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**METACOGNITIVE, COGNITIVE, SOCIAL AND AFFECTIVE STRATEGY USE
IN FOREIGN LANGUAGE LEARNING: A COMPARATIVE STUDY**

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ABSTRACT

This study examines the metacognitive, cognitive, social and affective strategy use of foreign language learners who are studying either in classroom situations or at a distance. The impact on learning strategy use of a number of variables is considered, relating to 1) the language learning context (mode of study, target language, level of study and language use opportunities) and 2) learner characteristics (age, gender, language learning experience, prior experience in learning the target language, motivation, proficiency).

The strategy use of learners is measured by means of 1) a self-report questionnaire (N=417) which also elicits relevant biographical information and 2) a verbal report procedure, the yoked subject technique, administered to a subsample of the questionnaire group (N=37). Canonical variate analysis was applied to the questionnaire data, and instances of strategy use were identified and classified in the verbal protocols using two independent raters.

Results indicated that the main influences on strategy use were mode of study and the age of learners; that distance learners were set further apart from classroom learners on metacognitive strategy use measures when the influence of the target language, proficiency, prior target language experience and level of study was considered; that learners who had had prior experience in learning the target language before enrolling in a university language course were maximally distinguished in their cognitive strategy use from learners without such prior experience; that mode of study exerted some influence on cognitive strategy use, but this was less than the influence of prior target language experience; that differences in cognitive strategy use between learners of French and learners of Japanese in the verbal report procedure could not be attributed solely to the influence of the target language; and that distance learners make less use of social strategies and greater use of affective strategies than their classroom counterparts.

Methodological and theoretical implications of the study are presented, and an appraisal is made of the usefulness of particular strategy use models for the investigation of language learning strategies. A number of tentative, practical recommendations from the study are proposed together with suggestions for further research.

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1. INTRODUCTION

1.1 BACKGROUND

Until the mid-1970s, a major focus in applied linguistics research centred on language teaching methodology and theories of language teaching. The possible significance of learner characteristics such as motivation, learning styles, and the use of language learning strategies was largely overlooked. From the mid-1970s the emphasis moved from a concern with the methods and products of language teaching to a focus on the learner and the actual processes of second or foreign language learning. There was a growing inquiry into how language learners process, store, retrieve and use target language material. This new emphasis involved looking at a variety of process factors: the development of an interlanguage (Selinker 1972; Selinker and Lamendella 1976), the kinds of errors the learner makes and the reasons for them (Richards 1971, 1974), the learner's social and emotional adaptation to the new language and culture (Schumann 1976, 1978), and the communication strategies learners use when faced with a gap between communicative need and linguistic repertoire (Tarone 1977; Corder 1983; Faerch and Kasper 1983; Tarone 1983). As Larsen-Freeman and Long (1991:7) point out, the new direction of research into language acquisition processes was motivated largely by a desire to understand how some learners manage to succeed in acquiring a second language and why others fail to do so.

One dimension of this research involved attempts to find out how language learners manage their learning and also to identify the strategies they use as a means of improving target language competence. Research into language learning strategies had the ultimate aim of simplifying the rather imposing task of language learning. This is reflected in an early article by Carol Hosenfeld (1976:119) when she underlines the significance of her research into language learning strategies by noting that 'students frequently feel that foreign language learning differs from that of other subject areas they have encountered' and that

language students often meet with new learning difficulties. Since a language is a highly complex set of systems, structures, and rules, the processes required to gain control of this system are different from those required in content subjects such as history and sociology. Learning a language does not merely involve the understanding and memorisation of a finite body of public knowledge. Rather, a language comprises an infinitely variable set of individual performances and the process of learning a second language requires that each person learns to master his/her own performative role in a variety of contexts. In order to develop competence in a second language, learners must develop a range of language learning strategies which are appropriate for the acquisition of a complex system. (The term 'second language' is used throughout the thesis to refer to any language other than the native language and for the purposes of this study can be interpreted as synonymous with 'foreign language'.)

The question of strategy use by language learners is significant not simply because of the peculiar demands of language learning but also because, as Wenden (1987a:8) notes, 'one of the leading educational goals of the research on learner strategies is an autonomous language learner'. Since no set of classroom experiences can provide learners with all the language tokens and skills they will require in using the language, it is important that learners develop self-direction. To do this they need to know how to learn and how to continue learning beyond the experiences provided by formal instruction. The issue of strategy use in relation to learner autonomy will be explored further in section 1.3.

In the field of applied linguistics, research into language learning strategies has been carried out, for the most part, with learners who have regular face-to-face contact with teachers and their learning group - that is, those who have access to regular classroom interactions to support the learning process. However not all language learning takes place in the classroom context. The long list of handbooks written over the last century attests to the prevalence of the context of private study in language learning (Sweet 1899; Cummings 1916; Crawford and Leitzell 1930; Cornelius 1955; Nida 1957; Politzer 1965; Kraft and Kraft 1966;

Moulton 1966; Pei 1966; Pimsleur 1980; Rubin and Thompson 1982; Ellis and Sinclair 1989). In spite of the long and widespread history of language learning in contexts which do not involve face-to-face classroom instruction, we know relatively little about how learners in such circumstances work with target language material in order to develop their language skills.

After a number of preliminary studies had been completed concerning the strategies of 'good' language learners Stern (1983:412) noted the need to investigate strategy use 'in different social contexts, under different language learning conditions'. Stern's suggestion has recently been reiterated by O'Malley and Chamot (1990:224), who, as a final comment on the new directions for research note that 'descriptive work on strategy use ... in nonclassroom environments also needs attention'.

Little, if any, published research appears to exist relating to strategy use by language learners in the nonclassroom environment which characterises distance education. The absence of face-to-face contact means that the language learning context of the distance language learner is quite different from that of the learner who has access to regular classroom interactions to support the learning process. As Sussex (1991:189) points out 'languages are more difficult than most subjects to learn in the distance mode because of the complex combination of skills and information required for language mastery'. The current study has been motivated by questions about how distance learners manage to develop skills in the target language, and how their strategy use compares with the strategy use of classroom learners. This is an innovative direction of study both in the field of distance education and in the field of learning strategy research.

Before continuing to develop a discussion of the problem researched in this study, two key concepts need to be examined namely, strategy use and distance education. The following section identifies, defines and discusses the terms associated with these concepts as they relate to the current problem.

1.2 LEARNING STRATEGIES

Bialystock (1984) points out that the search for a set of strategies which underlies the learning of a second language has been motivated by a number of concerns. From a psychological perspective, the identification of strategies is seen to be important in providing access to the mental processes responsible for acquisition. From a linguistic point of view, the delineation of strategies tells us what resources students possess as language learners, what they know about their learning and the degree of variability in approaches to learning. Pedagogically, the intention is to instruct language learners in the strategies that have been shown to be effective for others. One result of this disparity in goals, however, is 'a concomitant disparity in definition. Strategies, that is, are not always considered in the same terms where each of these alternate goals is concerned' (Bialystock 1984:37).

Strategies used by language learners have been referred to as 'learning strategies' (Rubin 1975; O'Malley, Chamot, Stewner-Manzanares, Küpper and Russo 1985a; O'Malley, Chamot, Stewner-Manzanares, Russo and Küpper 1985b), 'techniques' (Naiman, Fröhlich, Stern and Todesco 1978), 'learning behaviours' (Wesche 1979; Politzer and McGroarty 1985), 'tactics' (Seliger 1983), 'cognitive processes' (Rubin 1981), and 'learner strategies' (Cohen 1991; James 1991). These multiple designations point to the elusive nature of the strategy concept.

Before approaching problems of definition, it is useful to examine the origin and evolution of the term strategy given its widespread use in such diverse fields as business management, computer science, education, psycholinguistics, and applied linguistics. Oxford (1990) reported that the word strategy originated from the Greek term *strategia*, which referred primarily to military planning. It has since been applied to non-adversarial situations 'where it has come to mean a plan, step, or conscious action toward achievement of an objective' Oxford (1990:8).

In the field of applied linguistics a number of different kinds of strategies have been the subject of research and important distinctions have been drawn between learning, communication and production strategies (Tarone 1977, 1983; Faerch and Kasper 1983, 1984; Bialystock 1984; Chesterfield and Chesterfield 1985). These distinctions will now be considered as part of the process of delimiting the field of reference for the term learning strategies.

The earliest definition of language learning strategies was given by Rubin (1975:43) who interpreted learning strategies as 'the techniques or devices which a learner may use to acquire knowledge'. This definition 'enjoys the widest currency today' (Larsen-Freeman and Long 1991:199), and most of the variations on Rubin's definition relate to the issues of intentionality and choice. For example, according to Weinstein and Mayer (1986), learning strategies are 'intentional on the part of the learner' (O'Malley and Chamot 1990:43) and according to Bialystock learning strategies are 'optional methods for exploiting available information to increase the proficiency of second language learning' (Bialystock 1978:76). In a more recent definition, Rubin (1987:19) elaborates as follows:

Learner strategies include any set of operations, steps, plans, routines used by the learner to facilitate the obtaining, storage, retrieval and use of information (after O'Malley et al. 1983; Brown et al. 1983), that is, what learners do to learn and do to regulate their learning.

In short, language learning strategies are the processes which learners deploy to learn the target language (TL).

Tarone (1983:65) defines a communication strategy as a 'mutual attempt of two interlocutors to agree on a meaning in situations where requisite meaning structures do not seem to be shared'. She argues that communication strategies can be differentiated from learning strategies by the intent of the strategy use. The primary motivation in using communication strategies is the desire to communicate and the immediate negotiation of meaning. Learning strategies, on the other hand, are attempts to develop linguistic and sociolinguistic competence

in the TL. The desire to learn the TL is the motivation for strategy use. Willing (1988:147) distinguishes between the terms as follows:

The goal of a learning strategy is the comprehension, internalization, storing, and setting up of data accessible to the learner; whereas the focus of communication strategies is the successful transmission and receiving of messages.

The notion of communication strategy can also be distinguished from that of a production strategy which Tarone (1983) characterises as an attempt to use the linguistic system efficiently and clearly with a minimum of effort (such as the use of formulaic routines), but which does not require the negotiation of meaning that defines a communication strategy.

These distinctions between learning, communication and production strategies are useful though not always clear-cut. Tarone (1983) points out that occasional overlap between definitions may occur, particularly when an individual's motivation for using a strategy is unclear.

The focus in this study will not be on strategies used for the negotiation of meaning nor on production strategies. Rather, the principal interest lies in the language learning strategies deployed in a distance learning environment, compared to those deployed in a classroom learning environment. The particular characteristics of the distance learning environment are now discussed.

1.3 DISTANCE EDUCATION

A number of definitions have been formulated for distance education (Moore 1973, 1990; Holmberg 1977, 1985; Keegan 1990; Wagner 1990) in which the common components are the physical separation of teacher and learner, the organization of self-study by an institution and the use of communication devices. These devices may include print, audio cassettes, video cassettes, film, radio, television, teleconferencing, interactive video and computer networking (Keegan 1990). While the interpersonal and communicative aspects of language acquisition are difficult to manage in the absence of face-to-face contact, new

technologies have enabled distance education to expand its methodological options. The result of this is that it is increasingly possible to provide a wide range of learning experiences for students at a distance.

How does the learning context of distance education compare to that provided by open learning programmes or courses of private study? Sussex (1991:178) defines open-access learning as a programme in which 'students are able to control much of their own access, pace and progress through learning materials, often as an integrated part of a formal course'. He goes on to argue that too few educators and learners appreciate the close links between distance education and open-access learning and he continues to draw further parallels as follows:

Both distance education and open-access learning involve high levels of student control and direction, problems of assessment and monitoring, and difficulties of interaction and direction. And both, if well designed and delivered, allow students to learn in ways that make reduced demands on scarce human resources.(Sussex 1991:181)

Rowntree (1992:30) makes similar comparisons when he notes that since 'the philosophy of open learning is to do with improving access and learner-control, then the method (thanks to self-study materials) usually involves some element of distance learning'. He also laments the fact that the literature on distance education rarely refers to the literature on open learning, or vice versa.

The main difference between distance education and private study has tended to be seen in terms of the influence of 'an educational organization both in the planning and preparation of learning materials and in the provision of student support services' (Keegan 1990:44). Thus the distinction is drawn at the institutional level, rather than in terms of specific effects on the learning context of the individual. From the point of view of the language learner there are definite parallels between the learning contexts of private study and distance education particularly in terms of the need for self-direction.

It has been argued that self-direction and independence for the learner in distance education result from the separation of the learner from the teacher

(Thompson and Knox 1987; Calvert 1989; Moore 1990). In the absence of a classroom environment with regular, paced directives from the instructor, distance learners have to give attention to establishing their own set of learning behaviours and to shaping and managing the course of their learning. The language learning context of distance education, as opposed to that which involves regular face-to-face classroom contact, requires distance learners to be more autonomous in Holec's sense of having the 'ability to assume responsibility' for their learning (Holec 1981:3). The importance of learner autonomy in relation to language learning has been well documented in the literature on applied linguistics (Dickinson and Carver 1980; Holec 1981, 1987; Hallgarten and Rostworowska 1985; Dickinson 1987), but as yet we know relatively little about how learners develop foreign or second language skills in a learning context which requires of them a good deal of self-direction.

Sussex (1991) in an article entitled *Current issues in distance language education and open learning: An overview and an Australian perspective* begins by commenting that while distance education 'used to be too complex an undertaking for serious language learning' (Sussex 1991:177), distance language education is now emerging as a standard component in the provision of education in Europe, North America, New Zealand and Australia. For example, the British Open University now offers undergraduate language courses in the distance mode. In Australia the National Policy on Languages has recognised the need to deploy distance education for the expansion of second language learning. Accordingly in 1990 and 1991 Commonwealth funds were allocated for the production of language packages for the distance language teaching of seven Asian languages: Japanese, Chinese, Indonesian, Korean, Thai, Vietnamese and Hindi. Waite (1992) in a discussion document on the development of a New Zealand Languages Policy notes the wide range of distance language education providers in N.Z. and the role they have played in the development of distance language education.

Current commentators on distance education (Bates 1990; Keegan 1990; Marriott 1991, 1992; Sussex 1991; Rowntree 1992) note that an expansion in the role of distance language education is envisaged by educational planning authorities, and in some parts of the world has already commenced, at a time when distance educational systems are only beginning to feature in educational literature.

Within the field of distance education data has been gathered on factors such as student persistence and student characteristics (e.g., Kember 1989; Eisenberg and Dowsett 1990; Paul 1990; Powell, Conway and Ross 1990), but relatively little attention has been given to the processes distance learners use as they work with the learning materials. The process-oriented research that has been carried out is based largely on how students use study materials in content-based subjects, namely education, psychology, and sociology (Morgan, Taylor and Gibbs 1982; Clyde, Crowther, Patching, Putt and Store 1983; Dodds and Lawrence 1983; Marland, Patching, Putt and Store 1984; Marland, Patching, Putt and Putt 1990). More recently investigations have been made into the learning processes of mathematics students in distance education (Harper and Kember 1986; Knight 1987; Anthony 1991).

Research into language learning at a distance has also tended to focus on course content and on a comparison of the success rates of distance and classroom learners (cf. Williams and Sharma 1988). Lambert (1991) points to the need for research into aspects of the teaching-learning process in distance foreign language education. This call has been repeated by Sussex (1991:190) who argues that there is urgent research to be done on distance-mode language learning and that it is critical 'to establish a place for languages in what will certainly be a major mode of learning within a decade'.

1.4 THE RESEARCH PROBLEM

The study of strategies used by language learners has evolved in recent years (Oxford and Crookall 1989). In spite of the useful and suggestive research that has been reported, the area is, as Skehan (1989:98) points out, 'still at an embryonic stage', with conflicting results and few hard findings. As a consequence of this there is a wide scope for additional research, particularly in relation to the setting for learning where 'more ordered comparison' (Skehan 1989:149) is required. Strategy use in contexts where language learners do not have access to a classroom environment remains largely unexplored. In particular, the demands that are placed on language learners in distance education, and the strategies such learners employ to succeed in developing TL skills has, to date, been neglected as an avenue for research.

The educational institution which provides the setting for the current study is Massey University, a dual-mode institution which provides instruction to students through regular face-to-face contact ('internal' students) and also to students studying at a distance ('extramural' students). The relationship between mode of study and the use of language learning strategies will be investigated in this study.

A second aspect of the research problem is to assess the impact of mode of study on strategy use relative to other variables from the learning context (TL, level of study, language use opportunities). In addition the study explores the relationship between particular learner characteristics (age, gender, language learning experience, prior experience in learning the TL, motivation and proficiency) and the use of language learning strategies. Thus the study aims to identify the variables which have the strongest influence on the strategy use of undergraduate foreign language learners.

1.5 SUMMARY

The influence of the distance education setting on the process of language learning has not, to date, been the subject of research. In particular we know little about the processes which distance foreign language learners use to develop their TL competence. The current study explores the influence of a distance learning environment as opposed to a classroom learning environment on the learning behaviours of foreign language learners. The impact of mode of study on strategy use relative to other variables such as the age of learners, or their motivation, is also evaluated. In this, the study is recognising the need, as expressed by Oxford and Crookall (1989:414) 'to expand language learning strategy studies to include all the relevant predictors and mediating variables, e.g., age, sex, motivation'.

The following chapter situates the current study in terms of the existing research into strategy use by language learners. A review is made of the development of the concept of metacognitive control in learning theory and of its influence on language learning strategy research. Attempts to develop classification schemes for the strategies used by language learners are considered, with particular reference to the metacognitive, cognitive, socio-affective model which emerged from research in cognitive psychology. The second half of the chapter focuses on research into the relationship between learner variables and strategy choice and between language learning context variables and strategy choice.

