficult to be completely successful (Ellis, 1994:484).

Penfield and Roberts (1959), for example, argue that the optimum period for language acquisition falls within the first ten years of life, when the brain retains its plasticity. Initially, this period was equated with the period taken for lateralisation of the language function to the left side of the brain to be completed. Work on children and adults who experienced brain injuries or operations indicates that damage to the left hemisphere caused few speech disorders and was rapidly overcome in the case of children, but not adults (Lenneberg, 1967). Although subsequent work (e.g. Krashen, 1973; Whitaker et al., 1981) has challenged the precise age when lateralisation takes place, resulting in doubts about the neurological basis of the critical period hypothesis, the age question has continued to attract the attention of researchers (cf. Lombardo, 1990; Anderson, 1990; Long, 1990; Ellis, 1994).

Krashen et al. (1979:574) are of the opinion that distinguishing rate and attainment resolves apparent contradictions in the literature. In other words, adults and older children, in general, initially acquire the second language faster than young children (older-is-better for rate of acquisition), but the latter will usually be superior as second language acquirers in terms of ultimate attainment (younger-is-better in the long run).

The critical period theory has its origins in embryological development (like loss of plasticity in body tissues as they become functionally differentiated), and studies on imprinting and other instinctive behaviours of birds and fish. The critical period theory hinges on the following definition:

The behaviour had to appear in infancy, to be short and abrupt, to have permanent consequences, and to show 'developmental fixity', i.e. genetically determined, not affected by environmental influences. For this reason, the critical period concept is often still associated exclusively with 'innate', 'unlearned', 'instinctive', or otherwise 'genetically determined' phenomena (Long, 1990:252).

It is claimed that there is a certain critical period, from two to about eleven years of age, when it is easiest to learn a language. Until recently, the claim that children learn second languages more readily has been based on studies of children of various ages and studies of adults in new linguistic communities (cf. Anderson 1990); for example, when families are moved to a foreign country in response to a corporate assignment or when immigrants come to a country permanently. Young children are said to acquire a facility to get along in the new language more quickly than older children or adults. However, there are a great many differences among adults versus the older children versus younger children in terms of amount of linguistic exposure, type of exposure and willingness to try to learn (Anderson, 1990:350).

In studies where situations are selected that control for these factors, a positive relationship is exhibited between children's ages and language development. While older children and adults may learn a new language more rapidly than younger children initially, they seem not to acquire the same level of final mastery of the fine points of language, such as the phonology and morphology. For instance, the ability to speak a second language without an accent severely deteriorates with age. In summary, while it is not true that language learning is best for the youngest, it is true that the greatest eventual mastery of the finer points of language will be achieved by those who start youngest (Anderson, 1990:351).

#### **2.4.1.1 The relationship between age and achievement**

Dockrell and Brosseau (1967:297) found that older children showed a greater increase in vocabulary and comprehension than did the younger children. Attitude is marginally significant. Younger children showed greater ease with the acquisition of a natural pronunciation.

According to Long (1990:267), longitudinal studies have indicated that younger starters consistently outperform older ones (even after many years of target language exposure), and that only those who begin with a second language as quite young children are ultimately capable of native like attainment. Learners starting later than age six often become communicatively fluent, but also often finish with measurable accents and, with progressively later starting ages (e.g. after the age of fifteen for morphology and syntax), with "accents" in other linguistic domains too.

Scovel (1969:246) states that "there are environmental differences between child-learning and adult-learning that account for the superior ability of children to master languages without a foreign accent". Scovel (1969:249) proposes that the reason for this phenomenon is the nature of the brain,

specifically, the phenomenon called *cerebral dominance* or *lateralisation*, that accounts for the ability of children to learn languages fluently.

Adults have an initial advantage where rate of acquisition and rate of learning is concerned, particularly in grammar (syntactic and morphological development) (Krashen et al., 1979:573). Older children learn more rapidly than younger children, and child learners who receive enough exposure to the second language will eventually overtake older children and adults. This is less likely to happen in instructional than naturalistic settings because the critical amount of exposure is usually not available in the classroom situation (Ellis, 1994:484).

The opinion among second language acquisition researchers as to the existence of maturational constraints in non-primary language learning is sharply divided. Some researchers (e.g. Johnson & Newport, 1989; Patkowski, 1990; Scovel, 1988; Seliger, 1978) show data appearing to indicate that children, but not adult starters can attain a native-like accent in the second language. Others (e.g. McLaughlin, 1985; Singleton, 1989) regarded the data as mixed and ambiguous. A third group (e.g. Ellis, 1985; Flege, 1987; Genesee, 1978; Neufeld, 1979) claimed that the findings suggested an advantage for older learners and rejected the “younger is better” notion altogether, even for L2 pronunciation ability (Long, 1990:258). Genesee (1987:104), for example, concludes that:

The existing evidence indicates that (1) all aspects of second language learning appear to be learned more efficiently and, therefore, possibly more easily, at least in the initial stages, the older the learner, and (2) native-like levels of proficiency in the phonological, syntactic and comprehension aspects of the second language can be attained in post pubertal learners.

Even among those who accept the existence of some kind of age effect, there is a considerable difference of opinion as to its scope and source. In

terms of scope, the issue is whether the decline in ability is limited to phonology. With regards to source, affective, input, cognitive and neurological explanations have each been proposed for age-related differences.

#### **2.4.1.2 Conclusion**

It is clear that age does have an effect on second language acquisition. Child starters outperform adult starters in the long run, but older children initially learn faster than younger children. Adult learners also have an initial advantage as far as rate of language acquisition is concerned especially with regards to grammar. With regards to adults learning a second language the probability is very high that they will never attain native speaker proficiency.

### **2.5 Language learning strategies**

#### **2.5.1 Introduction**

The research literature on language learning strategies in second language acquisition emerged from a concern for identifying the characteristics of successful language learners (cf. Dreyer 1992). According to McCombs (1988:141) learners who use language learning strategies effectively accept responsibility for their own learning, are motivated and possess the skills and abilities to actively engage effective strategies in the language learning process.

#### **2.5.2 Definition**

Language learning strategies have been defined in various ways, for instance:

- Learning strategies are the behaviours and thoughts that a learner engages in during learning which are intended to

influence the learner's encoding process (Weinstein & Mayer, 1986:315).

- Mayer (1988:11) defined learning strategies as behaviours of a learner that are intended to influence how the learner processes information.
- *Learning strategies* are defined as operations by learners to aid the acquisition, storage, and retrieval of information (Oxford & Nyikos, 1989:291).
- Oxford and Crookall (1989:404) define language learning strategies as learning techniques, behaviours, or actions, or learning-to-learn, problem solving, or study skills.
- Learning strategies are techniques which students use to comprehend, store, and remember new information and skills. What a student thinks and how a student acts in order to learn comprise the non-observable aspects of learning strategies (Chamot & Kupper, 1989:13).
- Learning strategies are the special thoughts or behaviours that individuals use to help them comprehend, learn or retain new information. Learning strategies are special ways of processing information that enhance comprehension, learning, or retention of the information (O'Malley & Chamot, 1990:1).
- Language learning strategies are specific actions, behaviours, steps, or techniques – such as seeking out conversation partners, or giving oneself encouragement to tackle a difficult

language task – used by students to enhance their own learning. Strategies are especially important for language learning because they are the tools for active, self-directed, involvement, which is essential for developing communication ability (Scarcella & Oxford, 1992:63).

- Oxford (1992:18) defines language learning strategies as specific actions, behaviours, steps, or techniques that students (often intentionally) use to improve their progress in developing L2 skills. These strategies can facilitate the internalisation, storage, retrieval, or use of the new language. Strategies are tools for the self-directed involvement necessary for developing communicative ability.
- Reid (1998:ix) defines learning strategies as external skills often used consciously by students to improve their learning. Examples include meta-cognitive strategies such as self-monitoring and self-evaluation; cognitive strategies such as note taking and inferencing; and social/affective strategies such as clarification questions and co-operative work.

The above definitions can be summarised by stating that learning strategies consist of any behavioural or thought patterns that facilitate encoding in such a way that knowledge integration and retrieval is enhanced. A change over time can also be noted from the early focus of the product of language learning strategies (linguistic or sociolinguistic competence) to the more recent emphasis on the processes and characteristics of language learning strategies (Lessard-Clouston, 1997:2).