2. LITERATURE REVIEW

2.1 INTRODUCTION

The early research into strategies used by language learners tended to focus on the characteristics of highly successful language learners (Rubin 1975; Stern 1975; Naiman et al. 1978). These studies were followed by a number of investigations into strategies used by learners of varying proficiency, including those who were not very effective in developing skills in the TL (e.g., Hosenfeld 1977; Bialystock 1979; Politzer 1983). Subsequently, the scope of language learning strategy research was widened to include an examination of the relationship between strategy use and variables such as ethnicity (O'Malley et al. 1985a; O'Malley et al. 1985b; Politzer and McGroarty 1985; Tyacke and Mendelsohn 1986), level of study (Cohen and Apeh 1981; Tyacke and Mendelsohn 1986; Chamot and Küpper 1989) and, most recently, gender (Ehrman and Oxford 1989; Oxford and Nyikos 1989). While these attempts were being made to examine strategy use and to identify influences on strategy use, researchers were also developing an interest in the feasibility of training students in strategies for language learning (Pressley, Levin and Delaney 1982; Henner-Stanchina 1986; O'Malley, Russo, Chamot and Stewner-Manzanares 1988; Chamot and Küpper 1989).

A number of important studies which have been conducted into language learning strategy use will be presented in this chapter. The studies, which will be described chronologically, fall into three groups. The first set (section 2.2) were mainly carried out in the 1970s and are more exploratory in nature (Carton 1966; Stern 1975; Rubin 1975, 1981; Hosenfeld 1976; Naiman et al. 1978). The second group of studies in section 2.3 includes a selective review of research conducted in the 1980s. In this section the investigation of the metacognitive dimensions of strategy use is represented in the work of Wenden (1986a, 1986b) and of

O'Malley et al. (1985a, 1985b). The various approaches to defining and classifying strategies used in language learning are considered (section 2.4) and key studies relating to the influence of a number of factors on strategy choice are described and evaluated (section 2.5). A synthesis of the findings of these key studies leads to a final statement regarding the rationale for the present study.

2.2 EARLY STUDIES

The earliest published research relating to strategy use by language learners was in the form of an extended research article published by Carton (1966) entitled *The method of inference in foreign language study*. In this study attention was drawn to the variation that existed among language learners in terms of their inclination to make inferences. Carton also noted that the ability to make valid, rational, and reasonable inferences varied greatly between learners. He posited that the tolerance of risk would vary with the ability to make sound inferences. Carton followed up his study in a second article (1971) furnishing a detailed discussion of inferencing and of the inferencing cues available to language learners.

A similar direction for research was pointed to by Carroll (1967) who suggested that the learner might provide a rich source of knowledge concerning successful language acquisition. He advocated compiling and analysing case histories of adults who had learnt one or more foreign languages.

Eight years later Stern (1975) and Rubin (1975) explored the notion that successful language learners were effective because of the particular learning behaviours they employed. This view ran counter to the main thread of linguistic thought at the time that effective language learners simply had an inherent ability for language learning, were more motivated, or had had extensive exposure to natural language learning situations, most preferably in a country where the language was spoken (O'Malley and Chamot 1990).

By means of observation and interviews with learners and teachers Rubin (1975) identified seven broad strategies used by successful language learners. Examples of these are that the good language learner is a willing and accurate guesser, has a strong drive to communicate, practises, and attends to meaning. Rubin also suggested that learner strategies vary with task, learning stage (beginning, intermediate and advanced), age, context (classroom versus natural environment), individual styles, and cultural differences. The influence of a number of these factors on strategy choice formed the direction of much future research into language learning strategies (see section 2.5).

At the same time as Rubin's study, Stern (1975) compiled an influential list of ten characteristics of successful language learners based on observation and intuition. He observed that successful learners exhibited such traits as a sustained search for meaning, a willingness to practice and experiment, and an active approach to the learning task.

Stern's speculations inspired a group of researchers to undertake a large scale study of the characteristics of good language learners. This work was carried out by Naiman et al. (1978) and has become known as the 'Toronto' study of good language learners. The successful language learners who were the subjects for the study had been identified through colleagues from the university environment and were mostly highly educated people. Naiman et al. elicited information from the subjects (N=34) using multiple data collection procedures, which included observations, interviews and questionnaires. Five primary strategies were found to be common to all good language learners: an active task approach, realization of language as a system, realization of language as a means of communication and interaction, management of affective demands, and monitoring of second language performance. Among their more interesting conclusions was that language success appears to be attributable not so much to an 'innate gift' or an 'ear' for language, as to constant effort and involvement with the language, even to the extent of creating useful opportunities to practise the language. This study marks the first attempt to use a multimethod design to elicit data on strategy use.

Further progress was made in the development of research techniques for investigating learner strategies in the work of Hosenfeld (1976). Hosenfeld introduced the 'think-aloud' introspective process to ascertain the strategies used by 25 junior high school learners of French while performing language learning tasks. The results indicated that students could identify and verbalize their strategies, and that teachers' assumptions about their students' strategies were often wrong. Hosenfeld (1976:127) presents several cautionary statements in the conclusions to her study including the following:

It must be remembered that the procedure does not have a long history of widespread use (in foreign language education or elsewhere). As a research tool it does not meet the traditional requirement for scientific rigour.

Since Hosenfeld's ground-breaking study, a variety of verbal report measures have been developed and used in studies which have added to our understanding of strategy use (Cohen and Aphek 1981; Hosenfeld 1977, 1984; Block 1986; Cavalcanti 1987; Cohen and Cavalcanti 1987; Mangubhai 1991). The 'yoked subject technique' employed in the present study is one such verbal report measure which has recently been developed to investigate strategies used by language learners (Nayak, Hansen, Krueger and McLaughlin 1990).

A further means of gathering data on strategy use was explored by Rubin (1981) as she collected reports on strategy use through directed diary studies. The subjects for the study, young adult learners, were given explicit instructions on how to keep the diary. Rubin reported that some students were better able to describe strategies than others. In analysing the results a distinction was drawn between strategies that contribute directly to language learning (e.g., guessing, deductive reasoning) and those which help indirectly (e.g., monitoring, creating opportunities to practise).

At around the same time that these early studies were being conducted into the strategies used by language learners, a number of insights were emerging from the work of researchers in the field of cognitive psychology which were to have a marked impact on ways of conceptualising strategy use. The concept of

metacognition was introduced by two developmental psychologists, John Flavell and Ann Brown, in the mid-1970s, to describe the understanding individuals have of their thinking and learning activities. The following section is devoted to a brief history of the development of the idea of metacognitive knowledge and control in learning and to a discussion of the influence of the concept on language learning strategy research.

2.3 METACOGNITION

Metacognition, which literally means transcending knowledge, was defined by Flavell (1976:232) as 'knowledge concerning one's own cognitive processes or products'. This knowledge involves an awareness by learners of their learning behaviours, of the tasks they face, and of their own needs and abilities.

This interpretation of metacognition was expanded by Brown (Brown 1978, 1980, 1981; Brown and Palincsar 1982; Baker and Brown 1984) to include two main components: 'knowledge about cognition' and 'regulation of cognition'. Jacobs and Paris (1987) refer to these two dimensions of metacognition as self-appraisal of cognition and self-management of thinking. The second aspect of metacognition, the regulatory or executive aspect 'refers to the deliberate, conscious control of one's own cognitive actions' (Brown 1980:453). This control is exercised through the planning, monitoring and checking activities necessary to orchestrate cognition. Such activities are carried out through the use of metacognitive strategies.

Metacognitive strategies are self-regulatory strategies in which learners are aware of their own learning. They involve thinking about the learning process - planning for learning, monitoring of comprehension or production while it is taking place and self-evaluation after the activity is completed. Metacognitive strategies may involve a range of behaviours such as assessing linguistic resources for a particular language task; identifying problems which hinder successful completion of a task; consciously postponing speaking until sufficient confidence is gained;

deciding in advance to attend to specific input; monitoring or correcting one's language production.

The term metacognition gained wide currency and proved to be the conceptual starting point for literally hundreds of studies into memory strategies, study skills, attention and reading. In the field of applied linguistics a number of studies drew upon research into metacognition conducted in the field of cognitive psychology and used this theoretical basis for research into language learning strategies (see, for example, O'Malley et al. 1985a; Wenden 1986a, 1986b; Garner 1988a, 1988b; Carrell 1989; Carrell, Pharis and Liberto 1989). These studies provided support for the powerful role that metacognition plays in different learning situations.

Unfortunately, in spite of all the empirical research that has been done, metacognition has remained a concept that is difficult to define. Brown (1980) contended that the primary problem with the metacognition construct is that it is very difficult to separate from cognition. Many researchers and educators have wondered if metacognition is merely a set of cognitive skills 'elevated and dignified with a new title' (Brown 1978:7). The prediction made by Wertsch (1977:5) that 'as we pursue problems in this area further and further the distinctions between cognitive and metacognitive abilities will become less and less clear' has proved to be very apt. A number of authors have suggested that it is difficult to separate metacognition from general aptitude or cognition (e.g., Wertsch 1977; Cavanaugh and Perlmutter 1982; Slife, Weiss and Bell 1985; Jacobs and Paris 1987; Garner and Alexander 1989; Cohen 1991).

As Sparks (1988:209) points out 'the literature ... does not always make a clear distinction between the higher-level metacognitive strategies that manage comprehension and the lower-level cognitive strategies that carry out the executive decisions'. (For a definition and discussion of cognitive strategy use see section 2.4.1 and section 2.5.1.) An activity such as summarising has been called metacognitive in one study (Brozo, Stahl and Gordon 1985) and cognitive in

another (Mosenthal 1987). The difficulties which are encountered when attempting to demarcate the boundary between metacognitive strategies and cognitive strategies will be taken up again later in the thesis.

While the parameters of the metacognitive concept are still under dispute, a number of researchers have identified the importance of metacognitive control in language learning (O'Malley et al. 1985a, 1985b; Wenden 1986a, 1986b, 1987a, 1987b; Duran 1987; Carrell 1989; Carrell et al. 1989). For example, in an early study by O'Malley et al. (1985a:24), it was found that 'students without metacognitive approaches are essentially without direction and ability to review their progress, accomplishments, and future learning directions'. Holec (1987) argues that it is the use of metacognitive strategies that distinguishes learners who are consumers of language courses from those who are actively involved in their own learning programs and who are self-directed. Galloway and Labarca (1990:144) note that learners who do not use metacognitive strategies, or who use them infrequently, 'often equate ... the process of learning with 'being taught' - that is, doing what the teacher and teaching materials say to do'.

Skehan (1989:95) describes the investigation of metacognition in language learning as 'the most exciting development in recent strategy research'. The first studies to explore the role played by metacognitive processes in language learning were carried out by Wenden (1986a, 1986b) and O'Malley et al. (1985a, 1985b). Wenden's work explored the dimension of metacognitive knowledge in language learning, while O'Malley and co-workers focused on the other dimension of metacognition, namely the 'executive processes' or self-management processes used by second language learners. These studies are now reviewed.

2.3.1 The Investigation of Metacognition in Language Learning

Wenden (1986a) attempted to investigate and classify the knowledge second language learners have about their language learning experience. The subjects for her study were 25 adults studying English part-time, five hours a week. Data on strategy use were elicited through a semi-structured interview. Before the interview Wenden gave the students a list of topics to be covered in the interview and the students completed a grid of their daily activities in which English was used (e.g., watching a favourite T.V. programme, talking to friends). During the interview the learners focused on the different sections of the grid to talk about their language learning, using a form of retrospection. The reports revealed that students' metacognitive knowledge extended to areas such as knowledge about the language, about their proficiency, about the outcome of strategies, and also about how best to approach language learning. In conclusion, Wenden argued that it is necessary for both teachers and students to develop an informed awareness of students' knowledge and beliefs about language learning and that 'the activities we develop to nurture strategic competence should not be limited to the transmittal of effective strategies' (Wenden 1986a:199).

The importance of metacognitive self-appraisal for language learners was expanded in an article entitled *Helping language learners think about learning* (Wenden 1986b). The analysis of 34 semi-structured interviews conducted with adult ESL learners revealed not only that they had explicit beliefs about how to learn a second language, but that these beliefs seemed to influence what they actually did to help themselves learn. Wenden outlined a series of modules to enable learners to reflect on their learning and to raise their 'awareness about the learning skills necessary to help them become more active and diversified learners' (Wenden 1986b:10). Wenden's work contributed to a growing realization that the ideas which learners bring to the classroom about the learning process impact on the way they engage with the TL. Wenden's work is also noteworthy since it marks one of the earliest attempts to furnish teachers with guidelines for helping students 'learn how to learn' a second language. Following on from this, a number of books were developed as attempts to expand learners' knowledge

about language learning and about ways to learn a language (e.g., Ellis and Sinclair 1989; Willing 1989; Oxford 1990).

The other main research into metacognitive aspects of language learning was carried out by O'Malley and co-workers (1985a, 1985b). They investigated the self-regulatory aspects of metacognition as part of an examination of the strategies used by language learners. The subjects for their studies were 70 high-school-age students enrolled in ESL classes. Data was collected through interviews with, and observations of, students carrying out typical classroom activities, such as pronunciation exercises, oral drills, vocabulary learning, and language use.

From the findings it was very clear that interviews were much more productive as a means of data collection than observations. The fact that observations were not very productive in revealing the strategies used by language learners was consistent with the findings of earlier researchers (Naiman et al. 1975; Rubin 1981; Cohen and Apeh 1981). From the interview data 23 strategy types were identified. The researchers found that it was possible to define and organize these strategies within the basic classification scheme proposed by Brown and Palincsar (1982) consisting of metacognitive and cognitive strategies. The following definitions are given for these terms by O'Malley et al. (1985b:560-1):

Metacognitive strategies involve thinking about the learning process, planning for learning, monitoring of comprehension or production while it is taking place, and self-evaluation of learning after the language activity is completed. Cognitive strategies are more directly related to individual learning tasks and entail direct manipulation or transformation of the learning materials.

A third category of strategy use, consisting of social mediation strategies was added and this was 'most clearly evidenced in cooperative learning' (O'Malley et al. 1985b:561).

There were seven metacognitive strategies, including directed attention, involving consciously directing attention to the learning task, and self-evaluation, or appraising the successes and difficulties in one's learning. Fourteen cognitive

strategies were identified, examples of which are inferencing, or working out the meaning from the text, and elaboration, or relating new information to other concepts in the memory. The two social strategies were co-operation, involving working with peers, and questioning, involving asking the teacher or native speaker for repetition or clarification. In addition a distinction was drawn between metacognitive strategies used for planning, monitoring and evaluating learning. Results of the study showed that beginning and intermediate students used more cognitive strategies (especially repetition and note-taking) than metacognitive ones. Of the metacognitive strategies almost all were related to planning. Few social strategies were used. The classification scheme was used and developed in later studies (Chamot 1987; Chamot and O'Malley 1987; O'Malley et al. 1988; O'Malley, Chamot and Küpper 1989; Chamot and Küpper 1989).

O'Malley and colleagues continued with a number of descriptive and longitudinal studies of strategy use as well as studies of learner training in strategy use. Aspects of their research which are directly relevant to the issues investigated in this study are explored in section 2.5.

In the course of describing a number of studies of language learning strategies, brief reference has been made to the various classification systems proposed by researchers. For example, Rubin (1981) made a distinction between direct and indirect strategies while O'Malley et al. (1985a, 1985b) followed the tripartite division of metacognitive, cognitive and socio-affective strategies. The following section looks at attempts to develop ways of classifying strategies used by language learners.

2.4 DEFINITION AND CLASSIFICATION

2.4.1 The Development of Classification Schemes

The investigation of the characteristics of good language learners required researchers to identify the specific strategies used by language learners, and to attempt to classify them in some way. As Nunan (1991:168) comments, 'a major problem for learning strategy theorists has been the development of a coherent taxonomy of learning strategy types'. Through the work of Naiman et al. (1975), Rubin (1975, 1981), Bialystock (1979) and Politzer (1983) different ways of classifying strategies were developed. For example, Bialystock (1979) classified strategies according to two parameters. The parameters were purpose (on a formal/functional dimension) and modality (oral or written). These parameters were seen to characterise the occasions for the use of strategies. The criterion used by Rubin (1981) was whether particular behaviours contributed directly or indirectly to learning. Different criteria again were established by Politzer and these related to the context of strategy use, that is, whether particular behaviours were practised in the classroom, in individual study or during interaction with others (Politzer 1983; Politzer and McGroarty 1985; Ramirez 1986).

These classification schemes were substantially different and most current research has been carried out either through the framework developed by Rebecca Oxford, or through the metacognitive, cognitive, socio-affective scheme used by O'Malley, Küpper, Chamot and others. These two schemes will now be considered in more detail.

Oxford's main contributions to the field of strategy research have been in exploring the influence of gender and motivation on strategy use (see sections 2.5.6, 2.5.9) and in developing the concept of strategy training for language teachers (Oxford 1990). Her earlier work was devoted to compiling an extensive list of strategies identified by second language researchers. The list was also based on research into general academic learning strategies (Oxford 1985a). The taxonomy developed by Oxford makes a primary distinction between direct/primary strategies and indirect/support strategies, terms first used by

Dansereau (1978, 1985). In Oxford's classification, the class of primary strategies includes three groups of strategies (memory strategies, cognitive strategies, compensation strategies), while the class of secondary strategies contains three other groups of strategies (metacognitive, affective, social). The six strategy groups are subdivided into a total of 19 strategy sets. The entire learning strategy system includes 62 strategy types.

This classification scheme was used to generate items to tap strategy use in the form of a 121-item questionnaire, *The Strategy Inventory for Language Learning* (SILL). This questionnaire has been used in a number of studies including those relating gender and motivation to strategy use. In addition, the questionnaire has been used to enable learners to develop a profile of the kinds of strategies they use in learning a new language (Oxford 1990).

The two major criticisms of Oxford's classification scheme relate to how the scheme was developed and to the absence of any links between that particular scheme and important insights from the field of cognitive psychology. These two criticisms are interconnected. In developing a classification scheme which subsumed every strategy that had been cited in previous learning strategy research, Oxford's extended listing was 'far removed from any underlying cognitive theory' (O'Malley and Chamot 1990:103). This is a serious limitation of Oxford's scheme since over the last fifteen years a number of information processing models have emerged alongside studies and theories in cognitive psychology as to the role of cognitive processes in learning (e.g., Anderson 1983, 1985; Gagné 1985; Wagner and Sternberg 1985; Weinstein and Mayer 1986; Mayer 1988).

Apart from Oxford's classification scheme, the other main theoretical framework to have emerged over the last fifteen years has been developed from the work of Brown and Palincsar (1982). This taxonomy produced by O'Malley and co-workers (mentioned in section 2.3.1) comprises three main categories of strategy use: metacognitive, cognitive and socio-affective, depending on the kind and level

of processing involved. Several attempts to define and delimit the concept of metacognition were presented in section 2.3. It is generally acknowledged that metacognition consists of two dimensions, one relating to knowledge, the other relating to control of learning processes. These two dimensions were reflected in the 1985 definition of metacognitive strategies given in section 2.3.1 (O'Malley et al. 1985b) and in a more recent definition which states that metacognitive strategies involve 'knowing about learning and controlling learning through planning, monitoring and evaluating the learning activity' (O'Malley, Chamot and Küpper 1989:422).

Cognitive strategies are more directly related to individual learning tasks than metacognitive strategies and involve the manipulation or transformation of the material to be learned. The following definition of cognitive strategies is given by Rubin (1987:23):

Cognitive strategies refer to the steps or operations used in learning or problem-solving that require direct analysis, transformation or synthesis of learning materials.

Chamot and O'Malley (1987:242) state that while engaging in cognitive strategy use the learner:

interacts with the material to be learned by manipulating it mentally (as in making mental images or relating new information to previously acquired concepts or skills) or physically (as in grouping items to be learned in meaningful categories or taking notes on or making summaries of important information to be remembered).

Cognitive strategy use is intended to enhance comprehension, acquisition or retention of the TL. Examples of cognitive strategies include inferencing, or guessing meaning from context, and elaboration, or relating new information to other concepts in memory.

A third type of learning strategy identified in the cognitive psychology literature points to the influence of social and affective processes on learning. Social and affective strategies (often referred to as socio-affective strategies) 'represent a broad grouping that involves either interaction with another person or ideational

control over affect' (O'Malley and Chamot 1990:45). An example of social strategy use is cooperation, or working with peers to solve a problem, to share information, or to get feedback on a task. An example of affective strategy use is self-talk, or 'reducing anxiety for learning by using mental techniques that make one feel competent to do the learning task' (O'Malley and Chamot 1990:45).

The metacognitive, cognitive, socio-affective taxonomy for strategy use is among 'the most widely known language learning strategy classification systems' (Oxford and Crookall 1989:406). It provides a particularly fitting model through which to investigate the influence of mode of study, and other variables, on different types of strategy use. A more detailed investigation of the metacognitive, cognitive, socio-affective classification scheme will be presented in Chapter 3 (section 3.3.1) when it is applied to the current study.

The remainder of this chapter is devoted to a critical appraisal of studies which have investigated the influence of particular variables on strategy choice by second or foreign language learners. This serves as a background to the development of the research questions to be detailed in Chapter 3.

2.5 FACTORS INFLUENCING STRATEGY CHOICE

Research has revealed that variables such as the TL (Politzer 1983; Chamot et al. 1987), the gender of learners (Ehrman and Oxford 1989; Oxford and Nyikos 1989) and the ethnicity of learners (Politzer and McGroarty 1985) appear to influence the strategies language learners employ. The present study furthers this research by exploring the role played by four language learning context variables (mode of study, TL, level of study, language use opportunities) in the strategy choice of undergraduate foreign language learners. In addition, the influence of particular learner characteristics (age, gender, language learning experience, prior experience in learning the TL, motivation, proficiency) on strategy choice is investigated. The relative impact of these variables, and particular combinations of these variables, on strategy use is explored in the context of undergraduate foreign language study.

This section presents research into factors which are related to strategy choice. The discussion is organised in ten sections, each one dealing with prior studies of the relationship between strategy choice and the variables relating to the learning context or learner characteristics which will be explored in the current study.

2.5.1 Mode of Study

No published research appears to exist relating to strategy use by language learners studying at a distance. As noted in Chapter 1 the learning context for distance students is quite different from that of students who have access to regular classroom interactions to support the learning process. For example, the particular language learning environment of distance learners means that they must regulate and oversee the rate and direction of their learning to a much greater degree than classroom learners whose learning is organised by regular classroom sessions. Furthermore, classroom interactions provide the learner with opportunities to assess their performance in the TL, through, for example, working in groups, and answering questions given by the teacher, interactions which are not available to distance learners. Sussex (1991:188) comments that 'there is urgent research to be done on distance mode language-learning...in order to establish the fundamental principles of learning in this mode, specifically for languages'. The investigation of the influence of mode of study on strategy choice by foreign language learners through the current study forms part of the preliminary research necessary for an understanding of the process of language learning in a nonclassroom environment.

2.5.2 Target Language

The influence of the TL on strategy choice has been investigated by Politzer (1983) and Chamot et al. (1987). In both studies, the TLs were Indo-European languages.

Politzer (1983) examined the learning strategies of 90 undergraduate students of French, Spanish, and German through a questionnaire. The questionnaire

consisted of three sections, (i) an 18-item scale on general behaviours; (ii) a 14-item scale on classroom behaviours; and (iii) a 19-item scale on interactions with others outside the classroom. Students were asked to respond in terms of the frequency with which they engaged in each of the behaviours on a scale of 4-0. Findings revealed that the behaviour scales followed a pattern that set off French courses from the others. Politzer (1983:62) points out that one possible reason for the singular learning behaviours of students of French could be ascribed to the fact that 'unlike the courses in the Spanish and German departments, those in the French department . . . follow very strictly a 'rational, direct method' methodology'. The findings also revealed that students of Spanish engaged in fewer positive strategies than did students of other languages. In summarising the findings of the study, Politzer (1983:62) notes that 'even within similar overall contexts, some language learning behaviours vary significantly according to language and level'.

However, it is likely that language of study interacts with a host of other variables including that of language teaching methodology highlighted by Politzer. Oxford (1989a) suggests that it is the brighter or more 'strategy-wise' students who tend to take Russian rather than Spanish, since Spanish, she claims, is perceived to be easier for English speakers. Furthermore, students might be learning the TLs for different purposes, and this could influence their choice of strategies.

Chamot et al. (1987) in a descriptive study of foreign language learners investigated whether high school students of Spanish (N=67) and of Russian (N=34) used similar strategies. Data on strategy use was collected by means of an interview guide describing nine types of learning tasks. Students were interviewed in small groups and were asked about any special techniques they normally applied to each of the particular tasks. Strategy use was classified according to the classification scheme of metacognitive, cognitive and socio-affective strategies. Beginning level students of Spanish reported an average of 12.4 strategies per interview while beginning level students of Russian reported an average of 26.9 strategies per interview. The fact that students of Russian

reported using more than twice the number of strategies than students of Spanish, and that they used strategies the other group did not mention (e.g., rehearsal, summarising), could not automatically be attributed solely to the influence of the TL according to the researchers. At least two other possible effects could not be ruled out. Firstly, it is possible that direct instruction by the teacher could encourage students to learn in particular ways, and hence influence their strategy choice. Secondly, the objectives of a particular course could influence strategy choice. In a subsequent longitudinal study of the same foreign language students (Chamot, Küpper and Impink-Hernandez 1988a, 1988b) the objectives of the course were seen to play a role in influencing how students learnt the TL. In reviewing the study O'Malley and Chamot (1990:140) note:

A classroom emphasising the grammatical structure of the foreign language and an analytical comparison of the TL to the native language fosters strategies such as deduction and translation. On the other hand a classroom focusing on proficiency fosters strategies such as inferencing and substitution.

2.5.3 Level of Study

Does learning a language at the elementary stage require the use of strategies which are different from those used at intermediate or advanced levels of language learning? Is it possible for learners to use a strategy such as inferencing only when they have reached a particular stage of competence in the TL? Are different strategies differentially appropriate at different stages of language learning? A number of studies have addressed the question of the effect of the level of study on strategy use by language learners.

Tyacke and Mendelsohn (1986) carried out a research project with seven learners of English each drawn from a different level of proficiency in an eight level programme. The learners kept diaries of their 'learning development' on a daily basis over a matter of weeks though the exact duration of the project is not indicated. Tyacke and Mendelsohn (1986:176) report the results as follows:

Excerpts from the diaries of lower level students indicate a much greater dependence on the teacher, and on the linguistic code, as we would expect than those of the more advanced student.

The study was not sufficiently focused in terms of the instructions given to learners to provide insights into specific instances of strategy use at different levels of language study. In addition the findings were rather generalised and precise definitions or examples of these generalisations were not given. For example, it is not clear what was meant by 'dependence on the linguistic code'. However the results of the study are suggestive that strategy use at the lower level differs from strategy use at more advanced levels.

McDonough and McNerney (reported by Tyacke and Mendelsohn 1986) compared notes on vocabulary learning strategies in two classes of different proficiency, low-intermediate and advanced, using Rubin's (1981) *Observation Schedule of Language Learners*. They found that a variety of strategies existed at both levels (for example, memorization, guessing, inferencing, and various kinds of deductive reasoning), but that as students developed in proficiency, they tended to discard less productive strategies, such as memorization. They also geared their strategy use more directly to the language learning task at hand.

Chamot and Küpper (1989) reported on the research of Chamot et al. (1987) (described in section 2.5.2) in terms of the effect of level of study on strategy use. The results from the descriptive study indicated that students at higher levels of study reported using, on average, more strategies than did beginning level students. Students at all levels reported using far more cognitive than metacognitive strategies. The metacognitive strategies used were predominantly planning strategies, rather than monitoring or evaluation strategies. At the beginning level of the study of Spanish, students relied most on the cognitive strategies of repetition, translation, and transfer. At the intermediate and advanced levels, however, students began to rely increasingly on inferencing, while still continuing to use familiar strategies such as repetition and translation. Social and affective strategies were reported infrequently across all course levels.

Oxford and Nyikos in their 1989 study measured the level of language study in terms of the number of years spent studying the target foreign language. With a

sample of 1,200 undergraduate foreign language learners they elicited reports on strategy use through the *Strategy Inventory for Language Learning*. This 121-item instrument asked learners to indicate in a multi-choice fashion the frequency with which they used certain language learning strategies. The researchers found that foreign language students who had studied the new language for a minimum of four or five years used strategies far more often than did less experienced language learners. More precisely, students who had studied for at least five years used functional practice strategies such as attending foreign language films and reading authentic material in the TL significantly more often than did less experienced students. These more frequently used strategies all required language practice in natural settings outside the language classroom. Students who had studied for at least five years also used more conversational/input elicitation strategies such as requesting slower speech and asking for pronunciation correction.

Cohen and Aphek's study (1981) indicated that advancement in course level or in years of study did not necessarily mean that students used better strategies in every instance. The subjects for the study were 19 native English-speaking students learning Hebrew in Israel. The students were divided into three levels of proficiency: beginners (N=9), intermediate students (N=6), and advanced students (N=4). The researchers attempted to find out what insights could be gained about good and bad communicative strategies in the classroom from empirical observation coupled with verification by the students themselves. Cohen and Aphek (1981:233) reported that 'both good and bad communicative strategies appeared across class levels, and were used by better and poorer students'. They also emphasised that the research 'raised some real questions as to what 'good' strategies consist of' (Cohen and Aphek 1981:233) noting that such questions warranted further investigation.

Oxford (1989:237), commenting on the Cohen and Aphek (1981) study, states:

Nevertheless, most of the research does indeed show that, in general, the more advanced the language learner, the better the strategies used.

Oxford goes on to suggest three possible reasons for this. The first is that students 'might spontaneously develop new and better strategies as they become more advanced' (Oxford 1989:237). Secondly, there is the possible effect of task requirements changing as students move to higher level courses, thus prompting students to respond with strategies tailored to the task requirements. Thirdly, there is the question of attrition rates since 'students with poorer strategies might perform worse than students with better strategies and therefore drop out of language study before reaching higher level courses' (Oxford 1989:237).

Oxford's discussion of changes in strategy use over time is significant, but what constitutes a 'better' strategy is by no means obvious. It is not appropriate at this point to attempt to investigate further the value judgements which have been attached to strategy use in various studies (e.g., Cohen and Apeh 1981; Politzer and McGroarty 1985) since the present study is concerned with identifying the strategies students use rather than evaluating whether they are good or bad. Therefore Oxford's discussion is probably better considered in terms of the use of different strategies at different levels rather than in terms of the evaluative labels that are used.

2.5.4 Language Use Opportunities

The work of Bialystock (1979) and Huang and van Naerssen (1987) revealed the importance of functional practice outside formal classroom requirements for language learning. What has not been investigated is whether opportunities to use language, beyond those provided by the course, have an effect on the kinds of strategies students choose to use in the context of private study. That is, do students who can regularly practise the TL with native speakers, or friends, employ different strategies to those used by students who have no such further opportunities? The question of the relationship between extra practice opportunities and strategy use will be examined in the present study.

2.5.5 Age

There has been little direct research on the interaction between the choice of language learning strategies and the age of learners. Skehan (1989:97) points out that 'we currently have to deal with studies which have not systematically covered the age range of learners'. Instead, strategy use studies have focused on particular age groups. For example, young children at school entry age were the subjects for the studies of Wong-Fillmore (1979) and Chesterfield and Chesterfield (1985). High school students were the subjects in other studies (e.g., O'Malley et al. 1985a, 1985b; Ramirez 1986) as well as adults and university students (e.g., Naiman et al. 1978; Bialystock 1979; Rubin 1981; Huang and van Naerssen 1985; Politzer and McGroarty 1985; Ehrman and Oxford 1989).

The O'Malley et al. (1985a) research revealed that by secondary school age students have much greater scope for metacognitive strategy use. It is possible that strategies may vary simply as a function of age. In Ehrman and Oxford's (1989) study their subjects were adult learners who seemed to use more sophisticated strategies than did younger learners in other studies. However, as Ehrman and Oxford note, since the adult learners were learning languages for immediate career purposes, motivational orientation may have been a greater factor influencing strategy choice than age. To date, then, studies dealing with students learning languages at different ages do not allow us to draw conclusions about the effect of age on the choice of language learning strategies.

2.5.6 Gender

Women are 'better' language learners than men according to language learning folklore. However, possible gender differences in strategy use by language learners have received relatively scant attention. Four studies to date have addressed this question.

Politzer (1983), in his questionnaire-based study of the language learning behaviours of undergraduate language students (detailed in section 2.5.2), found statistically significant gender differences on his interaction behaviour scale ($p <$

.05). Politzer does not attempt to explain the significant gender differences, and attaches relatively little importance to the findings related to gender differences:

Even within similar overall contexts, some language learning behaviours vary significantly according to language and level (variance due to the sex of the learner seems relatively minor, but does exist with regard to such variables as social interaction). (Politzer 1983:62)

Ehrman and Oxford (1989) using the SILL self-report survey with 'relatively sophisticated' adult foreign language learners (N=78) found strong support for the hypothesis that women report greater strategy use than men. The women reported significantly greater use than men in four categories: general study strategies, functional practice strategies, strategies involving searching for and communicating meaning (such as guessing when complete information is not available, finding alternative ways to express meaning), and self management strategies (such as encouraging oneself, considering one's own progress).

The Oxford and Nyikos study (1989) described in section 2.5.3 revealed that women used language learning strategies significantly more often than men in three of five possible strategy factors: formal rule-related practice strategies (such as analysing words, finding similarities between languages, generating and revising rules), general study strategies (such all-purpose techniques as studying hard, ignoring distractions, being prepared) and conversational/input elicitalional strategies.

In reviewing the findings of Oxford and Nyikos (1989) and of Ehrman and Oxford (1989), Oxford (1989a:238) suggests that the sex differences 'might have been associated with women's greater social orientation, stronger verbal skills, and greater conformity to norms, both linguistic and academic, demonstrated by earlier research'.

Further investigation into gender as a potential predictor of strategy use is required since most of the evidence has been gathered using the SILL instrument. No studies have investigated gender differences using the

metacognitive, cognitive, socio-affective model. As Oxford, Nyikos and Ehrman (1988:327) note:

Instruments should clearly examine ... other kinds of strategies, such as cognitive, metacognitive and compensatory.

2.5.7 Language Learning Experience

Anecdotal evidence suggests that once a person has studied several languages, the process of language learning becomes easier. This expectation is based upon the hypothesis that when adults learn a new language they 'will approach tasks with the strategies and behaviour that they consider productive, and these strategies will be drawn from past experience' (Ramsay 1980:90). One relatively unexplored approach to strategy use by language learners is to investigate whether language learning experience has an effect on the strategies learners use.

A number of studies in the field of cognitive psychology (Ramsay 1980; Nation and McLaughlin 1986; Nayak et al. 1990) have explored the strategies used by 'expert' as opposed to 'novice' language learners. The findings of these studies, however, are not applicable to the current study in that the novice learners were monolingual subjects and the expert learners were bilingual or multilingual subjects. The expert learners had been raised in bilingual or multilingual environments and possessed an advanced, native-like level of proficiency.

Other research in the field of cognitive psychology has established that the amount of knowledge possessed by the learner has a substantial impact on the learning process (e.g., Chi, Glaser and Rees 1982). In addition, individuals who know a great deal about something encode new material related to that knowledge in a different way to that of individuals who know little about the topic (e.g., Chi et al. 1982; Anderson 1983, 1985). A pertinent question for the current study is whether students who are already experienced in foreign language learning employ different strategies to those used by students who are embarking on foreign language learning for the first time.