### **2.5.3 Taxonomy of language learning strategies**

Various researchers have classified language learning strategies (cf. Wenden & Rubin, 1987; O'Malley et al., 1985; Oxford, 1990; Stern, 1992;

Ellis, 1994). Most of the classifications reflect more or less the same categorisations of language learning strategies without any major changes. For the purposes of this study, the taxonomies of O'Malley (1985), Rubin (1987), Oxford (1990), and Stern (1992) are discussed:

### **2.5.3.1 O'Malley's (1985) classification of language learning strategies**

O'Malley et al. (1985:582-584) divide language learning strategies into three main subcategories:

- Metacognitive strategies,
- Cognitive strategies, and
- Socioaffective strategies.

**Metacognitive** is a term to express executive function, strategies which require planning for learning, thinking about the learning process as it is taking place, monitoring of one's production or comprehension, and evaluating learning after an activity is completed. Among the main metacognitive strategies, it is possible to include advance organizers, directed attention, selective attention, self-management, functional planning, self-monitoring, delayed production, and self-evaluation.

**Cognitive strategies** are more limited to specific learning tasks and they involve more direct manipulation of the learning material itself. Repetition, resourcing, translation, grouping, note taking, deduction, recombination, imagery, auditory representation, key word, contextualisation, elaboration, transfer, and inferencing are among the most important cognitive strategies.

**Socioaffective strategies** are related to social-mediating activity and transacting with others. Cooperation and questions for clarification are the main socioaffective strategies (Brown, 1987:93-94).

### 2.5.3.2 Rubin's (1987) classification of language learning strategies

Rubin, a pioneer in the field of strategies, distinguishes between strategies contributing directly to learning and strategies contributing indirectly to learning. According to Rubin, there are three types of strategies used by learners that contribute directly or indirectly to language learning:

- Learning strategies,
- Communication strategies, and
- Social strategies.

There are two main types of **learning strategies** contributing directly to the development of the language system constructed by the learner:

- Cognitive learning strategies, and
- Metacognitive learning strategies.

**Cognitive learning strategies** refer to the steps used in learning of problem solving that require direct analysis, transformation, or synthesis of learning materials. Rubin identified six main cognitive learning strategies contributing directly to language learning, clarification/verification, guessing/inductive inferencing, deductive reasoning, practice, memorization, and monitoring.

**Metacognitive learning strategies** are used to oversee, regulate, or self direct language learning, involving processes like planning, prioritising, setting goals, and self-management.

**Communication strategies** are less directly related to language learning as the focus is on the process of participating in a conversation and getting meaning across or clarifying what the speaker intended.

**Social strategies** are those activities that allow learners to be exposed to the target language and practise their knowledge. Social strategies

contribute indirectly to learning since they do not lead directly to the obtaining, storing, retrieving, and using of language (Wenden & Rubin, 1987:23-27).

### **2.5.3.3 Oxford's (1990) classification of language learning strategies**

Oxford (1990:9) sees the aim of language learning strategies as being oriented towards the development of communicative competence. Oxford divide language learning strategies into two main classes, direct and indirect, which are further subdivided into 6 groups. Oxford's (1990:17) taxonomy of language learning strategies is indicated below:

- **DIRECT STRATEGIES**
  - **Memory strategies**
    - Creating mental linkages
    - Applying images and sounds
    - Reviewing well
    - Employing action
  - **Cognitive strategies**
    - Practising
    - Receiving and sending messages strategies
    - Analysing and reasoning
    - Creating structure for input and output
  - **Compensation strategies**
    - Guessing intelligently
    - Overcoming limitations in speaking and writing
- **INDIRECT STRATEGIES**
  - **Metacognitive Strategies**
    - Centering your learning
    - Arranging and planning your learning
    - Evaluating your learning

- Affective Strategies
  - Lowering your anxiety
  - Encouraging yourself
  - Taking your emotional temperature
- Social Strategies
  - Asking questions
  - Cooperating with others
  - Empathising with others

In Oxford's system, metacognitive strategies help learners to regulate their learning. Affective strategies are concerned with the learner's emotional requirements such as confidence, while social strategies lead to increased interaction with the target language. Cognitive strategies are the mental strategies learners use to make sense of their learning, memory strategies are those used for storage of information, and compensation strategies help learners to overcome knowledge gaps to continue the communication.

#### **2.5.3.4 Stern's (1992) classification of language learning strategies**

According to Stern (1992:262-266), there are five main language learning strategies:

- Management and Planning Strategies,
- Cognitive Strategies,
- Communicative - Experiential Strategies,
- Interpersonal Strategies, and
- Affective Strategies.

**Management and planning strategies** are related with the learner's intentions to direct his/her own learning. The learner must:

- decide what commitment to make to the language learning activities,
- set reasonable personal goals,

- decide on an appropriate methodology, select appropriate resources, and monitor progress, and
- evaluate personal achievement in the light of previously determined goals and expectations (Stern, 1992:263).

**Cognitive strategies** are steps or operations used in learning or problem solving that require direct analysis, transformation, or synthesis of learning materials, such as:

- Clarification / Verification,
- Guessing / Inductive Inferencing,
- Deductive Reasoning,
- Practice,
- Memorization, and
- Monitoring.

**Communicative - experiential strategies** such as circumlocution, gesturing, paraphrasing, or asking for repetition and explanation, are techniques used by learners so as to keep a conversation going and avoid interrupting the flow of communication (Stern, 1992:265).

**Interpersonal strategies** are employed by learners to monitor their own development and evaluate their own performance. Learners should use interpersonal strategies to make contact with native speakers and cooperate with them in order to become acquainted with the target culture as part of learning the language (Stern, 1992: 265).

According to Stern (1992:266) good language learners use **affective strategies** to try to create associations of positive affect towards the foreign language and its speakers as well as towards the learning activities involved.

Even though there has been, and still is, a great deal of controversy regarding the definition and classification of language learning strategies, researchers seem to agree that language learning strategies are important when learning a second language. In the following section the relationship between language learning strategies and achievement is considered.

#### **2.5.4 The relationship between language learning strategies and achievement**

Stavans and Oded (1993:492) studied two groups of students with similar learning strategies, but the one group was successful and the other not. They found that the unsuccessful group used learning strategies in a “mechanical” manner and that relating the use of a specific strategy to a particular comprehension problem helped unsuccessful students to realise their maximum potential in all cases but one.

Good language learners use more and better strategies than do poor learners. Rubin (1975) suggests that the good language learner is a willing and accurate guesser, has a strong, persevering drive to communicate, is often uninhibited and willing to make mistakes in order to learn or communicate, focuses on form by looking for patterns, takes advantage of all practice opportunities, monitors his or her own speech as well as that of others, and pays attention to meaning. The “good language learner” studies repeatedly suggest that successful learners tend to use strategies such as finding practice opportunities, guessing intelligently, using patterns, treating the language as a rule system, and communicating often in the language. Recent research (cf. Politzer, 1983; Jolicoeur & Berger, 1988; Oxford & Crookall, 1989; Ehrman & Oxford, 1989; Oxford & Nyikos, 1989; Stavans & Oded, 1993; Oxford, et al. 1993a; Reid, 1998) suggests that there is no single strategy pattern used by effective language learners. In fact, successful learners use an array of strategies, matching those strategies to their own learning style and personality and to the demands of the task. Optimal learners find ways to tailor their strategy use to their

individual needs and requirements; they develop combinations of strategies that work for them (Oxford & Ehrman, 1995:362).

Dreyer (1992:73) found that more proficient language learners use more strategies. The more proficient language learners also used a greater variety of strategies and the frequency of use was also higher. The weaker students also used strategies, but it appears that more proficient language learners tend to have a greater variety of strategies and tend to use more appropriate strategies for the task at hand.

Ho (1987:127) found that sex appears to be the single variable with the most predictive power for foreign language acquisition and performance, and the superiority of females in writing and especially speaking represented a continuation of their superior academic performance over males in English language subjects in primary and secondary schools. Oxford and Nyikos (1989:296) as well as Ehrman and Oxford (1989:4) found that the females' superior performance could be attributed to their significantly greater use of language learning strategies (compared to that of males).

## **2.6 Conclusion**

Research on individual learner differences has pointed out that individual learners in a classroom situation vary enormously in both the ways they approach learning a second language, as well as what they actually succeed in learning.

Affective variables are often the unstable variables in any individual learner's profile. Motivation is found to correlate positively with achievement in second language acquisition. The different types of motivation, such as integrative motivation, achievement motivation, as well

as the more complex models proposed for understanding motivation in the learning situation underline the fact that this is a complex variable.