The single piece of published research which sheds some light on this question comes from the longitudinal study of Chamot and Küpper (1989). In a brief discussion of the study O'Malley and Chamot (1990) reported that novice foreign language learners sometimes panicked when they realized that they lacked procedural skills for solving language problems. Expert learners, who had already studied another foreign language, approached new language tasks calmly and were able to deploy procedural skills developed in other language learning situations.

2.5.8 Prior Experience in the Target Language

When learners enrol in a foreign language course they may differ in terms of whether they have already had some experience in learning the TL. Some learners may have already spent time in the host country, others may have studied the language at school, through night classes, or through contact with native speakers. Research efforts have not been explicitly directed towards exploring whether the presence or absence of prior experience in the TL influences strategy choice. Related to this question is the effect of level of study on strategy choice as discussed in section 2.5.3.

2.5.9 Motivation

There is still no clear understanding of the role of motivation in strategy choice in spite of the importance attached to motivation in language learning as reflected in Gardner's (1985:56) statement:

Attitudes and motivation are important because they determine the extent to which individuals will actively involve themselves in learning the language . . . The prime determining factor is motivation.

O'Malley and Chamot (1990:160) also ascribe great importance to motivation in language learning:

Motivation is probably the most important characteristic that students bring to a learning task. Motivation, or the will to learn, can be considered a component of metacognition insofar as it plays a self-regulatory role in learning (Jones et al. 1987). Students who have experienced success in learning have developed confidence in their own ability to learn. They are therefore likely to approach new learning tasks with a higher degree of motivation than students who, because

they have not been successful in the past, may have developed a negative attitude toward their ability to learn.

Most of the research and debate surrounding motivation and language learning strategies relates to the importance of motivation in strategy instruction. For example, an ESL training study (O'Malley et al. 1985b) clearly showed the importance of motivation in learning strategy instruction. Since the will to learn appears to be essential for developing the skill to learn (Paris 1988), the researchers concluded that the success of learning strategy instruction is dependent on, among other factors, the ability to provide a motivational framework that can convince students of the value of learning strategies. While research into the effectiveness of strategy instruction has very obvious importance, it is beyond the scope of the present study. The role of motivation will be explored in relation to choice of language learning strategies, rather than in relation to the success of strategy training programs.

Motivation is a very broad concept. A useful distinction can be drawn between the level or intensity of motivation and motivational orientation, as these concepts relate to strategy choice.

In the published research to date, two studies have examined the role of motivational level on strategy choice. Bialystock and Fröhlich (1978) conducted a study of the strategy use of 157 high school students learning French as a second language. Four factors were examined for their effects on the various types of language achievement. The four factors were aptitude, field independence, attitude and strategy use. Four tests measuring achievement were used and described as formal/oral, formal/written, functional/oral, and functional/written. Attitude and motivation were assessed using an abbreviated form of a test used in Gardner and Lambert's early studies. The test yields three scores relating to integrative orientation, motivational intensity and evaluation of the learning situation. Using multiple regression analysis the results showed that the learners' attitude was highly influential in the choice of language learning

strategies. Bialystock (1979:392) presents the findings in a later discussion as follows:

the use of these strategies is related primarily to the attitude of the language learner and unrelated to his language learning aptitude. Thus it is those learners who are particularly motivated to master the language who engage in these strategies.

In Oxford and Nyikos' (1989) study (detailed in section 2.5.3), it was found that of all the variables they measured (such as proficiency rating, gender, years of study) the degree of expressed motivation to learn the language was the most powerful influence on strategy choice. Motivation had significant effects on the tendency of students to use (or not use) strategies in four of the five factors: formal rule-related practice strategies, functional practice strategies, general study strategies, and conversational input elicitation strategies. The more motivated students used these four kinds of learning strategies more often than did less motivated students.

One difficulty with the Oxford and Nyikos study is that an operational definition of motivation is not given, neither is there any indication of how motivation was measured. Only a very general description of the background questionnaire is given:

In addition to the SILL, we also administered a background questionnaire covering sex, years of foreign language study, elective vs. required course status, self-perception of proficiency and motivation, and other topics. (Oxford and Nyikos 1989:293)

While the operationalizations of some of the variables, such as gender, are fairly obvious, in the case of self-perception of proficiency and motivation, this is not the case. Were students simply asked 'How motivated are you'? The lack of unambiguous definitions and clear operationalizations of a variable such as motivation is a major weakness of this study.

The effects of motivational orientation (instrumental vs. integrative) on reported strategy have not been an explicit focus for research, though the study of Ehrman

and Oxford (1989), described in section 2.5.2, provides some insights. Ehrman and Oxford found much more frequent use of functional practice strategies among adult language learners who were learning foreign languages for career reasons. These learners, who had an instrumental motivation to learn a foreign language, employed language use strategies such as seeking out native speakers to talk to, reading authentic texts and initiating conversations in the new language. One difficulty with the Ehrman and Oxford study is that motivational orientation is inferred from the career of the subjects and so the following connections are made:

the professional language trainers may have both integrative and instrumental drives for learning (and teaching) languages . . . For students who are government employees, the motivation for learning the other language is likely to be instrumental in nature; for their spouses, it may be either instrumental or integrative. (Ehrman and Oxford 1989:9)

Motivational orientation, then, is not measured but is inferred from the career of the subjects. This is a crude measure of a complex construct and is a major limitation of Ehrman and Oxford's exploration of the effect of motivational orientation on strategy use.

2.5.10 Proficiency

The impetus for research into language learning strategies came from a desire to find out about the particular strategies used by 'good', or 'successful' language learners. Subsequently there were further attempts to correlate the use of particular strategies with learning effectiveness, or proficiency. The results of these studies suggest that more proficient learners use a wider range of strategies, but that the relationship between strategy use and proficiency is complex (Oxford and Crookall 1989). A representative sample of studies which have investigated the relationship between proficiency and strategy use will be presented in this section.

Bialystock (1979) developed a four-part model of learning behaviours comprising inferencing, monitoring, formal practice and functional practice. The effects of

these four categories of strategy use on proficiency were examined in a study of high school students learning French. She found that functional practice, which occurs when learners increase their opportunities to use the language for communication (by going to the movies, reading books or talking to native speakers, for example) had a stronger correlation with achievement than any other strategy and promoted achievement in both oral and written tasks.

Huang and van Naerssen (1987) compared the strategies used by successful Chinese EFL learners ('success' was defined in terms of oral communicative abilities) and less successful Chinese EFL learners. The subjects for the study were the top and bottom thirds in a group of 60 graduating students from the Guangzhou Foreign Languages Institute. Strategy data were collected by means of a questionnaire on learner strategies, and an in-depth interview. The strategies they gathered data on were related to the Rubin/Stern inventories (Rubin 1975; Stern 1975): formal practice, functional practice and monitoring. These strategies had been found to be important in Bialystock's (1979) study. After Bialystock (1979), the questionnaire emphasised strategy use outside any classroom tuition, that is, opportunities for language use which the learners themselves chose. A similar condition is included in the present study in order to ensure that the techniques were the ones the learners chose to use.

In a comparison of high and low proficiency groups, no significant differences were found for the use of formal practice and monitoring. However high-proficiency students reported greater use of functional practice strategies, and the difference between the two groups was significant (at the 0.05 level). The findings of Huang and van Naerssen (1987) corroborated the research reported by Bialystock (1979) that more successful students employed functional practice strategies significantly more often than less successful ones. Skehan (1989), however, suggests that some caution is required when interpreting the results of the Huang and van Naerssen study. Firstly, since the subjects were graduates of a Foreign Languages Institute, one would expect that they were already talented language learners. Generalization to other groups is therefore

hazardous, 'since the linguistic accomplishments of the low group might well be the envy of most people' (Skehan 1989:92). This note of caution could also be applied to the present study in that university students must possess a good deal of educational expertise and ability in order to reach the tertiary level of study.

A more important issue, relating to all the studies to date which have examined the effect of proficiency on strategy use, concerns causality. Greater strategy use might lead some students to higher levels of performance. Equally, higher performance might facilitate the use of more strategies (Skehan 1989). One aspect of the Huang and Van Naerssen research lends some support to the proficiency-causes-strategies explanation, when they report that:

although certain unsuccessful students ... attempted to adopt the ... techniques used by their more successful peers, they found that those techniques were not very helpful in their cases. (Huang and van Naerssen 1987:293)

A recent study into the effect of proficiency on strategy choice was carried out by Chamot and Küpper (1989). The subjects for this study were high school students of Russian and Spanish (N=67). The descriptive and longitudinal phases of the study examined the strategy use of ineffective versus effective learners. In the descriptive study teachers identified 'effective', 'average', and 'ineffective' learners. Students retrospectively reported their strategy use through group interviews. Analysis of the verbal reports revealed that students at all ability levels used strategies and were able to talk about them. However, more effective students used learning strategies more often, and had a wider repertoire of learning strategies, than did less effective students.

The longitudinal phase of the study was conducted with a sample of the same students who had participated in the descriptive study, with average students excluded. Learners thought aloud while working through typical language activities. In general, more effective students used a greater variety of strategies, and used them in ways that helped with the successful completion of the task. Conversely, ineffective students used fewer strategies, and also frequently used

strategies that were inappropriate to the task. Qualitative analysis of strategy use revealed that effective students were more purposeful in their approach to a task than ineffective students. In addition, they monitored their comprehension and production for overall meaningfulness rather than for individual components, and effectively used prior general knowledge as well as their linguistic knowledge while working on a task.

2.6 CONCLUSION

Investigations into the strategies used by language learners were originally motivated by a desire to isolate the characteristics of successful learners. With the growing recognition that strategy use was a complex phenomenon varying according to factors such as task, level of study and the ethnicity of learners, more recent research has sought to identify the influences on language learners' choice of strategies. A number of findings from such studies have been presented in this chapter.

In some cases, for example with regard to proficiency, there appears to be evidence for quite a strong relationship between effectiveness in language learning and strategy choice. Similarly, the research suggests that the level of language study affects the strategies learners use, with greater strategy use being associated with more advanced levels of language study. The current study investigates whether the observed differences in strategy use with regard to proficiency and level of study are consistent in the context of foreign language undergraduate students studying in a dual-mode setting.

In other cases, as with regard to gender, the research is suggestive that differences exist in strategy use by men and women, but questions remain as to whether the observed sex differences are consistent over further studies. Research on the relationship between motivation and strategy use also falls into this category where, as O'Malley and Chamot (1990:224) argue, 'the influence of motivation on strategy use needs to be analysed in greater detail in both theory and research'.

With regard to the influence of the TL and the age of learners on strategy use, a widening of the research focus is required. Research into the role played by the TL in strategy choice by language learners has, to date, been confined to situations involving Indo-European TLs. The current study extends the scope of previous studies to include a comparison of the strategies used by learners of Asian languages (Japanese, Chinese) and of Indo-European languages (French, German). In response to a call by Skehan (1989:148) the current study makes an ordered comparison of the strategies used by different age-groups. Data on strategy use is collected from learners who vary in age from late teens to advanced adulthood, thus systematically covering an age range of almost five decades.

Then there are a number of unexplored variables which will be investigated in the current study and these include language learning experience, prior experience in learning the TL, language use opportunities and mode of study. While anecdotal evidence would suggest that learning additional languages becomes increasingly easy, there is little evidence to support this claim, and we do not know whether the learning of other languages has an effect on the strategies applied to the task of learning the new TL. In addition, we do not know whether prior experience in learning the TL, as, for example, in the host country, affects strategy use in a classroom or distance learning environment. Finally, while research has revealed the importance of functional practice outside formal classroom requirements for language learning (Bialystock, 1979; Huang and van Naerssen, 1987), it is not as yet clear whether opportunities to use the TL, beyond those provided by the course, have an effect on the kinds of strategies students choose to use. The need for research into the influence of setting on strategy use, in particular the influence of non-classroom environments on strategy use, is well-established in the literature (Stern 1983; Skehan 1989; O'Malley and Chamot 1990), as discussed in Chapter 1.

The main research question of this study is concerned with the influence of mode of study, that is, the presence or absence of a classroom learning environment,

on strategy choice by undergraduate foreign language learners. The role of mode of study in determining strategy use, relative to the role of other aspects of the language learning context (the TL, level of study, and language use opportunities) is examined. In addition, the study explores the contribution made by learner characteristics (age, gender, language learning experience, prior contact with the TL, motivation and proficiency) in determining the strategies learners employ to develop TL competence.

In the research published to date generally only one or two factors have been examined for their influence on strategy use. In such studies it is only possible to gauge the relative importance of, say, level of learning as opposed to gender differences, with other possibly critical variables such as proficiency being absent from the equation. Thus it has not been possible to measure the relative significance of a number of key variables. Larsen-Freeman and Long (1991) argue for the need for more complex research designs rather than 'simple correlations between a single individual variable and learner performance', which, in the case of strategy research, has been reported strategy use. The current study acknowledges that language learning is a complex process and seeks to examine the relationship between strategy use and both learner characteristics and aspects of the language learning context.

In short, this study seeks to identify the factors which exert a strong influence on strategy choice, those which exert a lesser influence, and those which do not appear to be important. It also attempts to address the question of the role of mode of study relative to other variables, in determining the strategies used by foreign language learners. Once a set of key variables which are associated with strategy choice has been identified, a further question arises: are the two groups of learners (classroom and distance) homogeneous in the extent to which the key variables have an effect on their strategy choice? In other words, does mode of study interact with other key variables to influence the strategy choice of language learners? This aspect of the problem is a further way of examining the

influence of the learning environment on the operations that learners use in accomplishing language tasks.

3. METHODOLOGY

This chapter describes the methods employed to investigate influences on the choice of language learning strategies by undergraduate foreign language learners. The early part of the chapter describes the population and subjects for the study as well as the variables and research questions (sections 3.1-3.3). The middle part is devoted to a discussion of instrumentation, instructions and procedures, and methods used for processing the data (sections 3.4-3.6). A critical evaluation of the validity and reliability of the study together with its limitations comprise the final sections of the chapter.

3.1 POPULATION AND SETTING

The setting for the study is Massey University, a 'dual-mode' institution offering courses of study through an internal programme where tuition takes place through regular classroom contact and also, since the 1960s, through an extramural programme for people who wish to pursue university study 'at a distance'. For the latter group tuition takes place largely through the study materials despatched to learners (workbooks, study guides, taped material) and through regular assignments. Four foreign languages are taught through the dual-mode system: French, German, Japanese and Chinese.

There is a very close correspondence between the classroom programme of foreign language study and the distance programme. For example, the materials for classroom and distance foreign language learners are identical apart from the taped material which, in some courses, is supplied only to distance learners. In addition, the course requirements in terms of assignments, examinations and assessment are the same whichever mode of study is followed.

Distance language learners have some opportunities for classroom learning but these are very limited. Once a year they may attend on-campus vacation courses

usually lasting from three to five days. In the case of 100-level learners these are voluntary but for the higher levels, compulsory.

Classroom learners tend to be school leavers in their late teens who usually pursue full-time study. Distance learners tend to be more mature in age, mostly in the 20-40 year age group, and usually pursue part-time programmes due to family or work commitments.

The isolation of distance learners has always been a concern and a range of support networks is available including regional co-ordinators, the Extramural Students Society, newsletters and the provision of regular opportunities to telephone course controllers.

3.2 SUBJECTS

Much of the research into strategy use by language learners has drawn on relatively small samples of learners (Politzer 1983, N=37; Politzer and McGroarty 1985, N=90; O'Malley et al. 1985a, N=70; Huang and van Naerssen 1987, N=37), with the notable exception of the work of Oxford and Nyikos (1989) whose work on variables affecting strategy use was based on a 1,200-person university sample. Given the highly individualised nature of strategy use (Carrell 1989), it is desirable to gain access to a relatively large number of subjects particularly when investigating the effect of a number of variables on reported strategy use.

3.2.1 Selection

The subjects for this study were foreign language learners at Massey University, studying French, German, Japanese or Chinese.

Each year approximately 600 students enrol as either classroom or distance learners in foreign language courses. There is a significant attrition rate for distance language learners, particularly at the 100-level, that is, among first year students. This can be largely attributed to the demands of language learning in terms of constant practice and the need to avoid falling behind with assignments.

The attrition rate is highest in the first half of the year. In selecting subjects for this study it was important to wait until at least three months of the academic year had elapsed when one could more safely assume that the majority of learners participating in the study were likely to be continuing students.

The study took place with an intact group, and the mode of selection was by voluntary participation. Two procedures were used to collect data and the size of sample varied according to the procedure. In the case of the questionnaire procedure all classroom and distance learners were invited to participate in the study. For the verbal report procedure 200-level (second year) learners of French and Japanese served as subjects. The verbal report group (N=37) was a subgroup of the questionnaire group (N=417) and contained both classroom and distance learners. Participation in the verbal report procedure was entirely voluntary. Learners who expressed reluctance to take part, often due to a professed lack of confidence in their 'study habits', were not included in the study. Personal characteristics of the verbal report subjects, such as age and gender, were not collected, but the mode of study and TL of each subject was recorded.

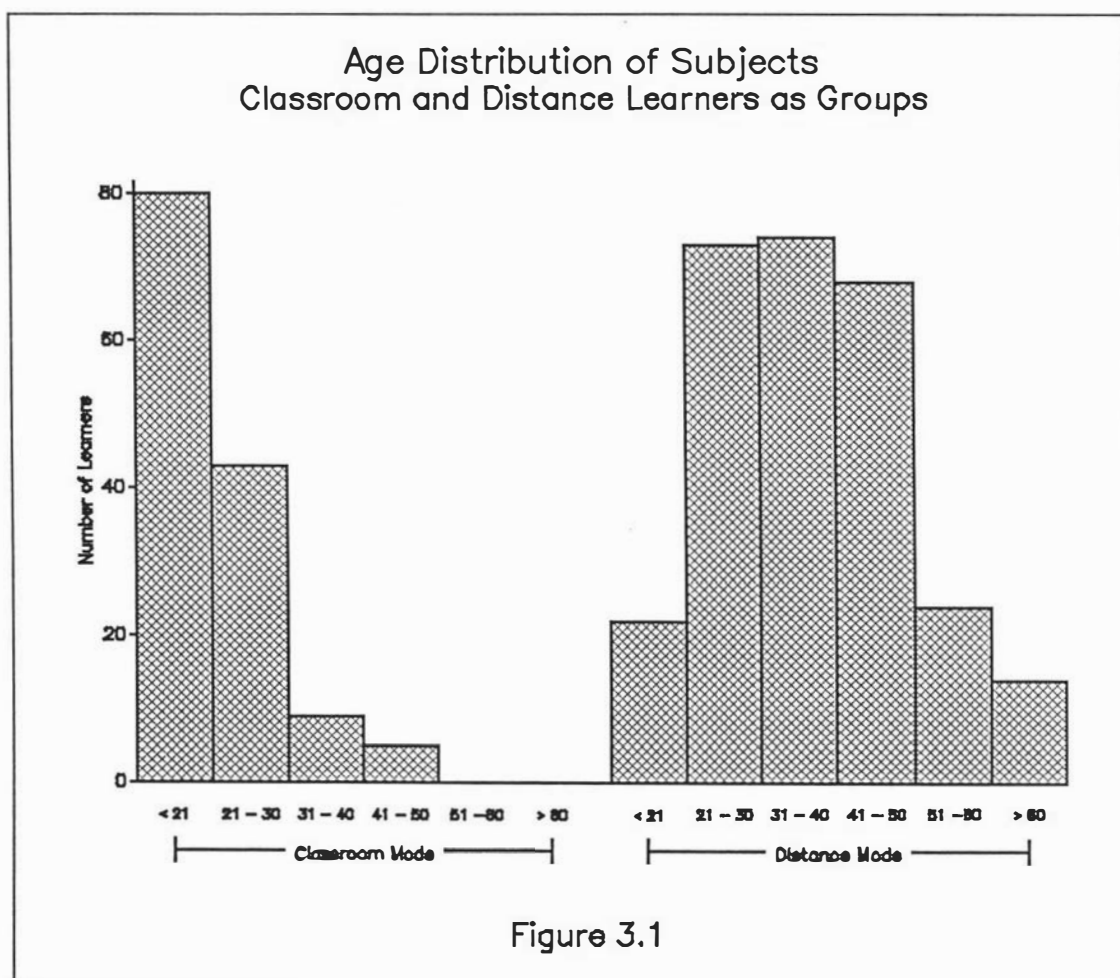
More detailed biographical data was required of the questionnaire subjects in order to investigate the influence of a wider range of variables on strategy use. Hence information was elicited about a number of learner characteristics, including age, gender, motivation and prior experience in learning the TL. Information relating to the context of learning was also requested. This meant asking learners about any opportunities they had to practise the TL beyond those provided by the course. Details of the mode, level of study and TL were inserted for each subject once the questionnaire was completed.

The following section outlines the characteristics of the questionnaire subjects and of the verbal report subjects.

3.2.2 Characteristics of Subjects

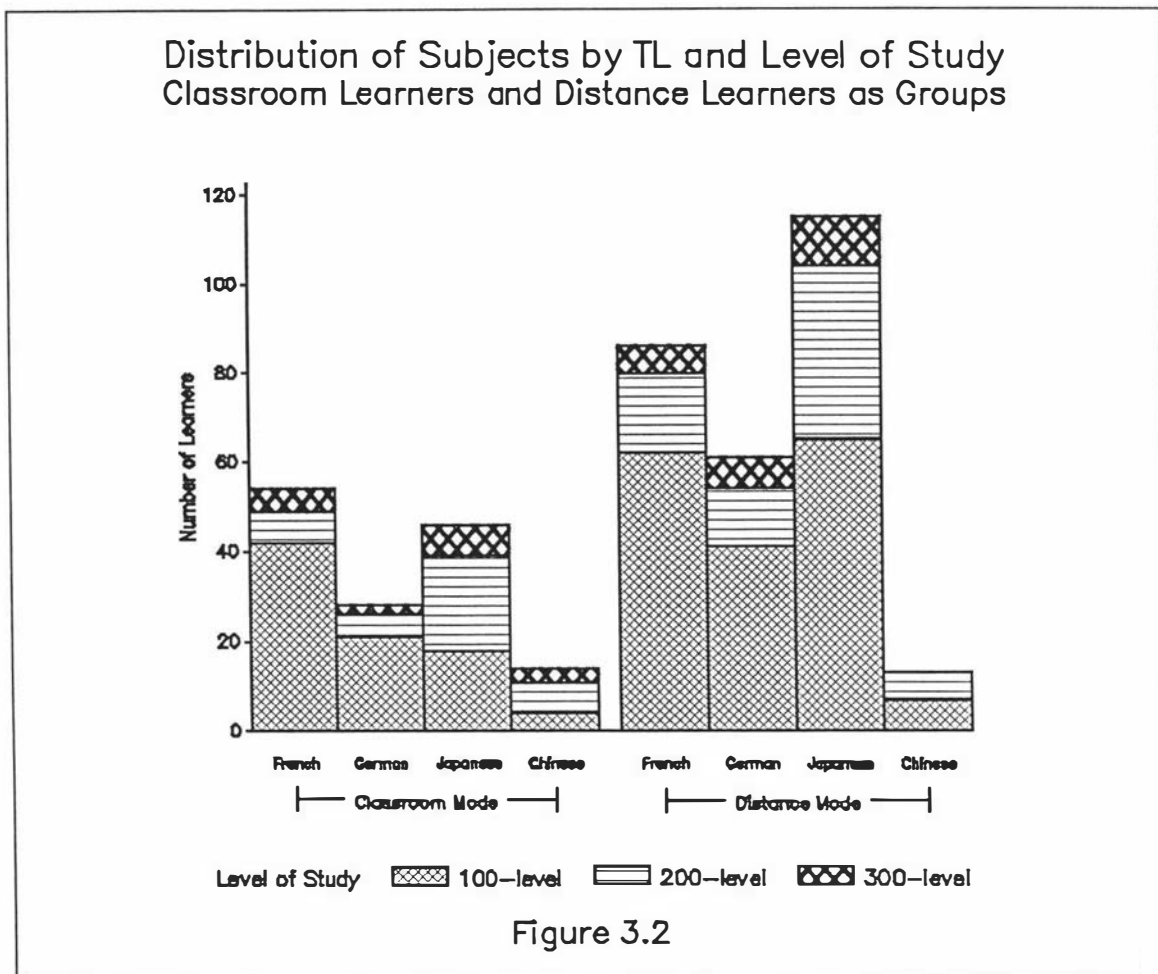
Questionnaire Study

Four hundred and seventeen undergraduate learners (284 women, 133 men) enrolled in foreign language courses at Massey University were the subjects of the questionnaire study. Learners were enrolled to pursue foreign language courses through the classroom mode of study (N=143) or through the distance mode (N=274).



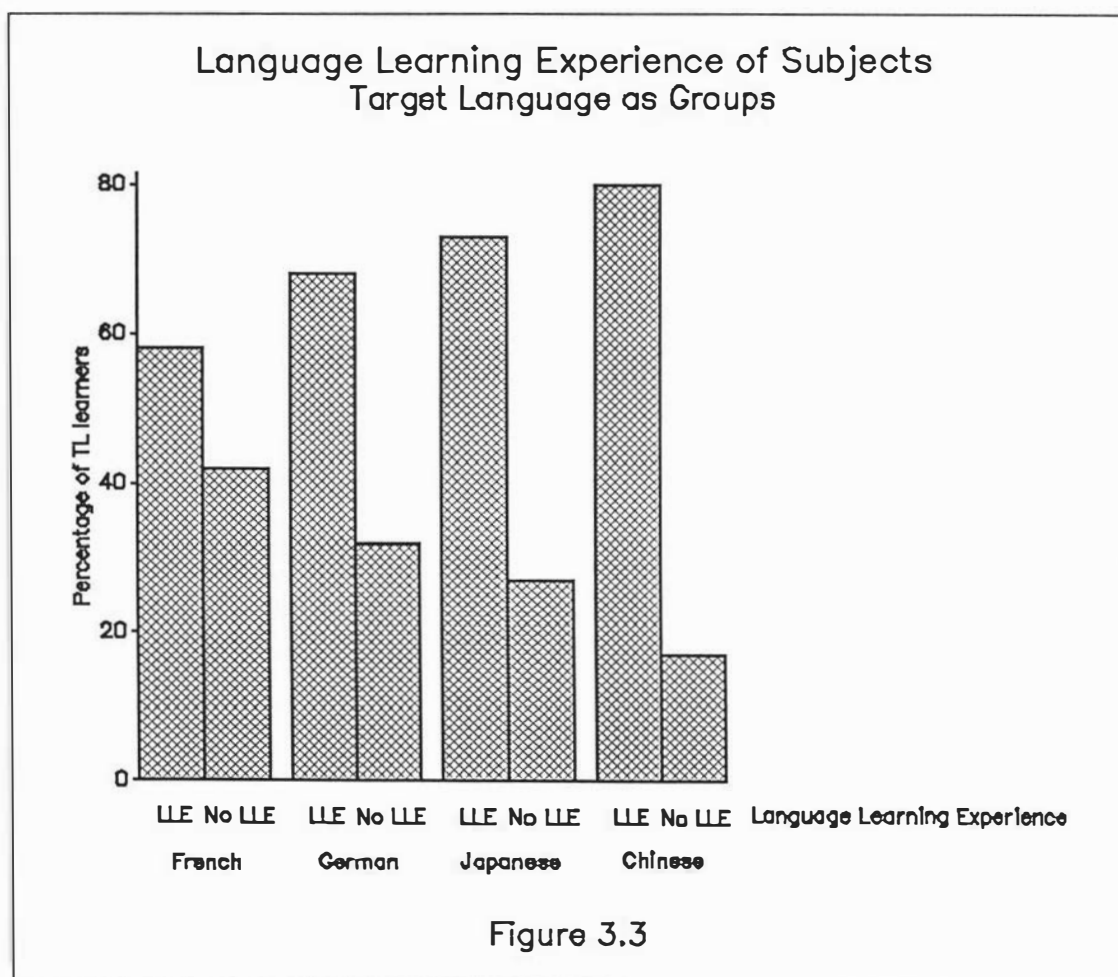
As shown in Figure 3.1 the majority of distance language learners were distributed very evenly through the 21-30, 31-40 and 41-50 age groups while classroom learners were mostly in the under 21 category.

The distribution of learners according to level of study, mode of study and TL is presented in Figure 3.2.

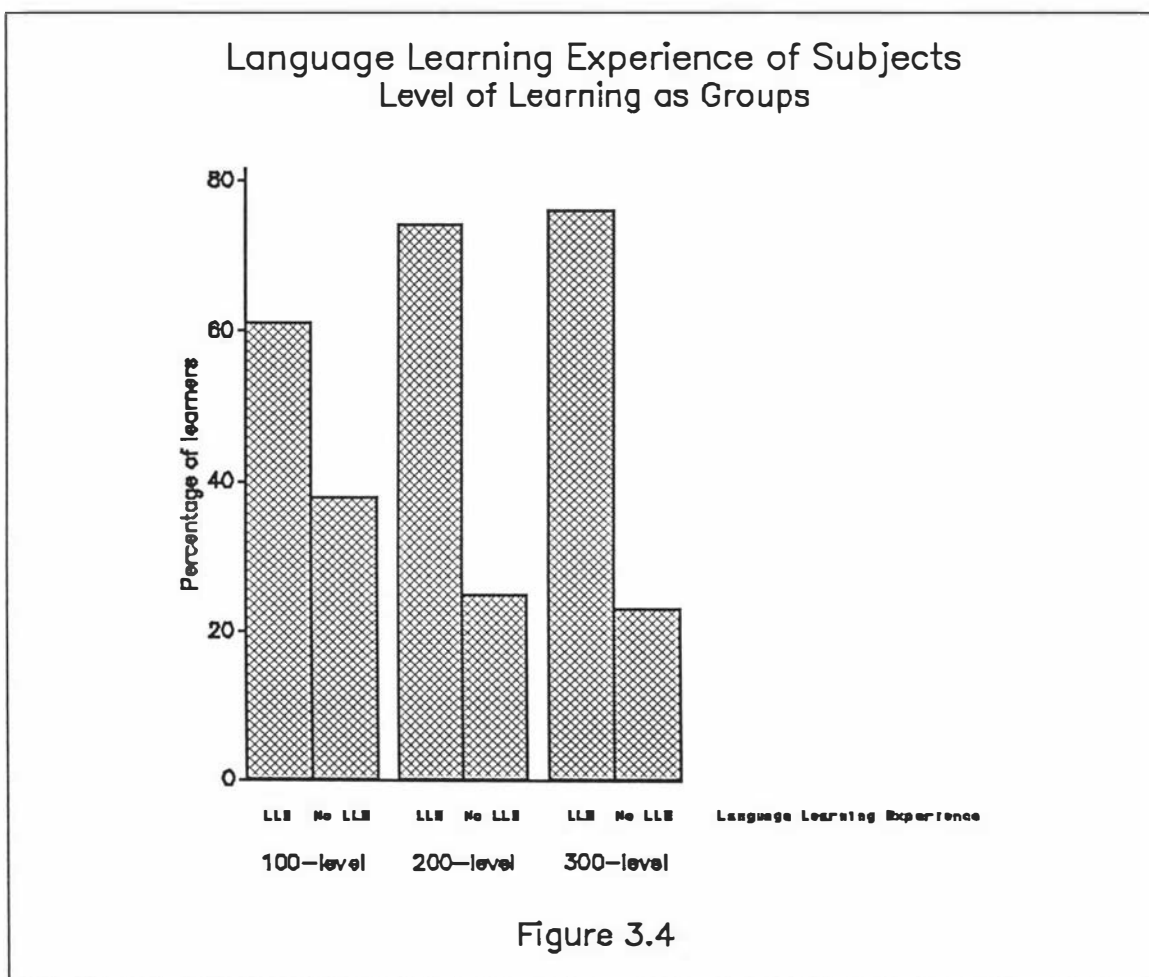


The figure shows learners of Japanese formed the largest TL group. Chinese was not offered as a 300-level course through the distance mode for the academic year in which the study took place. This is reflected in Figure 3.2. It is also evident that the highest level of enrolments in foreign language papers occurs at the 100-level of study.

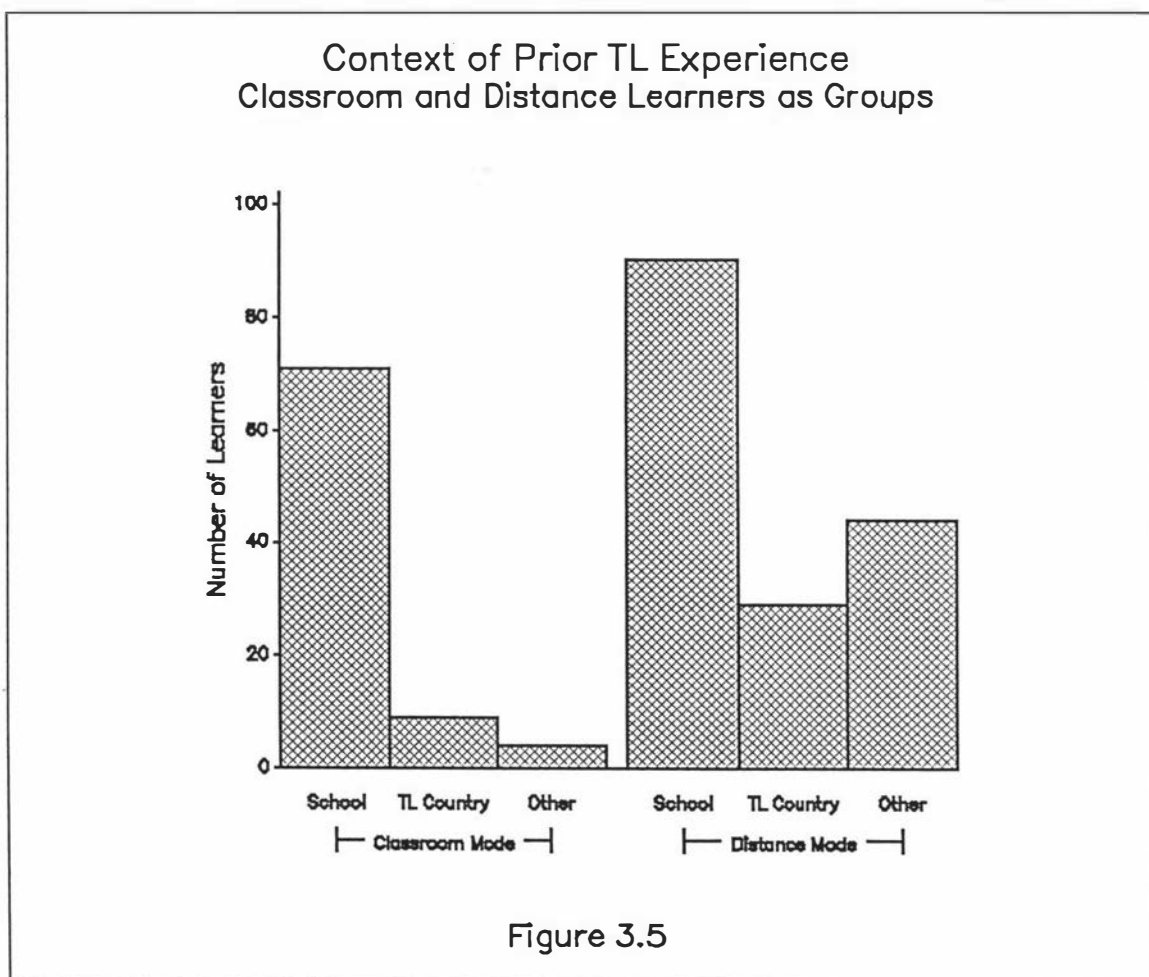
In the questionnaire sample 68.3% of learners had had experience in learning a language other than the TL currently under study. Figure 3.3 shows that experience in learning another language or languages was greatest for learners of Chinese and Japanese, and least for learners of German and French.