Although the distinction between attitudes and motivation is not always clear in the literature it is apparent that a positive attitude has a definite positive effect on achievement in second language learning. It was also noted that negative attitudes can have a detrimental effect on achievement in a second language if not challenged and managed by the teacher.

Anxiety has also been described as a complex variable with various different types of anxiety being discussed, e.g. facilitating and debilitating anxiety; trait anxiety, state anxiety and situational specific anxiety, and English/L2 class anxiety – a form of state anxiety. With regard to facilitating and debilitating anxiety the conclusion is that a certain level of anxiety may indeed be beneficial to an individual.

Tolerance of ambiguity or an individual's propensity to accept confusing facts or situations has a twofold effect on language learning. Tolerant individuals may learn a new language with greater ease, but will also harbour many inconsistencies in the new language. Intolerant individuals might have difficulty learning seemingly inconsistent grammatical rules, but may acquire the language with fewer inconsistencies in the end.

Risk-taking deals with an individual's propensity to take risks (or venture into uncharted territory) in the learning situation. Research indicates negative correlations with achievement for both high risk takers as well as cautious learners. Moderate risk takers seem to have the advantage in the second language learning classroom.

Age was identified as an extremely complex variable. What was clear from the research is that the adage of "younger is better" for language acquisition is not always true.

The use of language learning strategies can act as an indicator for language learning success as more successful students were found to use more strategies more often, and also use strategies correctly (and in the correct situations) as opposed to less successful students who used less strategies less often.

# Chapter 3

## Learning Styles

### 3.1 Introduction

The importance of learning style research stems from the fact that it acknowledges the differences that exist between individual students. The aim of learning style research is to describe and understand these differences so that students with different learning styles can be accommodated in the teaching and learning process. Conventional schooling often requires that students sit quietly at their desks for long periods of time. They need to learn by either listening to their teachers or reading assigned materials. Students usually show how much they have learned by answering questions on a paper-and-pencil test. Other learning styles are rarely, if ever, accommodated in South African schools (Dreyer, 1998). Regardless of the activity, the classroom environment and how students are taught is identical for each learner, and everyone is expected to learn in exactly the same way (Dunn & Griggs, 1995:13). Instructional material often remains fixed, unvaried and static, adaptive to individual needs in only minor ways, if at all.

Learners clearly differ enormously in their preferred approach to L2 learning, but it is impossible to say which learning style works best (Scarcella & Oxford, 1992). Quite possibly, learners who display flexibility are the most successful, but there is no real evidence yet for such a conclusion. The literature suggests that students who are actively engaged in the learning process will be more likely to achieve success (Dewar, 1995). A key to getting (and keeping) students actively involved in learning lies in understanding learning style preferences, which can positively or negatively influence a student's performance (cf. Birkey & Rodman, 1995; Dewar, 1995).

According to Ellis (1994:508), one of the major problems is that the concept of 'learning style' is ill-defined, apparently overlapping with other individual differences of both an affective and a cognitive nature. It is unlikely that much progress will be made until researchers know what it is they want to measure. Curry (1990:50) states that "like the blind men in the fable about the elephant, learning styles researchers tend to investigate only a part of the whole and thus have yet to provide a definitive picture of the matter before them". Perhaps the most important thing a teacher or lecturer can do is to be aware that there are diverse learning styles in the student population.

The following learning styles are discussed in this chapter: sensory preferences, extraversion vs introversion, intuitive and concrete sequential, closure vs open, global vs analytic, and field independence vs field dependence. Together with tolerance of ambiguity, the above style dimensions have been found by Dreyer (1996; 1998) to be the most significant for English language learning within the South African context. The purpose of this chapter is, therefore, to provide a review of the literature on these specified styles in terms of definition, how and if they relate to language achievement, and whether there are learning style differences among different language or cultural groups, proficiency or achievement levels, and gender.

### **3.2 Definition**

Learning styles have been defined in a variety of ways, but can generally be regarded as a constant aspect of behaviour or a personality trait that determines the way in which individuals process new information.

- Oxford et al. (1991), Scarcella and Oxford (1992:61) and Ehrman and Oxford (1995:69) define learning styles as the general approaches students use to learn a new subject, process information or solve various problems. Skehan (1991:228) also defines learning styles as a general predisposition, voluntary or

not, toward processing information in a particular way. Reid (1987:89) refers to this “general predisposition” as a pervasive quality in the learning behaviour of an individual, “a quality that persists though the content may change”.

- Keefe (1979:4) defines learning style as:  
... the characteristic cognitive, affective and physiological behaviours that serve as relatively stable indicators of how learners perceive, interact with and respond to the learning environment ... Learning style is a consistent way of functioning, that reflects underlying causes of behaviour.
- Dunn and DeBello (1981:373) define learning style as the perceptual preferences, sensory partiality, and environmental factors found by the learner to be most conducive to learning.
- Dunn and Griggs (1995:13) define learning style as the biologically and developmentally imposed set of characteristics that make the same teaching method wonderful for some and terrible for others. Thus, when faced with mastering new and difficult information or tasks, individuals have unique learning styles (Geisert et al., 1990:298).
- According to McLaughlin (1985:263), the psychological term, *cognitive style*, refers to individuals’ preferred ways of perceiving, organising, analysing, or recalling information and experience. These learning preferences are believed to influence human functioning in a number of areas, from the cognitive and affective to the temperamental and interpersonal (Hansen & Stansfield, 1981:263) as well as the personality dimension (Jonassen & Grabowski, 1993:173).

- Reid (1998:ix) defines learning styles as internally-based characteristics, often not perceived or consciously used by learners, for the intake and comprehension of new information. In general, students retain these preferred learning styles despite the teaching styles and classroom atmospheres they encounter, although students may, over time, acquire additional styles. Research indicates that highly successful students often have multistyle preferences, and some research findings suggest that students adapt their learning styles with experimentation and practice (Reid, 1998:ix). Because learning is an internal process, we know that it has taken place only when we observe a change of behaviour of a more or less permanent nature resulting from what has been experienced (i.e. the learner behaves differently from before) (Keefe, 1979:4).

From the definitions given in this section it is clear that learning styles is an individual feature (students react with different learning styles to the same learning situation), they are an internal predisposition (people are not always aware of their learning style preferences), and they are influenced by various factors, including biological, environmental, and emotional factors that interplay to form a unique predisposition - an individual's learning style. Learning styles, therefore, reflect the "totality of psychological functioning" (Willing, 1987:28).

The variety of definitions is also reflected in the classification of learning styles.

### **3.3 Classification of learning styles**

Dunn and Griggs (1995:79) point out that the classification of learning styles is not easy because not all the dimensions of students' learning styles can be identified through observation, and certain behaviours associated with other variables are often misinterpreted. For example, adolescents who do not sit

quietly, are frequently perceived as hyperactive, immature, emotionally disturbed, or troublesome. Teachers rarely consider that such young people may have an unusually high energy level, require an informal seating design, or are kinaesthetic learners who learn best when they are actively involved, and need mobility. Any of these characteristics can be accommodated once the student's style has been ascertained (Dunn & Griggs, 1995:79).

Keefe (1979:8) distinguishes between three groups of learning styles:

1. Cognitive styles;
2. Affective styles; and
3. Physiological styles.

Cognitive learning styles are seen as the typical way in which information processing, cognition, thought processing and problem solving occur. Affective learning styles reflect patterns of attitudes and interests that influence what an individual will pay most attention to in a learning situation (including all environmental distractions and physical comfort). Physiological styles are biologically based responses that are connected to differences with regard to sex, personal eating habits, health, and the reaction towards the physical environment (Van Rooy, 1993:20).

Willing (1987) as well as Dunn and Griggs (1995:79), add a fourth group to the distinction of Keefe, namely behavioural styles. Behavioural styles relate to a tendency to seek situations compatible with one's own learning patterns (Oxford et al., 1992:440).

Dunn et al. (1984) identify at least 21 components of learning style although it appears that most individuals have between 6 and 14 elements that make up their strongest style preferences (cf. Table 2). Their approach to viewing a learning style is multidimensional and encompasses five stimulus categories: environmental, emotional, sociological, physical and psychological (Dunn et al., 1990). Learning style is classified in terms of individual student reactions to 21 elements of learning environments: (a) immediate environment (noise level,

temperature, light, and design); (b) emotionally (motivation, persistence, responsibility, and structure); (c) grouping preferences (learning alone or with peers, learning with adults present, learning in combined ways, being motivated by the teacher, and being motivated by a parent); (d) physiological characteristics (auditory, visual, tactual, and kinaesthetic perceptual preferences, time of day, energy highs or lows, intake, and mobility); and (e) psychological inclinations (global/analytic, hemispheric preference, and impulsive/reflective).

**Table 2: Elements of a learning style**

<b>STIMULI</b>	<b>BASIC ELEMENTS OF LEARNING STYLE</b>					
<b>ENVIRONMENTAL</b>	Sound	Light		Temperature	Design	
<b>EMOTIONAL</b>	Motivation	Persistence		Responsibility	Structure	
<b>SOCIOLOGICAL</b>	Colleagues	Self	Pair	Team	Authority	Varied
<b>PHYSICAL</b>	Perceptual	Intake		Time	Mobility	
<b>PSYCHOLOGICAL</b>	Analytic/ Global	Field independent/ Field dependent			Reflective/ Impulsive	

(Dunn et al., 1979:42).

It seems as if the literature on learning styles classification presents a confusing array of “categories” that are similar, yet quite distinct.

In the following section the focus is on a review of the research on the selected styles, namely, sensory preferences, extraversion vs introversion, intuitive vs concrete-sequential, closure oriented vs open, global and analytic, and field dependence vs field independence.

### **3.4 Sensory preferences**

According to Scarcella and Oxford (1992:61), sensory preferences or modality strengths, namely visual, auditory and hands-on (i.e. a combination of kinaesthetic or movement oriented and tactile or touch oriented), refer to the

physical, perceptual learning channels with which the student is the most comfortable. ESL students vary significantly in their sensory preferences, with people from certain cultures differentially favouring the three different modalities for learning. Students from Asian cultures, for instance, are often highly visual, with Koreans being the most visual. Many studies have found that Hispanics are frequently auditory, while the Japanese are the least auditory (Scarcella & Oxford, 1992:61).

#### **3.4.1 Characteristics of sensory preferences**

According to Scarcella and Oxford (1992:61) and Oxford et al. (1993a:35), visually oriented individuals acquaint themselves with the environment through their vision. Visual students like to read in the new language, and obtain a great deal of visual stimulation. Dictations, conversations, and oral directions without any visual backup can be very confusing and anxiety producing for visual students.

According to Jonassen and Grabowski (1993:191), some students are equally comfortable using either visual or verbal information for learning and they state that the differences between the visualiser and the verbaliser are often not as vast as researchers have found with other cognitive styles. The visual dimension is characterised by five qualities: spatial relations, visual discrimination, figure-ground discrimination, visual closure, and object recognition (Jonassen & Grabowski, 1993:191). Spatial relations refer to one's perception of the position of objects in space. In reading, for instance, words must be seen as separate entities surrounded by space. Visual discrimination refers to one's ability to differentiate one object from another. The ability to visually discriminate letters and words is essential in learning to read. Another visual characteristic, foreground discrimination, refers to one's ability to distinguish an object from the background surrounding it. A child with a deficit in this area cannot distinguish the item in question from the visual background. Visual closure is described by a task in which a student is asked to recognise or

identify an object, despite the fact that the total stimulus is not presented (Jonassen & Grabowski, 1993:177).

*Auditory* students are comfortable without visual input and, therefore, seek out conversation partners and oral activities. They are excited by classroom interactions in role-plays and similar activities but sometimes have trouble with written work. They are less likely to take notes or make written outlines than visual students are (Oxford et al., 1993a:35; Scarcella & Oxford, 1992:61). According to Dreyer (1998:122), auditory students are best suited to the traditional lecture method and are normally regarded by teachers and lecturers as good students owing to their attitude and behaviour in the classroom.

According to Oxford et al. (1993a:35), *hands-on or haptic* students like lots of movement and enjoy working with tangible objects, collages, and flashcards. Sitting at the desk for a long time is not comfortable for them; they prefer to have frequent breaks and move around the room (Scarcella & Oxford, 1992:61). The individual with haptic tendencies is more concerned with body sensations experienced through the tactile (i.e. learning through the sense of touch) and/or kinaesthetic mode (i.e. to experience sensation through the reactions and movement of muscles, tendons and joints). Both dimensions of haptic perception play important roles in learning some early school tasks (Jonassen & Grabowski, 1993:177).

### **3.4.2 A review of the research on sensory preferences**

A number of researchers have used survey techniques to collect data on learner's stated sensory preferences. Most of the research focused on culture or language differences, gender differences and differences in proficiency level relating to the three sensory preferences.

In a study of Afrikaans-, English- and Setswana/Sesotho-speaking first year university students, Dreyer (1996:301) found that the average student from all three groups has a decided visual modality strength. In a similar study

including 299 secondary school students in the North West Province, Dreyer (1998:121) found that the average Afrikaans- and Setswana/Sesotho-speaking student seemed to have a visual modality strength. The teachers of these students, however, were predominantly auditory and reported to prefer utilising the lecture method in the classroom.

In a later study of Afrikaans- and Tswana-speaking university students, Dreyer's (2000:15)<sup>2</sup> findings corroborate those of her earlier studies, namely that the students seem to have a visual modality strength. Less successful students were statistically significantly ( $p < 0,05$ ) as well as practically significantly ( $d = 0,71$ ) more hands on than the successful students. The difference between those students with a visual orientation and those students with an auditory and hands-on orientation (within groups) was practically significant for all these groups.

Dreyer (1996:301) emphasises the importance of these findings by stating that approximately 90% of traditional classroom instruction in many tertiary institutions in South Africa caters for the competent auditory learner. According to Dreyer (1996:301), this may be the reason why many students do not achieve as highly as lecturers believe they should and this seems to indicate that traditional classroom instruction is in need of modification. Dreyer (2000:16) states that the most difficult adaptation for lecturers seems to be to modify features for the kinaesthetic modality – firstly, because of a kind of social conditioning that classroom activity is in some way immature and that “grown-ups” sit still, and secondly, many South African classrooms are crowded, making activity difficult. Many kinaesthetic activities are based on realia and props, which adds an additional logistic burden.

In the United States, Reid (1987) administered a questionnaire to 1388 students of varying language backgrounds to investigate their preferred sensory

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<sup>2</sup> All page numbers in the Dreyer (2000) reference refer to the draft version.

preferences. The results reveal that the foreign learners' preferences often differ significantly from those of native speakers of American English. Foreign learners show a general preference for kinaesthetic and tactile learning styles (with the exception of the Japanese), and for individual as opposed to group learning. Proficiency level was not related to learning style preference, but length of residence in the United States was; the longer the period, the more an auditory style was preferred, reflecting perhaps an adaptation to the prevailing demands of the American educational system (Ellis, 1994:506).

Reid's (1987) investigation of sensory learning style preferences found that Korean students were more visually oriented than US and Japanese students. Arabic and Chinese students were also strongly visual. Japanese students in the Reid study were the least auditory. Thai, Malay, and Spanish students were also auditory, though slightly less so than Arabic and Chinese students. Most of the ESL students in Reid's study strongly preferred kinaesthetic (movement-based) learning, and the strongest in this area were Arabic, Spanish, Chinese, Korean, and Thai students. Even US university students (native English speakers) preferred kinaesthetic learning – although they did not encounter it much in typical university situations. Native speakers of English were significantly less tactile (touch-oriented) than Arabic, Chinese, Korean, and Spanish speakers. Most non-native speakers of English were highly tactile in their learning preferences.

In a study of students learning Japanese by satellite, Oxford et al. (1993b:367) found that the most popular learning styles were visual and a combination, with auditory and haptic learners appearing in much smaller numbers. This is understandable, because satellite technology might seem to attract students with visual preferences, or students with a combination of visual and auditory preferences to a greater extent. Purely auditory or purely haptic learners would be less likely to enrol in a satellite program.

Haptic students often like total physical response strategies, active games, and other movement-related exercises in the language classroom. Western culture heavily promotes visual learning and encourages auditory learning in certain ways, but unfortunately typically punishes hands-on learning beyond the elementary school level (Oxford et al., 1993a:35).

According to Dunn and Griggs (1995:20), most adolescent males are not auditory. Few males remember at least three-quarters of what they hear in a normal 40-50 minute period. As a result, lectures, discussions, and listening are the least effective ways of teaching males. This finding corresponds with the finding of Dreyer (2000:24) for males in South Africa. Thus, it is not surprising that although females comprise the majority of the population, males comprise the majority of remedial reading and math students. In addition, few teachers introduce difficult new material tactilely or kinaesthetically – the sensory preferences of male students. Tactile and kinaesthetic resources should be developed for students and used to introduce new and difficult material prior to class discussions of new content (Dunn & Griggs, 1995:20).