As far as level of study and experience in learning other languages is concerned, Figure 3.4 clearly indicates that among learners who had progressed in their language studies to the 200-level and the 300-level, an increasing proportion of them had had some experience in learning other languages.



Learners were also asked whether they had had prior experience in learning the TL before enrolling at University. Taking the sample as a whole 69.1% of learners indicated they had had such experience. For those who had had such prior experience the majority indicated this was at school while for the next largest group this was in 'other' circumstances (e.g., through evening classes, at Polytechnic courses). Overall, distance learners tended to have had less experience of learning the language at school and more of learning it in the host country or in other circumstances (see Figure 3.5).



The most frequently indicated lengths of time of prior learning of the language were less than one year (most notably for learners of Japanese) and over a period of five years (most subjects in this category were learning French or German).

Verbal Report Study

The verbal report study was designed to provide convergent data relevant to questions about the influence of mode of study and the TL on strategy choice. Verbal report subjects were both classroom learners and distance learners drawn from 200-level French and Japanese courses. Table 3.1 presents the distribution of the verbal report subjects in terms of TL and mode of study.

Table 3.1
Distribution of Verbal Report Subjects

	Classroom Mode	Distance Mode
French	4	15
Japanese	5	13

Further background information on the verbal report subjects such as age, gender or language learning experience was not quantified. Possible effects of the uneven distribution of the verbal report subjects according to mode of study will be discussed later in this chapter and in Chapter 5. The following section outlines the research design of the study.

3.3 THE RESEARCH DESIGN

3.3.1 Variables

The present study compares the influence of a number of variables on the metacognitive, cognitive, social and affective strategy use of classroom and distance language learners. Potential influences on strategy use were seen to be derived from the learning context (such as mode of study and TL) and from particular characteristics of learners (such as age, gender and language learning experience).

The variables, included in the current study, are set out below:

Strategy Use Variables

Metacognitive Strategy Use

Cognitive Strategy Use

Social Strategy Use

Affective Strategy Use

Learning Context Variables

Mode of Study

Target Language

Level of Study

Language Use Opportunities

Learner Characteristic Variables

Age

Gender

Language Learning Experience

Prior Experience in Learning the TL

Motivation

Proficiency

Operational definitions for the variables in the study and the scales used to measure these variables are now discussed.

Strategy Use Variables

Strategy use was operationalised through the model of metacognitive, cognitive and socio-affective strategy use derived from Brown and Palincsar (1982) and developed by, among others, O'Malley et al. (1985a), O'Malley et al. (1985b), O'Malley et al. (1989), Chamot and Küpper (1989). There were two main reasons why this model was chosen for the current study.

Firstly, the scheme has a strong foundation in general learning theories, particularly in terms of the role of metacognition in learning. Secondly, the generic categories fit well to questions about differential strategy use by classroom and distance learners. For example, it is possible that the absence of classroom instruction to guide distance learners in planning, monitoring and evaluating learning influences the patterns of metacognitive strategy use by distance language learners. In addition, one could also expect that since distance learners generally study on their own, their opportunities to use social strategies are very much less than those available to classroom learners.

Particular types of strategy use within this generic classification were defined and identified following the strategy descriptions that appear in the literature (Chamot 1987; Chamot et al. 1988a, 1988b; Ellis and Sinclair 1989; O'Malley and Chamot 1990; Oxford 1990). However there were a number of difficulties in relation to the classification of strategies which needed to be resolved, and these are detailed below.

One source of confusion encountered in the early stages of the present study was the categorisation of advance preparation as a metacognitive strategy (O'Malley et al. 1985a) and of rehearsal as a cognitive strategy (Chamot et al. 1987). The confusion arose because the operational definitions for these two strategies appear to be almost identical, with both referring to the rehearsing of linguistic components for an upcoming task. It appears that strategy reclassification took place after 1985 and that the general consensus was that rehearsing language for an upcoming task is a cognitive strategy. In this study

rehearsal is considered to be a cognitive strategy in that it involves engaging with the TL to prepare for a particular task.

One further instance of classification difficulties arose in relation to revision. No reference is made in any of the O'Malley studies to revision (or reviewing) as a strategy used by language learners. Revision, or the systematic reviewing of TL material in order to aid long-term retention, is classified by Ellis and Sinclair (1989:152) as a metacognitive strategy and by Oxford (1990:17) as a memory strategy belonging to the group of direct strategies. In the present study the use of revision as a strategy for language learning was investigated since systematic reviewing of language items is critical for the retention of the TL. Revision was classified as a metacognitive activity involving planning for learning since, like delayed production it entails a conscious decision to focus on the TL in order to aid acquisition. Of course the actual process of revision takes place through the use of a number of cognitive activities involving interacting with language materials, but the decision to control learning through planned reviewing is a metacognitive strategy. Revision can be distinguished from rehearsal, involving going over the language needed for an upcoming task, and repetition, or repeating a chunk of language in the course of performing a language task. Both rehearsal and repetition are cognitive strategies which are used in the course of performing particular tasks.

Once classification problems had been resolved, Metacognitive Strategy Use (MSU) was operationalised according to the ten items defined in Table 3.2.

Table 3.2
Metacognitive Strategy Descriptions

Metacognitive Strategy	Description
Advance Organisation	Previewing the organizing concept or principle of an anticipated learning task. O'Malley and Chamot (1990:137)
Selective Attention	Deciding in advance to attend to specific aspects of input, often by scanning for key words, concepts and/or linguistic markers. O'Malley and Chamot (1990:119)
Directed Attention	Deciding in advance to attend in general to a learning task and to ignore irrelevant distractors. O'Malley and Chamot (1990:137)
Delayed Production	Consciously deciding to postpone speaking to learn initially through listening comprehension. Chamot (1987: 77).
Self-management	Understanding the conditions that help one successfully accomplish language tasks and arranging for the presence of those conditions. O'Malley and Chamot (1990:119)
Problem Identification	Explicitly identifying the central point needing resolution in a task or identifying an aspect of the task that hinders its successful completion. O'Malley and Chamot (1990:137)
Self-monitoring	Checking one's comprehension during listening or reading or checking the accuracy and/or appropriateness of one's oral or written production while it is taking place. O'Malley and Chamot (1990:119)
Self-evaluation	Checking the outcome of one's own language learning against an internal measure of completeness and accuracy. O'Malley and Chamot (1990:137)
Prioritising	Prioritising learning according to one's personal needs and/or wants. Ellis and Sinclair (1989:152)
Revision	Systematically reviewing in order to aid long-term retention. Ellis and Sinclair (1989:152)

Cognitive strategy use (CSU) was operationalised according to the seventeen items defined in Table 3.3.

Table 3.3
Cognitive Strategy Descriptions

Cognitive Strategy	Description
Repetition	Repeating a chunk of language (a word or phrase) in the course of performing a language task. O'Malley and Chamot (1990:138)
Resourcing	Using target language reference materials such as dictionaries, encyclopedias, or textbooks. O'Malley and Chamot (1990:232)
Grouping	Ordering, classifying or labelling material used in a language task based on common attributes. O'Malley and Chamot (1990:138)
Note taking	Writing down key words and concepts in abbreviated verbal, graphic, or numerical form to assist performance of a language task. O'Malley and Chamot (1990:138)
Deduction	Consciously applying learned or self-developed rules to produce or understand the second language. O'Malley and Chamot (1990:138)
Substitution	Selecting alternative approaches, revised plans, or different words or phrases to accomplish a language task. O'Malley and Chamot (1990:138)
Imagery Elaboration	Using mental or actual pictures to represent information. O'Malley and Chamot (1990:138)
Visualisation	Using visual stimuli to clarify meaning. Ellis and Sinclair (1989:154)
World Elaboration	Relating new information to prior knowledge gained from experience in the world. O'Malley and Chamot (1990:138)
Between Parts Elaboration	Relating parts of the task to each other. O'Malley and Chamot (1990:138)
Contextualisation	Placing a word or phrase in a meaningful language sequence. Chamot (1987:77)
Summarisation	Making a mental or written summary of language and information presented in a task. O'Malley and Chamot (1990:138)
Translation- To English	Using L1 as a base for understanding L2. Ellis and Sinclair (1989:154)
Translation- From English	Using L1 as a base for producing L2. Ellis and Sinclair (1989:154)

Inferencing	Using available information to guess the meanings or usage of unfamiliar language items associated with a language task. O'Malley and Chamot (1990:138)
Transfer	Using previously acquired linguistic knowledge to facilitate a language task. O'Malley and Chamot (1990:138)
Rehearsal	Rehearsing the language needed, with attention to meaning, for an oral or written task. O'Malley and Chamot (1990:126)

Social strategy use (SSU) was measured by items based on the definitions in Table 3.4.

Table 3.4
Social Strategy Descriptions

Social Strategy	Definition
Questioning	Questioning for clarification, or eliciting from a teacher or peer additional explanation, rephrasing, or examples. O'Malley and Chamot (1990:45)
Co-operation	Working together with peers to solve a problem, pool information, check a learning task, model a language activity, or get feedback on oral or written performance. O'Malley and Chamot (1990:139)

Affective strategy use (ASU) was measured by three items drawn from the categories defined in Table 3.5.

Table 3.5
Affective Strategy Descriptions

Affective Strategy	Definition
Self-talk	Reducing anxiety by using mental techniques that make one feel competent to do the learning task. O'Malley and Chamot (1990:139)
Self-reinforcement	Providing personal motivation by arranging rewards for oneself when a language learning activity has been successfully completed. O'Malley and Chamot (1990:139)
Self-encouragement	Saying or writing positive statements to oneself in order to feel more confident in learning the new language. Oxford (1990:143)

The operational definitions for strategy use provided above were used to develop a questionnaire to provide ordered categorical data on the frequency of strategy use by undergraduate foreign language learners. Details concerning the development of the strategy use questionnaire are presented in section 3.5.2.

The remainder of section 3.3.1 concerns the ways of defining and measuring the learning context and learner characteristic variables in the study.

Context of Learning Variables

The variables relating to the context of learning were measured as follows. Firstly, *mode of study* was measured according to whether subjects were enrolled as classroom or distance learners. The *target language* was defined as the language the learner was studying, that is either French, German, Japanese or Chinese. (The TL variable cannot also exclude the effects of associated variables such as language teaching methodology and course objectives. This point will be pursued later in the study.) There were three categories for *level of study*: 100-level, 200-level, 300-level. In the case of language programmes in French and German

there were two courses at the 100-level: one for zero beginners or learners with some elementary knowledge of the TL (100E-level), the other for learners who have had more extensive experience of learning the TL usually at school or in the host country. *Language use opportunities* were measured in terms of whether subjects had opportunities to use the language above and beyond those provided by the course.

The variables relating to the context of learning were all categorical variables.

Learner Characteristic Variables

Six variables relating to learner characteristics were used in the study. There were six categories of response as a measure for *age* (< 21, 21-30, 31-40, 41-50, 51-60, >60), and subjects were asked to mark the age group to which they belonged. Subjects indicated their *gender* by marking either the category of male or female. The index for *language learning experience* was whether subjects had learnt languages other than their mother tongue(s) and the language they were currently studying. *Prior experience in learning the TL* was measured in terms of whether subjects had learnt the TL before enrolling at university. Subjects were also asked to indicate where they had had this prior experience (school, host country, other).

It was also necessary to develop some means of measuring the motivation of subjects since it was hypothesised that this could be an important variable influencing strategy use. A study was made of a number of measures used to assess language learning motivation (Gardner and Lambert 1972; Gardner, Lalonde and Moorcroft 1985; Svanes 1987; Dörnyei 1990; Oxford 1990) and the operationalisations of motivation used in this study were adapted from earlier research. *Motivation* was defined according to the degree of importance the learner attaches to the following reasons for learning the TL: an interest in the language, an interest in the culture, having friends who speak the language, a desire to complete a degree, a desire to meet more speakers of the language, employment and travel. Two further dimensions of motivation were the

importance the individual attaches to becoming proficient in the TL and to continuing the study of the TL. Nine questions were generated to tap these different facets of motivation and subjects were required to respond to them on a Likert scale of importance (1-5).

The measure for *proficiency* was the grade for the course received by the learner comprising both internal assessment (based on course work) and external assessment (based on final examinations) of language skills. For the purposes of this study the grades 'A', 'B', and 'C' were used for learners who passed the programme in descending degrees of proficiency and 'D' was used for learners who did not pass.

For the variables relating to learner characteristics all the variables were categorical. For the motivation variable the responses provided ordered categorical data about motivational intensity.

3.3.2 Research Questions

Preliminary investigation of strategy use in this study concerns the frequency with which strategies are deployed by undergraduate foreign language learners. Answers to this question provide baseline data through which insights may be gained into the strategy use of the sample as a whole.

In section 3.3.1 it was hypothesised that distance learners would make greater use of metacognitive strategies and less use of social strategies than classroom learners. The principal research question for this study relates to the influence of mode of study on metacognitive, cognitive, social and affective strategy use. In addition, the role that the TL may play in the strategy choice of language learners is examined. Research into these two aspects of the problem is carried out using convergent data obtained through questionnaire and verbal report procedures.

The role of other variables in strategy choice is also examined. These variables include those which have already been investigated in the research literature

(namely, level of study, gender, proficiency and motivation) as well as a further set of variables, the effect of which on strategy use has not yet been explored (e.g., prior TL experience and language use opportunities). The relationship between these variables and learners' strategy choice is investigated and is also used to assess the relative impact of mode of study and the TL on strategy choice.

Specifically, the study addresses the following research questions:

1. What use do undergraduate foreign language learners make of the metacognitive, cognitive, social and affective categories of strategy use?
2. What is the influence of mode of study on metacognitive, cognitive, social and affective strategy use by undergraduate foreign language learners?
3. Is the impact of mode of study on strategy choice further influenced by particular learner characteristics (e.g. age, gender, proficiency, language learning experience) or by aspects of the learning context (e.g. level of study, TL, language use opportunities)?
4. What role does the TL play in the strategies learners choose to use (metacognitive, cognitive, social, affective) to improve their TL competence?
5. Do aspects of the language learning context (namely level of study and language use opportunities) affect the metacognitive and cognitive strategies employed by undergraduate foreign language learners?
6. What is the influence of learner characteristics (age, gender, language learning experience, prior experience in learning the TL, motivation and proficiency) on metacognitive and cognitive strategy use?

In this study the questionnaire procedure is employed to investigate the influence of a range of variables relating to learner characteristics and the learning context on strategy choice. The questionnaire data is particularly suitable for the multivariate analysis of the variables in the current study (see section 3.5.1 and section 4.1). The verbal report study has a more limited focus and is used to examine in more detail the relationship between learning strategy use and both mode of study and the TL.

Research questions one, two and four will be investigated through the questionnaire and the verbal report studies, while answers to the remaining questions will be based on findings from the analysis of the questionnaire data.

3.4 INSTRUMENTATION

3.4.1 Choice of Instrument

In previous studies of strategy use by language learners various data collection techniques have been used: questionnaires (Ramirez 1986; Oxford et al. 1988), interviews (Wenden 1986a; Pearson 1988), observation of classroom behaviour (Naiman et al. 1978; Cohen and Apeh 1981; Rubin 1981), learner reports in diary form (Tyacke and Mendelsohn 1986), and verbal protocols (Cohen and Apeh 1980, 1981; Cohen and Cavalcanti 1987, 1990; Mangubhai 1991). In selecting appropriate data collection techniques for the current study it was important to consider the experiences of earlier researchers regarding the viability and usefulness of the procedures they had used to elicit strategy use data.

One of the earliest studies of strategy use by Naiman et al. (1978) revealed that it was virtually impossible to obtain accurate insights about learners' conscious thought processes through conventional observations of teacher-centred classroom sessions. After a number of hours of classroom observation Naiman et al. concluded that very few learning techniques were overtly displayed in the classroom. They felt that only through interviews could one have access to techniques that were invisible to any observers - such as 'attempting to answer

to themselves every question asked by the teacher' Naiman et al. (1978:68). The findings of subsequent studies by Rubin (1981) and Cohen and Apehek (1981) were consistent with those of Naiman et al., in that observations of language classrooms were not productive in revealing strategies used by language learners.

Various investigators (e.g. Rubin 1981) have attempted to use diary studies involving retrospective accounts of learning experiences. There has been some success with these, particularly after people have received training in the techniques of self-observation and recording, but such studies require a degree of sophistication and application on the part of the learner that cannot be generally assumed.

The major difficulty for the investigator when attempting to collect data on strategy use lies in the fact that subjects find it very difficult to articulate the strategies they employ, particularly if they are asked what they do out of context. Research in other fields has shown that it is hard for expert learners, as opposed to novices, to make intuitive knowledge explicit. Brown and Burton (1978), in their study of elementary school mathematics teachers acquiring arithmetic skills, found that the teachers became expert in performing arithmetic operations, but had difficulty in expressing what these operations were.

Another complication for the researcher is that different types of data collection may lead to different conclusions about the character and use of language learning strategies. O'Malley and Chamot (1990:95-96) make the following observations on data collection procedures:

In our earlier studies we were attempting to obtain a broad survey of the types of strategies learners used and we collected data with both small group interviews and questionnaires. One of the conclusions we reached from these studies is that the strategies reported depend on the data collection methodology. This seems disconcerting only if one ignores the extreme differences in the way that questions are asked of respondents using these different methodologies. When these differences are acknowledged, finding varying results from different data collection procedures can be expected.

Such a conclusion is not surprising when one considers the different demands placed on subjects who are provided with instances of strategies (as in a recognition task) compared to learners who must come forth with their own strategies (as in a production task). The general tendency for production tasks to underestimate competence and for recognition or comprehension tasks to overestimate competence is well known in the literature (Fraser, Bellugi and Brown 1963).

Because of these difficulties it is important to use multi-method assessment when investigating language learning strategies. As Kail and Bisanz (1982:252) put it, 'no single approach is sufficient for the unambiguous and comprehensive identification of a person's cognitive strategies'. In selecting research instruments for the current study a deliberate attempt was made to capitalise on the strengths of different approaches by including both quantitative and qualitative data collection procedures in the research design.

Two instruments were used to gather data for this study: (1) a questionnaire relating to the strategy use and biographical characteristics of subjects; (2) a verbal report procedure known as the 'yoked subject technique' to elicit retrospective verbal accounts of language learning strategy use.

Descriptions of each of these instruments, the procedures used to trial and administer them, and the methods of processing the data are detailed in section 3.5 (questionnaire procedure) and section 3.6 (verbal report procedure).

3.5 THE QUESTIONNAIRE

A self-report questionnaire was considered appropriate to investigate the language learning behaviours of classroom and distance learners. The reasons for this choice are outlined below.

3.5.1 Strengths and Limitations of the Instrument

Firstly, one advantage of questionnaires is that no prior training of the subjects is required in the use of the procedure as compared to diary studies and introspective accounts. Secondly, the responses of learners who complete the questionnaire can be considered to be relatively free of investigator influence, compared to interviews. In terms of feasibility a questionnaire is easy to administer. This is an important consideration given the large sample and the particular context of this study: distance learners are spread throughout New Zealand (and a small number are overseas) and at the first year level only some attend the voluntary on-campus courses. Finally, a structured questionnaire such as the one developed in this study yields quantifiable information on the range, type and frequency of strategy use of subjects. Responses are limited to information that is relevant, and this information can be readily coded and analysed using computer programmes.

There are a number of potential problems with questionnaires and these will be considered in the context of this study. Firstly there is often a low return rate with mailed questionnaires which raises questions about the reasons why certain subjects respond and others do not. However in this study the response rate was very high (see sections 3.5.3 and 3.5.5).

Another potential problem is that the questions posed may not have been properly understood. It is also possible that not all questions are interpreted in the same way by all subjects. In an attempt to overcome these potential difficulties the questionnaire items were trialled in a pilot study which is detailed later in this section. Pilot subjects were asked to make comments next to any questions that appeared to be ambiguous or unclear.

The probability of misunderstanding is of course greatest when learners are asked to complete a questionnaire in a foreign language. In this study 18 learners whose mother tongue was not English were removed from the sample. In the remaining sample all subjects had English as their mother tongue and so comprehension difficulties were not considered to be a major problem.

The main potential weakness of questionnaire data is that one cannot be sure if participants are responding in terms of what they think they should do rather than in terms of what they actually do. Section 3.6.1 deals with attempts to minimise the 'social desirability' influence on subjects.

3.5.2 Development of the Instrument

A self-completion pilot questionnaire (see Appendix A) was developed to gather information on learner strategies (Parts 1-3) and relevant background information related to the variables in this study (Part 4).

Parts 1-3 of the questionnaire contained scaled questions about the frequency with which learners employed particular strategies: cognitive strategies (Part 1), metacognitive strategies (Part 2), and socio-affective strategies (Part 3). This tripartite division enabled the researcher to provide an appropriate introduction to questions directed at the particular strategy grouping under focus. For example, in Part 1 learners were asked to think about the things they do (or do not do) when they are actually engaged in working with the language (cognitive strategies). In Part 2 the context for strategy use was the period when learners are planning, monitoring and evaluating their learning (metacognitive strategy use). Instructions relating to Part 3 alerted subjects to the fact that a slightly different response scale was to be used for some of the questions (the social strategy use questions) allowing them to indicate if they did not have the opportunity to use a particular strategy. The tripartite division used for the strategy items was also intended as a means to break up what would otherwise appear as a long list of items in succession (32 items).

Questions relating to strategy use were generated from definitions of individual strategies identified in the literature (see section 3.3.1). Great care was taken not to introduce into the questionnaire any technical terms such as *metacognition* or *inferencing*.

Part 1 of the questionnaire contained 17 scaled questions about the frequency with which learners employed particular cognitive strategies. An example of an item from Part 1 enquiring about inferencing is given below:

15. *Do you use other parts of the sentence or passage to figure out the meaning of unfamiliar language items?*

Part 2 of the questionnaire contained ten items relating to the frequency with which certain metacognitive strategies were used. The following item concerned with monitoring appeared in Part 2:

8. *While you are doing a language task do you monitor your use of language, correcting, if necessary, your pronunciation, grammar, style, etc.?*

Item 2 below appeared in Part 3 as one of two questions relating to the use of social learning strategies:

2. *How often do you work together with your fellow learners to solve a problem, practise conversations, check over a task...?*

Item 4 was included in Part 3 as one of three questions relating to affective learning strategies:

4. *Do you motivate yourself by giving yourself some kind of reward when you have successfully completed a language learning activity?*

In Part 4 of the pilot questionnaire biographical information was sought on each subject. This information included name, age, gender, mother tongue, previous experience in learning the TL (including the circumstances and length of such experience), language use opportunities beyond those provided by the course (including where and with whom), and experience in learning other languages

(apart from mother tongue and the current TL). This information was sought in such a way that the responses could be easily coded. A nine item scale was also developed to measure motivation (see section 3.3.1) an example from which is given below:

9. (a) *How important is it for you to become proficient in Chinese?*

<i>Extremely important</i>	5
<i>Very important</i>	4
<i>Important</i>	3
<i>Not so important</i>	2
<i>Not important at all</i>	1

3.5.3 Pilot Study

Once the questionnaire was developed it was piloted in order to gain information on practical aspects of administering the instrument, such as testing the clarity of the instructions and questions and determining the time required to complete the four parts of the questionnaire. Two further aims of the pilot study were to gauge the readiness of learners to respond to the questionnaire and to test the internal consistency reliability of the instrument.

The questionnaire was administered to 300-level learners of French, German, Japanese and Chinese. These learners were not to be subjects for the main study to be carried out in the following academic year. Classroom learners responded to the questionnaire in their regular classes while distance learners were sent the questionnaire by mail together with a covering letter about the research project and a reply paid envelope. Numbers of subjects are presented in Table 3.6.

Table 3.6
Distribution of Subjects in Questionnaire Pilot Study
Target Language and Mode of Study as Groups

	Classroom Learners	Distance Learners
French	7	7
German	4	6
Japanese	9	22

The 80% response rate for the mailed questionnaires can be considered to be very high. In addition there was a positive response to the procedure and several subjects offered further comments on their strategy use.

3.5.4 Questionnaire Revision

Pilot subjects were asked to indicate items or instructions in the questionnaire which were not clear. On the basis of such comments minor modifications were made in the wording of some of the questions so that they appeared less technical. For example,

While you are doing a language task do you monitor your use of language...?

was replaced by

While you are doing a language task do you check on your use of language...?

Another change was required to make the questionnaire item concerning the learning of word forms more appropriate for learners of Japanese and Chinese. It does not make sense to ask about the spelling of words when referring to the form of Japanese and Chinese words (course materials avoid Pin Yin or

romanised spelling). So when learners of French and German were asked the following question:

How often do you make a mental picture of the spelling of a word you want to remember, or of the object itself?

learners of Japanese were asked:

How often do you make a mental picture of the form of a word you want to remember (e.g. of the kanji), or of the object itself ?

and learners of Chinese were asked:

How often do you make a mental picture of the form of a word you want to remember (i.e. of the character), or of the object itself ?

The frequency rating scale included in the pilot study is given below:

<i>usually</i>	5
<i>often</i>	4
<i>sometimes</i>	3
<i>rarely</i>	2
<i>never</i>	1

This scale was found to be confusing by three learners who commented independently that for them *often* was more frequent than *usually*. To overcome this complication the following rating scale from Huang and van Naerssen (1987) was adopted and proved to present no difficulties for respondents:

<i>very often</i>	5
<i>often</i>	4
<i>sometimes</i>	3
<i>rarely</i>	2
<i>never</i>	1

Information collected through the questionnaire was coded and analyzed and the internal consistency reliability of the scales was examined using SPSSX. This step was important since a major criticism of the questionnaire used in the Politzer and McGroarty (1985) study was that the scales used had low homogeneity and as such were not reliable (Skehan 1989). Using Cronbach's Alpha test the internal consistency reliability of the strategy scales was as follows: metacognitive strategy use scale $r=.73$, cognitive strategy use scale $r=.78$, socio-affective strategy use scale $r=.48$.

The low internal consistency of the socio-affective scale was to be expected since social strategies relate to quite a different construct from the construct underlying affective strategy use. The socio-affective scale was divided into two scales in the main study: one dealing with affective matters such as self-reinforcement and the other dealing with social aspects such as co-operative learning. The internal consistency reliability of the revised strategy use scales is presented in section 3.7.3.

A sample of the revised questionnaire used in the main study for learners of Chinese appears in Appendix B.

3.5.5 Instructions and Procedures

Time

A number of factors needed to be considered before deciding when the questionnaires were to be distributed to subjects. Firstly, subjects needed several weeks to work into their language programme, so it was desirable to choose a period of time after the first two months of the academic year. It was also necessary to complete the procedure before the last eight weeks of the academic year when learners are preoccupied with preparing for examinations. Each language course has its own schedule of units of work and tests, and it was important that the questionnaire session should not be too disruptive of this programme. Another consideration was that classroom and distance learners enrolled in the same course should complete the questionnaire at similar times of the year.

Bearing these points in mind, it was decided to collect the data over a four month period from May to August 1991, thus encompassing the two on-campus course periods for distance learners.

Instructions

The first page of the questionnaire gave subjects information about the survey. They were informed that the questionnaire was part of a comparative study of how classroom and distance language learners manage the process of language learning. Subjects were asked to respond in terms of what they actually do in the context of private study, that is how they manage their language learning beyond any classroom contact they may have. Care was taken to stress that individuals learn in different ways and that there is no set of learning behaviours which can be considered right for everyone. This latter point was an attempt to reduce the 'social desirability' influence on respondents. It was also emphasised that participation was entirely voluntary, that all results would be kept confidential and that the questions in no way formed part of the assessment of the course. The questionnaire was exactly the same for classroom and distance learners.

Procedures: Classroom Learners

A timetable of class visits was drawn up in consultation with the lecturers and tutors involved in each course. Sixteen classes were visited over a ten week period from May to July 1991. Subjects were asked to complete the questionnaire at the start of each class to avoid any possible influence from earlier classroom activities.

A brief informal introduction provided general background as to why questions about language learning strategies had become a recent focus for people carrying out research into language learning. Time was allowed for any questions or discussion. The procedure took approximately 25 minutes.

Procedures: Distance Learners

Distance learners completed questionnaires either at on-campus courses held in May and August 1991 (N=127) or through postal questionnaires (N=158). Mailed questionnaires were sent to 100-level learners who had not attended the voluntary on-campus courses held in May. Mailed questionnaires were also despatched to the 200-level learners of French and Japanese who would be

asked, during their on-campus courses in August, to give accounts of their language learning strategies using the yoked subject technique. Attached to the mailed questionnaires was a letter providing background information about the questionnaire (see Appendix C). This information was given to the in-class subjects (both in term time and at on-campus courses) by the researcher as an informal introduction. In all 249 mailed questionnaires were despatched to distance learners and 158 were returned. This represents a high response once the attrition rate is considered. One month after the mailing of the questionnaires the number of withdrawn students was checked and it was found that 37 of the original 249 learners had officially withdrawn from their language courses by the end of May. This set the response rate for the postal questionnaires at 74.5%.

3.5.6 Methods of Processing Data

Once received the questionnaires were coded according to the course number of the student concerned and each page was checked. If parts of a questionnaire were incomplete it was not included in the sample. Any comments were transcribed and records were kept as to which particular items the comments referred to (if this was the case). Information on each subject (mode of study, TL, level of study) was inserted into the questionnaire. The questionnaire data was then entered into an ASCII file for future analysis using SAS.

The methods for analysing the questionnaire data are detailed in Chapter 4 (section 4.1).

3.6 THE VERBAL REPORT PROCEDURE

Verbal report procedures, also known as verbal protocols, have played a role in a significant number of the studies which have attempted to identify learner strategies. Cohen (1984) classifies verbal report measures into three types. Firstly there are self-report measures which collect learners' generalised statements about their learning behaviour or characteristics. Secondly self-observation measures involve the inspection of specific, not generalised, language behaviour, either introspectively or retrospectively. Thirdly think-aloud techniques, also

known as self-revelation, consist of the stream-of-consciousness disclosure of thought processes during the execution of a task.

The self-observation technique used for the current study is described later in this section once some of the issues of controversy regarding verbal report data have been considered.

3.6.1 Limitations of Verbal Reports

Concerns about the use of data based on verbal reports have been expressed in the psychological literature (e.g., Ericsson and Simon 1980, 1984, 1987; Seliger 1983; Dobrin 1986; Ericsson 1988; Cohen 1983, 1991). A summary and discussion of these concerns are presented below.

One of the main disadvantages of retrospective reports which has been articulated is that subjects may not report their strategy use accurately. As Nisbett and Wilson (1977:232) put it, one can 'doubt people's ability to observe directly the workings of their own minds'. For example, subjects may forget to mention some strategies, especially those which have become so automatic and routinized that they may be operating on a subconscious level. In addition, subjects may claim to use strategies which they do not in fact use with any frequency or they may report what they perceive they ought to do, that is, what they think ideal learners do, not what they in fact do.

Another dimension of the potential problems of verbal report data concerns influences on the content of what is reported. For example, instructions, probes or prompts may act as cues which shape the things subjects report on, or how they report them. There is also the possible effect of the task of verbalisation itself: the need for additional verbal processing may interfere with the processing that is being commented on.

A further concern is the possibility that results obtained through verbal report data will vary according to the characteristics of participating subjects. Considerable

individual differences in tendency to verbalise exist (Miyacke and Norman 1979) and respondents may differ with respect to their verbal skills, such as articulateness and specificity. This presents us with an even greater complication, as Skehan (1989:80) suggests, namely the possibility that:

what accounts for the reporting of strategies *and* the language learning success are the same thing - greater powers of articulateness. It is possible, in other words, that some people are capable of more precise, detailed and organised thought perhaps because of decontextualization ability, analytic capacities with verbal material, or memory, or other factors. This is what enables them to reflect on their own language learning experiences effectively, and report them so well.

Skehan contends that verbal reports in such cases may not enable us to identify whether the strategies themselves, or the powers of articulateness, contribute to language learning success. A further perspective is offered by Garner (1988a) when she points to situations where insufficient data are obtained and concludes that in such circumstances it is not possible to know whether this is the result of limited cognition, limited language skill, or some combination of these factors.

Cohen (1991:137) writing about the controversy regarding verbal report data notes:

The critics would suggest that these numerous problems with verbal report measures seriously limit the generalisability of the findings and might even preclude their use. However, proponents of verbal report would argue that cognizance of these problems in planning the research design may help to avoid some of them and that others will simply prevail, just as problems are inherent in the use of other research measures as well.

To overcome some of the limitations of verbal report data, Garner (1988a:70) suggests that some conditions for eliciting verbal reports of strategy use are superior to others. She lists the following guidelines which produce more valid data for eventual interpretation:

- a. ask learners to report on specific events, not on hypothetical situations
- b. ask learners what they do and think not why
- c. use multi-method assessment

The verbal report procedure used in this study has been termed the *yoked subject technique*. It follows Garner's guidelines in asking learners to reveal what they do in the context of a section of their study materials and is also used as another method of data collection to complement the findings. The importance of such guidelines is emphasised by Cohen (1991:137-8):

Whereas the reliability of mentalistic measures has been questioned in comparison with behaviouristic measures, research has demonstrated that verbal reports, elicited with care and interpreted with full understanding of the circumstances under which they were obtained, are, in fact, a valuable and thoroughly reliable source of information about cognitive processes (Ericsson and Simon 1980).

Verbal report techniques are used in the present study since they can provide fine-grained information about learner processes, information that is otherwise lost to the investigator (Ericsson and Simon 1984; Ericsson 1988). The particular verbal report technique used in the current study is introduced below.

3.6.2 The Yoked Subject Technique

The yoked subject technique was first used in an investigation carried out by Nayak et al. (1990) into whether multilingual subjects would perform better than monolingual subjects in learning a miniature linguistic system. They introduce this procedure for obtaining verbal reports as follows:

Subjects were asked to make their strategies as explicit as possible for another (yoked) subject who is to perform the task. We hoped that the yoked subject procedure would yield clearer information about the strategies different groups of subjects used under different conditions. (Nayak et al. 1990:226)

The yoked subject procedure is a form of retrospective account in which subjects are asked to imagine that they are talking about their strategy use to another yoked subject who is about to embark on similar tasks. It has some of the ingredients of the peer tutoring method used by Garner, Wagoner and Smith (1983) to externalise strategic repertoires of experts and novices.

The instrument is located towards the low end of structuredness in that the object of the verbalization is limited to a section of the current learning materials and the specific form and content of the report is at the informant's discretion. As such it also allows learners to reflect on the aspects of their strategy use which they consider to be significant.

A description of the pilot study used to trial this technique is given below.

3.6.3 Pilot Study

A pilot study using the yoked subject technique was undertaken with four 300-level language learners who had also participated in the questionnaire pilot study. The aim of the trial was to test the viability of both the warm-up procedure and the actual procedure, the adequacy of the instructions given and the time taken. The procedure took approximately thirty minutes and subjects reported that the instructions were clear and that once they began talking the procedure felt quite natural since they were reporting on their interactions with the study materials in front of them.

The other purpose of the pilot study was to obtain written transcripts of the verbal reports. The data proved sufficiently rich to provide a basis for developing and trialling procedures for coding strategy use and for training an assistant rater.

3.6.4 Instructions and Procedures

Time

The main yoked subject procedures took place over a period of three weeks in August. There were four sessions, two for distance learners and two for classroom learners.