Oxford et al. (1993a:40) cross-correlated learning styles with each other and it was found that the visual style and the haptic style correlated negatively and very significantly with each other ( $r=-0,29$ ,  $p<0,009$ ). This means that there is a moderate trend showing that students who are visual are typically not haptic. However, the auditory style and the haptic style correlated positively and very significantly ( $r=0,33$ ,  $p<0,002$ ). No significant correlation, positive or negative, was found between visual and auditory styles.

Dunn and Griggs (1995:20) found that when adolescents were introduced to new material through their perceptual preferences, they remembered significantly more than when they were introduced to similar material through their least preferred modality, and when new material was reinforced through students' secondary or tertiary preferences, they achieved significantly more than when they were merely introduced once through the preferred modality.

From the above it is clear that culture, gender and achievement level may play a role in language learning styles and different societies and cultures thus think and approach language learning differently.

### 3.5 Extraversion vs introversion

Extraversion or introversion is not only a learning style, but also a personality disposition. Jonassen and Grabowski (1993:367) state that extraversion and introversion are among the few variables that researchers agree provide consistent and valid information. In addition to describing and predicting social behaviour, they also have been shown to predict learning and the ways that individuals process the information. As the words imply, thinking and behaviour that is directed inward or toward oneself is known as introversion, while the thinking outward, or to the surrounding environment, is known as extraversion. The terms action-oriented for extraverts and reflective-oriented for introverts are also used in the literature, because the terms extraversion and introversion have negative connotations in some circles.

Extraverts and introverts exhibit the following characteristic differences (cf. Table 3).

**Table 3: Characteristic differences in extraversion vs introversion**

<b>Extraverts</b>	<b>Introverts</b>
Look to outside world	Look inward
Adept at complex motor sequences	Read more
Conditioned by positive reinforcement	Conditioned by negative reinforcement
Skilled at short-term retention	Long-term memory retention
Seek affiliation	Seek academic achievement
Tolerant of frustration	Intolerant of frustration

Sociable, friendly	Quiet, retiring, introspective
Desire excitement, take chances	Contemplative and reflective
Impulsive	Plan ahead, non impulsive
Tolerant of cognitive dissonance/ inconsistency	Intolerant of cognitive dissonance/ inconsistency
Energetic/ enthusiastic	Prone to fatigue
Respond quickly	Reflect prior to response
Easily distracted	Academically superior, less distracted
Dislike complicated procedures	Concentrate on longer tasks
Task-oriented, seek closure	Conceptually oriented
Less sensitive to noise, stimuli	Dislike interruptions and intrusions
Influenced by public opinion and events	Influenced by personal values

(Jonassen & Grabowski, 1993:368).

The difference in thinking and learning between extraverts and introverts is attributable largely to the ways in which they respond to stimuli. According to Jonassen and Grabowski (1993:367), introverts are easily stimulated. Consequently, they prefer environments with fewer stimuli. Extraverts are the opposite; they require more stimuli to generate a response.

Jonassen and Grabowski (1993:367) warn against rigid profiling of students and point out that a pure personality trait does not exist. An individual may be extremely introverted, but in an exceptional case, show extraverted behaviour. However, there are certain characteristics that are prevalent. The extreme extravert values the outer world much more than his or her own inner world of ideas and directs his or her energies outward. The individual is active and sociable, seeking excitement, enjoying change, and acting on impulse. In addition, they like practical jokes, enjoy a good laugh, tend to lose their temper very easily, but will not hold a grudge for a very long period. Introverts, on the

other hand, although not losing their temper easily, will build up dislikes over a long time. Friendships that are established are deeper and tend to be more constant. The introvert is also more introspective, needs less stimulation from the outside world, is less ambitious, less worldly, plans ahead, prefers an ordered life, is serious minded and less aggressive.

Certain students are incapable of learning new and difficult information directly from an adult. These young people are uncomfortable and have difficulty concentrating in either teacher-dominated or authoritative classes. Some fear failing, are embarrassed to show inability, and often become too tense to concentrate. For such adolescents, either learning alone or with peers may become more effective than learning directly from their teachers. Many teachers reveal that it is important to identify students' sociological preferences. When individuals' preferences for learning alone, in pairs, in a small group, or with the teacher were identified, students were taught in several different treatments – congruent as well as incongruent with their learning styles. Each achieved significantly higher test scores in the congruent treatments (Dunn & Griggs, 1995:19).

### **3.5.1 A review of the research on extraversion and introversion**

Arabic-speaking students learning English as a second/foreign language are typically very gregarious, overtly verbal and interested in a whole class, extraverted mode of instruction. Likewise, Hispanic students, in general, are highly social, co-operative (on homework and classwork), desirous of a close relationship with the teacher as a role model and friend, and more responsive to social goals than to impersonal rewards. According to Oxford et al. (1992:444), ESL/EFL teachers sometimes totally misinterpret Hispanic students' interest in the teacher as a bid for favouritism and their peer helpfulness as a sign of cheating.

In comparison, Japanese and Korean students are often quiet, shy, and reticent in ESL/EFL classrooms, indicating a reserve that is the hallmark of introverts.

These ethnic groups have a traditional cultural focus on group membership, solidarity and face saving, and they de-emphasise individualism. According to Oxford et al. (1992:445), this might be the reason why many Japanese students are reluctant to participate in speaking activities.

In a study of Afrikaans-, English- and Setswana/Sesotho-speaking first year university students in the North West Province of South Africa, Dreyer (1996:301) found that Afrikaans-speaking students were statistically significantly (but not practically significantly) more extraverted than Setswana/Sesotho students. Results also indicated that all three language groups were practically significantly more extraverted than introverted within groups. Dreyer (1996:301) concludes that teachers need to consider cultural norms in their assessment of a student's presumed passivity in the classroom (for example, for many African cultures it is improper to speak out extensively in the classroom).

In Reid's (1987) cross-cultural study none of the cultural groups preferred group work. This finding was especially surprising for Hispanic students, who typically show up as highly group-oriented and extraverted. English speakers rated group work lower than all other cultural groups; perhaps this relates to the competitive nature of their educational experience.

Cultural differences in terms of extraversion and introversion in a multicultural classroom can be misinterpreted by lecturers. It is clear that students of different cultures show a tendency to either extraversion or introversion and this may, therefore, be culturally based. Examples of cultures that tend to be extraverted are Arabic and Hispanic students, whereas students of Asian cultures are generally more introverted.

### **3.6 Intuitive vs concrete-sequential styles**

According to Dreyer (1998:119), intuitive learners seek out patterns and relationships among the facts they have gathered. They trust hunches and their intuition as they look for the “big picture”. Intuitive learners prefer diversity in ideas, critical thinking, independence, depth and originality of thought, and abstract concepts.

Scarcella and Oxford (1992:62) characterise intuitive students as students who are able to think in abstract, large-scaled, non-sequential (random) ways. Without being instructed to do so, intuitive students are able to distil the main principles of how the new language works and thus conceive the underlying language system. Concrete, step-by-step learning often bores them and they would rather take daring intellectual leaps. According to Oxford et al. (1992:443), an intuitive ESL/EFL learner tries to build a mental model of the second-language information. He/she deals better with the “big picture” in an abstract, non-linear, random-access mode and constantly tries to find the underlying language system. If interesting, discussions that veer off the assigned topic for the day are perfectly acceptable to an intuitive-random ESL/EFL student.

Concrete-sequential learners enjoy direct, concrete experiences, moderate to high degrees of structure, and linear sequential learning. These students are often dependent on the ideas of those in authority (Dreyer, 1998:119). Oxford et al. (1992:443) characterise a concrete-sequential ESL/EFL student as preferring language learning materials and techniques that involve combinations of sound, movement, sight, and touch, and that can be applied in a concrete, sequential, and linear manner. If the ESL/EFL teacher or another student diverges from the planned topic of discussion by telling an amusing anecdote, the concrete-sequential learner is frequently distressed by the lack of continuity. Compared with intuitive-random students, concrete-sequential students are likely to follow the teacher’s guidelines to the letter, to be focused on the here and now, to demand full information, and to avoid compensation

strategies that demand creativity in the absence of complete knowledge. Concrete-sequential styles among ESL/EFL students are encouraged by a number of cultures and education systems that stress rote memorisation rather than meaningful learning. Arabic speakers are particularly prone to verbatim memorisation of long passages, which are often copied to enhance the student's writing. Some ESL/EFL program administrators call this "plagiarism", but it is not considered such in Arabic countries (Oxford et al., 1992:443).

### **3.6.1 A review of the research on intuitive and concrete-sequential styles**

In a cross-cultural study of Afrikaans-, English- and Setswana/Sesotho-speaking first year university students, Dreyer (1996:301) found that Afrikaans and English-speaking students are practically significantly more intuitive than concrete-sequential. Setswana/Sesotho students are also slightly more intuitive, but the difference is not practically significant. Her results also indicate that Setswana/Sesotho students are statistically as well as practically significantly more concrete-sequential than the English-speaking students (between-groups). The Setswana/Sesotho students are, therefore, concerned with concrete facts, which they prefer to be presented in a step-by-step, organised, fashion. In a later study of Afrikaans and Setswana-speaking university students, Dreyer (2000:17) also found that all groups were practically significantly more intuitive than concrete sequential (within-groups). Less successful Setswana-speaking students were statistically more concrete-sequential than the successful students and the Afrikaans-speaking students. Female students tended to be slightly more intuitive and male students tended to be more concrete sequential. Concrete-sequential students are concerned with concrete facts which they prefer to be presented in a step-by-step organised fashion. These students want to do the task at hand and then move on to the next activity. Randomness and lack of consistency in lesson plans or instructions are difficult for such students to handle in the language classroom. Intuitive students, on the other hand, are often bored by concrete, step-by-step learning and would rather take daring intellectual steps.

There is a serious danger of falling into stereotypes when linking culture and learning style. Teachers and students must be aware that not everyone in a given culture has the same learning style. However, many cultures help shape a certain “ideal style” that is readily observable. For example, concrete-sequential learning styles appear to be encouraged by cultures that stress memorisation (cf. Harshbarger et al., 1986).

### **3.7 Closure-oriented vs open styles**

Orientation to closure is the degree to which the person needs to reach decisions or clarity. This dimension is very closely related to tolerance of ambiguity (cf. 2.3.4). It is probably also associated with flexibility in learning styles; the ability to shift styles when necessitated by the task (Scarcella & Oxford, 1992:62).

Students oriented toward closure have a strong need for clarity in all aspects of language learning. They want lesson directions and grammar rules to be spelled out and are unable to cope with much slack in the system. These students are likely to plan language study sessions carefully and do homework on time or early. They do not like to participate in tutorials, or role plays unless they are adequately prepared (Dreyer, 1996:296). Closure-oriented students are decisive, planful and self-regimented. They focus on completing the task, only want to know the essentials and take action quickly. They plan their work and work their plan. Students who want rapid closure are serious, hardworking learners who have developed useful metacognitive skills such as planning, organising and self-evaluating. They like control in their lives and in their learning. Sometimes their desire for closure and control can short-circuit their ability to participate in open-ended communication necessary for developing fluency (cf. Scarcella & Oxford, 1992:62).

Students who have less of an orientation toward closure are sometimes known as “open learners”. They take language learning far less seriously, treating it

like a game to be enjoyed rather than a set of tasks to be completed and judged. Open learners frequently do not worry about class deadlines. They are more concerned with having a good time in the language classroom and soaking up what learning they can by osmosis rather than hard effort. Because of their relaxed attitude, open learners sometimes do better in developing fluency than do more closure-oriented learners. Openness can be a benefit in some situations, particularly those that require flexibility and the development of fluency, but can be a detriment in other situations, such as highly structured and traditional classroom settings (Scarcella & Oxford, 1992:62). Dreyer (1996:296) agrees with Scarcella and Oxford (1992) and states that open students usually have a high tolerance of ambiguity, do not worry about comprehending everything, do not feel the need to come to rapid conclusions about the topic, and do not see finishing assignments as a natural priority - deadlines are meant to be stretched. Open students are curious, adaptable and spontaneous. They start many tasks, want to know everything about every task, and often find it difficult to complete a task (Dreyer, 1998:120).

Closure-oriented and open learners provide a good balance for each other in the language classroom. The former are the task-driven learners, and the latter know how to have fun. Each group can learn from the other. Skilled teachers sometimes consciously create co-operative groups that include both types of learners, since they can benefit from collaboration with each other (Scarcella & Oxford, 1992:62).

### **3.7.1 A review of the research on closure-oriented and open styles**

Many ESL/EFL students come from cultures where ambiguity is not tolerated well and where a closure-oriented style is encouraged. Korean students insist that the teacher be the authority and are disturbed if this does not happen. Japanese students often want rapid and constant correction, and do not feel comfortable with multiple correct answers. Arabic-speaking students often see things in black/white, right/wrong terms and sometimes refuse to compromise; to these students, written texts take on an "always correct" aura, and the

teacher who accepts more than one answer as right seems weak or ignorant. Hispanic students show a greater desire for negotiation and flexibility (i.e. openness) which might be the result of a concern for social harmony (Oxford et al., 1992:444).

Dreyer (1996:301) found that all three language groups in her study (Afrikaans-, English- and Setswana/Sesotho-speaking first year university students) indicated a significant intolerance of ambiguity combined with a greater closure orientation when approaching various tasks. Closure oriented students seem to need a structured outline of the lesson plan as well as clear directions for all assignments or activities they have to complete. “Structure” and “spoon-feeding” is what these students have become accustomed to in the secondary school. Students in many secondary schools in South Africa have very little opportunity to initiate or actively participate in interactions, with a result that most of them have become accustomed to being “guided”. There is no, or very seldom, opportunity for the students to learn to “flex” their styles. Dreyer (2000:17) found similar results in a later study of Afrikaans- and Tswana-speaking university students, namely that all groups were practically significantly more closure-oriented than they were open (within groups). Females and Afrikaans-speaking students were slightly more open than males and Tswana-speaking students.

Recognition of cultural influences on learning style modalities can guide teachers in developing “culture-sensitive pedagogy” that views these influences as instructional strengths upon which to build further learning and not just as educational weaknesses to be mediated.

### **3.8 Global and analytic styles**

According to Oxford et al. (1992:442), the contrast between global and analytic functioning – the degree of ability to separate insignificant background details

from truly significant details - arose directly from early research on field dependence vs field independence.

The analytic vs global dimension of language learning styles contrasts a student focusing on the details (analytic) with a student focusing on the main idea or big picture (global). This notion, the difference between a detail-oriented person and a holistic one, is incredibly important in language learning, because the two types of students react differently in the language classroom (Scarcella & Oxford, 1992:61). Jonassen and Grabowski (1993:209) describe the analytic vs global (serialist/holist) cognitive style as a measure of a bipolar information processing strategy that describes the way that learners select and represent information.

Analytic students tend to concentrate on grammatical details and often avoid more free-flowing communicative activities. They focus on contrastive analysis between languages, on rule learning, and on dissecting words and sentences. Because of their concern for accurate details, analytic learners do not like to guess, use synonyms, or paraphrase when they do not know a particular word. They would rather look up the information and have it exactly right, than be content with the general communication of meaning (Scarcella & Oxford, 1992:61). Analytical students typically combine information in a linear sequence, focusing on small chunks of information that are low in hierarchical structure, and working from the bottom up. The analytical students work step-by-step within this narrow framework, concentrating on well-defined and sequentially ordered chunks that can be related using simple links. Typically, analytical students examine links between concepts to develop an objective, logical argument (Jonassen & Grabowski, 1993:209). According to Oxford et al. (1992:442), the analytic student might naturally prefer to engage in formal language learning aimed at achieving accuracy ("studial learning"), while the global student might prefer learning that is aimed at and takes place through communication ("experiential learning").

Global students like socially interactive, communicative events in which they can emphasise the main idea. They find it hard to cope with what seems to them to be grammatical minutiae, and they avoid analysis of words, sentences, and rules when possible. Such students are happy with compensation strategies like guessing the meaning of a word they hear or read, and using synonyms or paraphrases if they run into a communicative roadblock in speaking or writing (Scarcella & Oxford, 1992:61). According to Jonassen and Grabowsky (1993:209), global learners (holists) use a global, thematic approach to learning by concentrating first on building broad descriptions. The global learner typically focuses on several aspects of the subject at the same time and has many goals and working topics that span various levels of the hierarchical structure. The global learner then uses complex links to relate multileveled information. Higher ordered relationships are established, essentially using a top-down approach. Interconnections between theoretical, practical, and personal aspects of a topic are made through the use of analogies, illustrations and anecdotes. The ESL/EFL student with a global (right-brain-dominant) learning style sometimes has trouble discerning the important details from a confusing language background. Global learners of ESL/EFL usually choose holistic strategies such as guessing, predicting, searching for the main idea, and engaging in extensive communication in English (Oxford et al., 1992:442).

Analytic and global learners appear to have different environmental and physiological needs. Many adolescent analytic students tend to prefer learning in quiet, well-illuminated, formal settings; they often have a strong emotional need to complete the tasks they are working on, and they rarely eat, drink, smoke, chew, or bite on objects while learning. Conversely, adolescent global students appear to work with what teachers describe as distractors; they concentrate better with sound (music or background talking), soft lighting, an informal seating arrangement, and some form of intake. In addition, global students take frequent breaks while studying and often prefer to work on several tasks simultaneously. They begin a task, stay with it for a short amount

of time, stop, do something else, and eventually return to the original assignment (Dunn & Griggs, 1995:17).

Analytic adolescents learn most easily when information is presented step by step in a cumulative sequential pattern that builds toward a conceptual understanding. Global adolescents learn most easily either when they understand the concept first and then can concentrate on the details, or when they are introduced to the information with, preferably, a humorous story replete with examples, applications, and graphics (Dunn & Griggs, 1995:16). Dunn and Griggs (1995:17) state that neither the analytic nor the global preference is better or worse than the other; the procedures are merely different.

### **3.8.1 A review of the research on global and analytic styles**

Dreyer (1996:302) found that Afrikaans-speaking students were practically significantly more global than analytic, whereas the Setswana/Sesotho- and English-speaking students were more or less equal in their distribution of global and analytic preference. Dreyer (1996:302) also found a correlation between the intuitiveness and global orientation of the Afrikaans-speaking students. This result supports the literature stating that global students are very often impulsive in their thinking tasks and tend to rely on intuition.

Many Hispanic ESL/EFL students, according to Oxford et al. (1992:444), are more global than analytic in learning style. They are highly field dependent rather than field independent; that is, they have difficulty separating important details from an ambiguous or confusing background. The opposite is true of Japanese students.

In a follow up study of Afrikaans- and Tswana-speaking university students, Dreyer (2000:18) found that all groups were practically and statistically significantly more global than analytic. Successful females, and Afrikaans-speaking students were slightly more global than the less successful, male and Tswana-speaking students who were all slightly more analytic.

All students need to understand relationships as well as the social context of what they are learning. Therefore, teachers should encourage students to integrate and develop alternative modes of learning while they are refining their preferred cognitive style. ESL teachers need practical strategies on how to reach students with different cognitive styles, but they should also use strategies that address and foster flexible, bi-cognitive development.

### **3.9 Field dependence / field independence**

Field dependence/independence (FD/FI) is the most extensively researched learning style. Field dependence/independence (FD/FI) appears to affect many aspects of daily life, including the ability to learn from social environments, types of educational reinforcement needed to enhance learning, amount of structure preferred in an educational environment, cue salience, interactions between teachers and students, and career choices (Summerville, 1999:4). Research on FD/FI began over 40 years ago, and it remains among the most prescriptive of learning and instructional outcomes.

Ehrman (1998:62) states that the construct of field dependence/field independence (FD/FI) has been intuitively attractive to researchers and teachers in second language acquisition for years. The field independence model has been theoretically controversial and elusive as a practical tool for teachers. The greatest weakness of the construct is its definition and its measurement, which has been accomplished through a test of ability that may not apply well to language learning.

#### **3.9.1 Definition**

- Messick (1976:14) describes the field dependence/independence continuum as follows:

[field independence] refers to a consistent mode of approaching the environment in analytical, as

opposed to global terms. It denotes a tendency to articulate figures as discrete from their backgrounds and a facility in differentiating objects from embedding contexts, as opposed to a counter tendency to experience events globally in an undifferentiated fashion.

- More formally, field dependence/independence refers to the preferred ways of perceiving, organising, analysing, or recalling information and experience (Witkin et al., 1977; Stansfield & Hansen, 1983:32).
- Field independence (FI) is defined as, "... the extent to which a person perceives part of a field as discrete from the surrounding field as a whole, rather than embedded. ... Or, to put it into everyday terms, the extent to which a person perceives analytically" (Witkin et al., 1977:11).
- Brown (1987:85) describes **field independence** as the ability to perceive a particular, relevant item or factor in a "field" of distracting items. Field independence is an analytic cognitive style and it refers to one's tendency to perceive specific items in an embedding context (Altepinkin & Atakan, 1990:136).
- Brown (1987:85) describes **field dependence** as the tendency to be "dependent" on the total field such that the parts embedded within the field are not easily perceived, though the total field is perceived more clearly as a unified whole. According to Naiman et al. (1978:30), field dependent subjects are tied to the context in which they first meet the element, thus field dependence indicates a tendency to rely on external frames of reference in cognitive activities and is thought to foster skill in interpersonal relations

(Witkin et al., 1977; Stansfield & Hansen, 1983:32; Johnson & Rosano, 1993:160). Altepkin and Atakan (1990:136) classify field dependence as an holistic style and it characterises the tendency to perceive all the parts of a given context as a global experience such that the parts embedded within the context are not easily differentiated.

### **3.9.2 Characteristics**

Field independence suggests reliance on internal rules or strategies for processing information and the existence of mental restructuring abilities (Witkin et al., 1977, Stansfield & Hansen, 1983:32). With regard to personality correlates, Hansen (1984:312) states that FI persons tend to be independent, competitive, aloof, individualistic, distant in relation with others and self-reliant. Witkin et al. (1977:12) suggest that this self-reliance leads to a more autonomous and impersonal orientation among field/independent people. Field independent subjects tend to function in relative autonomy from external referents or sources of information, whether such referents are the external perceptual field or other persons with whom the subject is interacting. Greater autonomy (the field independent end of the dimension) is associated with cognitive restructuring ability in perceptual and cognitive tasks (Johnson & Rosano, 1993:160).

According to Hansen and Stansfield (1981:350) and McLaughlin (1985:166), the field dependent person takes an integrative view to information processing. With regard to personality correlates, Witkin et al. (1977) conclude that FD persons are seen as outgoing by other people, apt to display emotional openness, sensitive to social cues, have wide acquaintanceship and they tend to derive their self-identity from the people around them. A FD person approaches problem solving situations globally and as a result tends to get lost in the totality of the stimuli (Chapelle & Roberts, 1986:28). With regard to educational-vocational choices relatively FD persons favour interpersonal and non-analytical domains. Thus, in the academic setting, FD students have been

found likely to choose as their specialities such fields as elementary school teaching, social work and law (Witkin et al., 1977). Regarding differences in educational-vocational interests among college students, FI persons have been found more likely to be interested in the theoretical and abstract, and tend to select careers which require cognitive restructuring skills but which do not particularly incorporate social content or an interpersonal orientation (i.e., natural sciences, mathematics or engineering).

Individuals also vary in the amount of structure they tend to impose on an otherwise ambiguous field of experience or perception. Field independent students are more likely to reorganise, restructure, or represent information to suit their own need, conceptions, or perceptions (Jonassen & Grabowski, 1993:87). Field dependent students are more likely to accept and encode the information in their own memories as it is presented without reorganisation, restructuring or revision (Jonassen & Grabowski, 1993:87).

Psychologists believe that FD persons develop a greater degree of connection between the self and external stimuli than do FI individuals. This leads to an interpersonal orientation among FD's that allow them to focus on other people for information, and in turn, to develop competence in understanding or dealing with others. Such traits as warmth and outgoingness, emotionally open, sensitivity to social cues, strongly interested in or attentive to others, and a preference for being with people have been associated with FD persons in the research literature. Interestingly, similar traits have been linked to successful second language learners (Hansen & Stansfield, 1981:263).

In contrast, FI people are considered to have developed a more definite boundary between the inner self and the outer world, leading to a greater degree of autonomy when interacting with others or executing certain cognitive tasks than is exhibited by their FD counterparts. FI individuals are liable to be interested in the abstract and theoretical, to need psychological distance from others, and to be less sensitive than FD persons to either their own social

impact or the social undercurrents of a given situation. This more impersonal orientation may result in reduced social skills among relatively FI persons (Hansen & Stansfield, 1981:264).

In a learning situation, for instance, FI's are likely to employ a hypothesis-testing approach to problem solving. This strategy is currently thought to operate in second language acquisition processes. Conversely, FD's tend to display passive, spectator-like strategies to acquire information. When organising material, FD's are apt to rely on the given external structure of the material to provide organisation and insights, whereas FI's may use internalised rules garnered from experience to analyse and restructure it. Thus, students are thought to exhibit different approaches to learning based upon their FD/FI proclivity (Hansen & Stansfield, 1981:264).

### **3.9.3 A review of the research on field dependence / field independence**

Witkin et al. (1977) investigated the differences between FD/FI subjects and reported that field dependent subjects learn material with social content better than field independent subjects do. Field dependents are more positively influenced by their teachers, perform better on structured tasks than unstructured tasks, and are distracted by non-salient cues. On the other hand, field independents impose structure on unstructured material, do better without teacher interference, learn better with intrinsic motivation, depending upon themselves rather than someone else and approach problem solving situations analytically (Jamieson, 1992:492).

It appears that the cognitive restructuring abilities associated with field independence extends into the verbal domain, at least with regard to the native language. Evidence also exists that FI people are better able to select from a complex field those cues relevant to a particular problem; in contrast, FD learners may have difficulty focusing on the relevant cues, especially when cues useful in one context become irrelevant in another, as is common in foreign language learning. In addition, FD people tend toward a "spectator"

approach to learning, while FI people are more apt to take a participatory approach, making use of hypothesis testing and processes such as analysing and structuring (Carter, 1988:21).

Field independence has been shown to be significantly and positively related to language aptitude, and to use of monitoring strategies. This suggests that field independent students are more adept at learning and using rules than field dependent students (Abraham, 1985:690). Abraham (1985:691) poses the question as to whether a method of teaching that does not emphasise rules might be more beneficial for field dependent students. If so, instruction could be individualised to accommodate students who differed along this continuum of cognitive style.

Supporting Abraham's (1985) finding, Hansen and Stansfield (1981:268) found that students' cognitive style did make a significant difference in foreign language achievement. The FI group scored more than a third of a standard deviation above the FD group on each measure. Thus, FI restructuring abilities apparently contribute to successful linguistic, communicative, and integrative performance in a formal Spanish course at university level. Hansen and Stansfield (1981:271) found a significant difference between FD and FI college students on three types of Spanish proficiency tests: linguistic, communicative and integrative. The FI group displayed a notably higher level of achievement in each instance. Carter (1988:25) found that FI was advantageous for performance on both formal linguistic achievement and functional language proficiency tasks, while course orientation toward achievement or proficiency appeared to have no significant effect on performance.

Witkin and Goodenough (1981:68) state that males tend to be more field independent than females which points to the possible roles of hormonal and sex-linked genetic factors in the development of the field independent and field dependent cognitive styles. It is also possible that social conditioning is responsible for this difference between male and female subjects.

Genesee and Hamayan (1980:106) found that field independence in their study emerged as a significant correlate of performance, and thus, FI persons would be more likely to analyse a perceptual field when the field is inherently organised, and to impose structure on the field when it lacks organisation of its own. The tendency to analyse and structure complex information would seem to be an eminently suitable approach to second language learning in a setting, such as immersion, where the linguistic rules and structures to be learned are not always made explicit to the learner by the teacher. The results of their study suggest that this cognitive style is operative and prominent at a very early age. Unfortunately, Genesee and Hamayan (1980:106) mention that the results for the factor including field independence cannot be interpreted to reflect the FI trait exclusively since this factor had other loadings, including attitude toward “continued schooling in French”.

In their study of Turkish School children, Altepkin and Atakan (1990:144) found additional evidence that FD/FI is related to L2 achievement in formal school settings. The higher the GEFT scores, the better the learners perform on all measures of L2 achievement. This is consistent with the findings of previous research in this area. Altepkin and Atakan (1990:146) also found that field independence is an advantageous cognitive style for tutored L2 learning.

Dreyer and Van der Walt (1994:98) studied Afrikaans first year students at a South African university and found a positive correlation between the FD/FI (measured by the GFT) score and the total TOEFL score ( $r=0,15$ ). Although the correlation was statistically significant ( $p<0.01$ ) it cannot be regarded as practically significant (i.e. only a small effect size).

In a study of Afrikaans-, English-, and Setswana/Sesotho-speaking students at a South African university, Dreyer (1996:300) found that all three language groups were relatively field dependent. Afrikaans- and English-speaking students differed statistically significantly as well as practically significantly from

the Setswana/Sesotho-speaking students. According to Brown (1994:106), “cross-culturally, the extent of the development of a field independent style as children mature is a factor of the type of society and home in which the child is reared.” According to Dreyer (1996:300), many Afrikaans-speaking and Setswana/Sesotho speaking societies are usually highly socialised and utilise strict rearing practices and may, therefore, tend to produce more field dependence.

FI has been shown to be significantly and positively related (albeit in most cases modestly) to scores on several standardised paper-and-pencil tests, to language aptitude, to use of monitoring, and to success on the integrative measures of imitation and cloze. Field independence is associated with language learned in a classroom setting, in which rules are typically taught and practised deductively. These studies, therefore, suggest that field independent students are more adept at learning and using rules than field dependent students are.

According to Oxford and Ehrman (1993:202), teachers need to “spot style conflicts and help learners stretch beyond their ‘stylistic comfort zone’ to develop new language learning strategies”. It is important to remember that we expect learners to differ in their natural self-directedness and that these differences are likely to influence the performance and acquisition strategies we see working in class. Teachers should, therefore, allow some students to be successfully independent and helping others become gradually independent.

### **3.10 Conclusion**

A review of the literature indicates that learning styles are indeed important for the ESL student. In this chapter the focus was on research pertaining to sensory preferences, extraversion vs introversion, intuitive vs concrete sequential, closure vs open, global vs analytic and field dependence/field independence. Regarding sensory preferences, it seems that most L2 students

are visually inclined whereas the method of instruction is generally the traditional lecture method (most preferred by auditory oriented students.). Dreyer (1996) reasons that a style mismatch between the conventionally preferred method of instruction (i.e. the traditional lecture method) and the students' preferred learning styles might account for a lot of the underachieving suspected in L2 classrooms.

Extraversion (or introversion) has been identified as both a style and a personality disposition (Jonassen & Grabowski, 1993:367). Dreyer (1998:119) defines the difference between extraversion and introversion in terms of an outward or inward reflecting style.

Dreyer (1996; 2000) found that especially Tswana/Sotho ESL university students were more concrete-sequential, preferring what teachers termed "to be spoon fed". Scarcella and Oxford (1992:62) conclude that it is sometimes hard for ESL teachers to meet the needs of such very different kinds of learners, some who want things to be fast and random and others who prefer a slower, more organised presentation. The key is to offer a highly organised structure that allows the sensory or sequential to be happy. The same structure must also, however, provide intuitive or random students with multiple options, enrichment activities, and other aids to help them feel at home.

Dreyer's (1996; 2000) findings support the findings of Oxford et al. (1992), namely that an orientation towards closure is prevalent among many cultures in the L2 classroom. Scarcella and Oxford (1992:62) state that closure-oriented and open learners provide a good balance for each other in the L2 classroom. Closure oriented learners are the task-driven learners, and the open learners know how to have fun. The tendency to be closure-oriented may be attributable to the traditional structure of education followed in cultures where the teacher or lecturer acts as an authoritarian figure in the classroom.

Research by Oxford et al. (1992:444) and Dreyer (1996, 2000) indicates that most multicultural L2 students, with the possible exception of Japanese students as indicated by Oxford et al. (1992), were globally oriented. Dreyer (2000:18) points out that analytic students tend to concentrate on grammatical details and often avoid more free-flowing communicative activities. In contrast, global students like socially interactive, communicative events in which they emphasize the main idea. These students also seem to prefer variation and creativity in the activities they have to perform.

A relationship between an FI cognitive style and L2 learning performance has been found (cf Jamieson, 1992:492; Carter, 1988:21; Abraham, 1985:691; Hansen & Stansfield, 1981:268; Genesee & Hamayan, 1980:106). Evidence is mounting, however, that this relationship between field independence and L2 learning performance is limited to formal language learning settings, and that FD students might be better equipped to excel in informal L2 learning environments (cf. Altepkin & Atakan, 1990:144).

Learning styles research is extremely important. A cautionary note must be voiced, however. Any theory or methodology that promises the “Ultimate Answer” is dangerous, for it cannot completely and therefore truthfully integrate all complexities inherent within a situation. Knowledge of learning styles is not a panacea for all educational problems, but only one avenue, albeit a multifaceted one, for understanding the learning process.

Additionally, while an understanding of the cultural influences affecting learning styles is a valuable tool, this knowledge should not be used to make value judgements on the merit of one culture or educational system versus another or to stereotype students individually or collectively. Indeed, we must take extreme care not to stereotype students.