Instructions

As an introduction the researcher explained that the purpose of the session was to find out how students go about their language learning so that these reports could be included in a strategy use guide. It was mentioned that this guide would

be distributed to all classroom and distance language learners that year. The importance of including excerpts from learners' own accounts was emphasised as well as the fact that all reports would be kept confidential and would not be shown to staff involved with their language courses. The fact that participation was voluntary was also emphasised.

Following the suggestion of Ericsson and Simon (1980) and Rubin (1981), a warm-up phase was included before learners were asked to report on their strategy use. The distance participants were provided with a sample cover sheet and return address card which they would normally submit with each assignment. They were then asked to talk about what they did with this material. This provided an authentic task relevant to the procedures followed by distance learners with which to practise producing self-observation data. The task however did not interfere with the main task relating to the actual learning materials.

The warm-up task for classroom learners required them to talk about their weekly schedule of language classes and assessment procedures. It was emphasised that this was a practice task to familiarise them with the process of reporting to another student. Again, describing class schedules and assessment is an authentic task which is related to, but does not impinge on the main task of reporting strategy use.

Subjects were then provided with a copy of the study guide (in the case of learners of French) or workbook (for learners of Japanese) for the language unit they had almost completed. They were asked to talk about how they go about studying either French or Japanese as if they were actually talking to a fellow classroom or distance learner (the yoked subject) who was planning to enrol in the same course the following year. They were asked to refer to a particular section of the material in front of them, in order to make their reports more specific. The written instructions given to subjects (see Appendix D) provide both an appropriate context for talking about strategy use and also a number of

prompts which aimed to serve the same function as the kinds of questions that would be asked by the hypothetical yoked subject.

Procedures

Subjects recorded their reports in language laboratory booths and were able to replay, delete or add comments as they wished.

The advantages of recording reports in the booths are many. Firstly there is less likelihood of subjects being influenced by the researcher because the researcher cannot be seen once the procedure is underway. Secondly, since subjects are asked to imagine they are talking to another language learner, the more private context of the booth is less distracting and therefore more conducive to focusing on the task. Thirdly, it would not have been possible to gain access to a large number of distance learners in a particular course on an individual basis since they are scattered throughout New Zealand and the on-campus course schedules are extremely tight. Language learners are very keen to have as much exposure as possible to the TL and it would have been unreasonable to ask them if they would mind withdrawing from sessions on an individual basis. Finally, the fact that responses were recorded meant that there was a permanent record of the data. Thus the potential for inaccuracy raised by O'Malley and Chamot (1990), when an interviewer attempts to code strategy occurrences immediately after the informant mentions them, was avoided.

3.6.5 Methods of Processing Data

Through the yoked subject technique, 11 reports were collected from classroom learners. It was only possible to use nine of these, since two were given by non-English native speakers who had some difficulty in reporting on their strategy use. Twenty-nine verbal reports were obtained from distance learners, and of these only one could not be used due to a faulty recording.

Once the tapes were collected, each tape was numbered, with the TL and mode of study represented by the appropriate initials (F,J). Thus the third verbal report for a classroom learner of French was identified as 3FC.

In processing the tapes it was necessary to decide whether to transcribe the full set of verbal reports or only a sample for the purpose of establishing interrater reliability. From work carried out on the pilot study data it was evident that the process of identifying and classifying instances of strategy use requires many revisions, including, for example, a comparison of particular strategy use descriptions across a number of reports. Hence a full transcription was made of the taped reports. The transcripts occupied 96 pages of double spaced text. Two sample transcripts are included in the Appendix, one from a learner of French, the other from a learner of Japanese (see Appendix E).

Chapter 5 contains a description of the methods used to analyse the verbal report data (section 5.1).

3.7 VALIDITY AND RELIABILITY

Any data collection procedure, by the very fact of its use, creates some effect on the data. In order to assure the quality of data collection procedures, the criteria of reliability and validity were applied to this study.

3.7.1 Internal Validity

If one is to be able to state that the relationship between strategy use and the other variables in the study is unambiguous and not explained by extraneous factors, attention must be given to factors which may affect the internal validity of the study. In formulating the research design for a study of strategy use, there were four potential sources of threats to internal validity. Each of these is examined below.

Subject Selection

In selecting subjects it was important to ensure that subjects classified as distance learners were in fact studying in the distance mode and that they were not participating in internal classes, even on a casual basis. Lecturers were asked if any distance learners attended classes. Two such subjects were identified and were removed from the sample.

Four learners enrolled in Japanese language classes were in fact native speakers of Japanese. They did not form part of the sample for the questionnaire study or the verbal report study.

Subjects completing a questionnaire in a language other than their mother tongue may have experienced difficulties in understanding some items or may not have understood them accurately, thus influencing the validity of the data. Subjects were asked to give their mother tongue thus allowing the researcher to identify learners who were not native speakers of English. Twenty-four subjects noted that they had two mother tongues, one of which was English, and these people were retained in the questionnaire sample. Eighteen subjects gave a language other than English as their mother tongue and these students were removed from the questionnaire sample since it was not possible to check on their level of proficiency in English. Two classroom learners were removed from the verbal report sample since they were not native speakers of English.

In section 3.5.5 the question of attrition of subjects was dealt with and a description was given of the steps taken to ensure that learners who participated in the study were likely to continue with the course.

Instrumentation

It was also important that the observations used in this study were valid and consistent and that the definitions of the key terms reflected the constructs under study. To define the constructs of metacognitive strategy use, cognitive strategy use, social strategy use and affective strategy use a representative set of items

were drawn from the literature (see section 3.3.1). Operational definitions have been given for the learning context variables and the learner characteristic variables used in the research, also in section 3.3.1.

Task Directions

Instructions were planned and piloted to ensure that they were clear and that subjects knew what was expected of them in completing the questionnaire and in following the yoked subject procedure. Identical procedures were followed in collecting data from different classes. The oral introduction given to classroom learners presented the information contained in the accompanying letter mailed to distance learners. In the main study a similar consistency in the collection procedure was followed.

Adequate Data Base

Hatch and Lazaraton (1991:39) deal with a further aspect of internal validity in the following way:

To be valid the data-gathering procedure should allow us to tap the true abilities of the learners In questionnaire research we suggest that demographic information ... be placed at the end of the questionnaire You are more likely to get full participation if other data are collected first and personal information second.

In the questionnaire study, subjects were firstly asked to respond to questions about their strategy use and then to provide background information on themselves. The final section of the background information consisted of a nine-item scale relating to language learning motivation. This required subjects to think about whether certain issues were important to them in learning the TL. Since responses to these questions are less automatic than those about age, gender, prior language learning experience and so on, the validity of the motivation data could probably have been improved by putting the nine-item scale at the start of the background information section rather than at the end. Subjects who did not complete the questions relating to motivation were not included in the sample.

3.7.2 External Validity

The external validity of the study also needs to be examined in order to be able to determine the extent to which the findings may be generalised to situations outside those in which the study is conducted.

Subject Selection

The questionnaire study was carried out with intact groups of language learners. Subjects were self-selected in that participation was entirely voluntary. Not all classroom learners were present when the questionnaire was administered and not all distance learners responded to the questionnaire. Thus, it was not possible to be entirely sure that the subjects for the study form a representative sample.

The yoked subject procedure was also carried out with intact groups, namely 200-level classroom and distance learners of Japanese and French. Self-selection also took place. It was noted that a number of learners felt reluctant to participate in the yoked subject procedure because they did not feel sufficiently confident about their own 'study habits' or about their ability to report on the processes they use. Thus subject selection may limit the generalisability of the findings of the study.

Data Collection Methodology

Each method of data collection has underlying theoretical assumptions about the nature of the data. The questionnaire procedure requires subjects to respond to specific items while the yoked subject procedure is a less structured instrument and requires subjects to produce verbal reports on their strategy use. These differences in the degree of structuredness of the instrument and in the differing relative emphases on productive versus receptive competence in reporting on strategy use can be expected to influence the findings obtained. Given the highly individualised nature of strategy use care was taken to obtain convergent data on the strategy use of language learners.

Ecological Validity

The yoked subject procedure has a particular ecological validity in the context of the current study in that learners are asked to report on their strategy use in a realistic context - that is to report on how they go about learning the TL by looking at a particular section of the workbook materials and talking as if they were with one of their peers who was planning to enrol in the programme. The procedure is not artificial in that it contains many of the elements of peer tutoring and as such is a fitting procedure through which to externalise the strategic repertoires of classroom and distance learners.

3.7.3 Reliability

The criterion of reliability was applied to the study in order to determine the extent to which the data collection procedures can be considered accurate and the results can be considered to be stable.

Two tests of reliability were applied to the data.

Internal Consistency Reliability

Parts 1 to 3 of the questionnaire consisted of a number of independent items each of which related to one of four scales: metacognitive strategy use, cognitive strategy use, social strategy use and affective strategy use. It was necessary to test if, for example, each of the metacognitive items did in fact contribute to the metacognitive scale since the more homogenous the items the higher the reliability of the instrument. To estimate reliability via internal consistency Cronbach's Alpha test was applied to the strategy use items from the pilot questionnaire data and some adjustment was made in the scales to increase reliability. Cronbach's Alpha test was applied to the 32 strategy use items in the main study and the reliability coefficients were: metacognitive strategy use scale $r=.78$, cognitive strategy use scale $r=.82$, social strategy use scale $r=.89$, affective strategy use scale $r=.72$.

Interrater Reliability

Given that the yoked subject procedure was one of low explicitness it was important to estimate interrater reliability. The identification and analysis of strategy use (as described in section 5.1) was carried out independently by the two raters and then the ratings were correlated to produce a Pearson correlation matrix and an average of all correlation coefficients derived. The Pearson interrater reliability was .89. We can therefore conclude that interrater reliability was high for the verbal report study.

3.8 LIMITATIONS

Limitations of the questionnaire as a data collection instrument have been discussed in section 3.5.1, relating to response rates, differing interpretations of questions, and the effect of social desirability on subjects' responses. A number of steps were taken to guard against a desire to give the 'right' answer, but it is not entirely possible to rule this out in the case of all subjects. A further limitation relates to the questionnaire items which, as they were phrased, could not tap every possible use of a strategy such as self-management. While care was taken to make the items as representative as possible of the underlying construct, they could not draw upon all possible instances of strategy use. Thus it is possible that subjects might have responded differently to an item such as that relating to self-management if it had been rephrased, or contextualised in another way.

Limitations of verbal report data were considered in section 3.6.1, and again the possibility that learners are reporting what they think they should do, rather than what they actually do cannot be altogether ruled out. Furthermore, subjects probably reported on a particular subset of the strategies they used, that is, those strategies which they were conscious of at the time of the procedure. Thus, the verbal report data cannot be seen as providing a comprehensive account of the strategic repertoire of each language learner. In addition, the subjects may have varied considerably in their ability to talk about the strategies they use, and thus the data for some subjects may be much less rich and relatively incomplete compared to their actual strategy use.

As Politzer and McGroarty (1985:118) note, given the number of suspicions that have been raised about self-report data, this data 'should, whenever possible, include a check of the self-reports against actual observations'. In this study it was not actually possible to observe learners working on particular language tasks, due to limitations of time and access. However, it remains a highly desirable source of confirmation about the reliability of self-report data.

Both quantitative and qualitative methods were used to gather data on strategy use, following the process of triangulation (Long 1983) in an attempt to demonstrate the same findings through different sources. However, as Seliger and Shohamy (1989:105) point out:

It is not always possible to collect the same second language data using different sources. This is especially true in studies which use learner self-reports as data for studying strategies or metacognition. For example, asking a learner to self-report or 'introspect' about a language error immediately after the act and again some time later is not drawing on the same source.

In this study, the questionnaire data and the verbal report data were not drawing on exactly the same source since they were collected at different times, and did not require learners to think about strategy use in relation to exactly the same tasks. Thus, while multiple measures were used, the fact that they were not directed at exactly the same sources is a limitation of this study.

One further weakness relates to the relatively small number of classroom learners compared to distance learners who participated in the yoked subject procedure. This was unavoidable in that the classroom learners of French were a small group and the classroom learners of Japanese appeared diffident about participation in the procedure. However, a larger representation of classroom learners would have been desirable.

3.9 SUMMARY

This chapter has presented the research design used to investigate the frequency of strategy use and influences on the strategy use of undergraduate foreign language learners.

Results from the analysis of the questionnaire data are presented in Chapter 4 and provide evidence relating to the research questions presented in section 3.3.2. Results from the analysis of the verbal report data are detailed in Chapter 5, and the findings shed further light on questions concerning the influence of the TL and mode of study on the reported strategy use of foreign language learners.

4. RESULTS: QUESTIONNAIRE STUDY

This chapter presents results from the analysis of the questionnaire data. Findings are organised according to influences on metacognitive strategy use (sections 4.2 and 4.3), on cognitive strategy use (section 4.4), on social strategy use (section 4.5) and on affective strategy use (section 4.6). Findings concerning the frequency of metacognitive, cognitive, social and affective strategy use also form the introduction to each of these sections. Regular summaries are given at the end of each stage of the presentation of results. The principal findings are summarised in section 4.7. The following section introduces the statistical methods applied to the questionnaire data, in particular, canonical variate analysis.

4.1 METHODS OF ANALYSING THE DATA

The central issues in this study concern the relationship between a range of strategy use variables and a variety of variables related to the language learning context and learner characteristics. To investigate such a relationship an intrinsically multivariate technique is required. The choice of a multivariate technique to apply to the questionnaire data was determined by the large number of variables. As Brown (1992:649) states in an article entitled *Statistics as a foreign language - Part 2: More things to consider in reading statistical language studies*, 'if ... there are two or more DVs and two or more IVs ... canonical correlation analysis would be appropriate.'

Canonical correlation analysis, also known as canonical variate analysis (CVA), provides a means 'for studying the relationships among two sets of variables and for studying the number and nature of dimensions of correspondence' (Tabachnik and Fidell 1989:221). In the context of the present study CVA is used to highlight which particular set of strategies, if any, contribute to the differentiation of learners according to, for example, mode of study. Thus from among the ten

metacognitive strategies we are able to identify two or three strategies which exert the strongest influence in setting classroom learners apart from distance learners in terms of their metacognitive strategy use (MSU). In this way CVA reduces the dimensions in a data set where there were originally a large number of variables. Tabachnick and Fidell (1989:193) suggest that canonical variate analysis 'is best considered a descriptive technique or a screening procedure rather than a hypothesis-testing procedure'.

The process of CVA involves constructing a linear combination of the variables which separates the groups (e.g. classroom learners and distance learners) as well as possible. Coefficients in this combination are chosen which maximise the between-group variation and minimise the within-group variation. Sometimes it is possible to determine several linear combinations which separate the groups. In such instances, the first canonical variate captures as much inter-group difference as possible and this is the most important variate. The second canonical variate then reflects as much as possible of the group differences not captured by the first one, and is the second most important. Thus canonical variates are computed in descending order of magnitude, and the first few (one or two) are generally sufficient to account for almost all of the important group differences. In this study all the group differences could be accounted for by the first canonical variate, except in the case of the investigation of the relationship between age and strategy use, in which case two canonical variates were needed. As Manly (1986:89) points out, one of the major attractions of canonical variate analysis is that if only one or two of the canonical variates are needed, then 'a simple graphical representation of the relationship between the various groups is possible'. This is obtained by plotting the values of the variates for the sample observations. The advantage of the scatterplots is as an aid to the visual interpretation of group differences.

In the current study once plots of the canonical variate scores were obtained, they were examined by the researcher and a statistician to determine which showed the most marked separation of learners according to variables such as

age, gender and TL. The significance of the canonical variate scores for these key plots was evaluated using F values from analysis of variance (ANOVA). The standardised coefficients and correlation coefficients were then obtained to identify which strategies were responsible for the separation of learners as displayed by the plots. A graphical presentation was made of the frequency of use of the key strategies which had been identified.

When examining the relationship between age and MSU a post hoc comparison of means was carried out using Duncan's multiple range test to locate precisely where the most marked differences in MSU occurred among the various age groups in the population. Brown (1992:648) points to the use of such procedures when he suggests that 'mean comparison procedures may be followed by more detailed comparisons like Scheffé, Tukey, Dunn ... to determine exactly where any significant differences may be located'.

It was possible to calculate mean frequencies for the metacognitive, cognitive and affective strategy use measures which are in the form of ordered categorical data and for which the rank scales are interval-like. The mean frequencies could then be related back to the original response scale (5=very often, 4=often, 3=sometimes, 2=rarely, 1=never). A similar interpretation of frequency measures was made by Huang and van Naerssen (1987), Politzer (1983) and Politzer and McGroarty (1985).

However, since the social strategy use scale is a categorical scale (5=very often, 4=often, 3=sometimes, 2=rarely, 1=never, 0=no opportunity) analysis of the influence of mode of study on SSU was confined to a comparison of the responses of classroom and distance learners on questions about their use of questioning and co-operation.

To summarise, the principal techniques used to analyse the questionnaire data were (i) canonical variate analysis (CVA), (ii) univariate analysis of variance (ANOVA) and (iii) comparison of means (Duncan's multiple range test), all of which were performed using SAS (1989) software.

4.2 METACOGNITIVE STRATEGY USE

4.2.1 Frequency of Metacognitive Strategy Use

Descriptive statistics concerning the frequency of reported MSU for the entire sample of undergraduate foreign language learners are presented in Table 4.1.

Table 4.1
Frequency of Metacognitive Strategy Use
(Means and Standard Deviations N=417)

Strategies	Mean	S.D.
Advance Organisation	4.06	0.97
Selective Attention	3.28	1.09
Directed Attention	3.47	1.09
Delayed Production	3.74	1.12
Self-management	3.65	1.26
Problem Identification	3.86	0.94
Self-monitoring	4.02	0.94
Self-evaluation	4.16	0.99
Priorities	3.27	1.14
Revision	3.15	0.99

The mean responses were related back to the following frequency values: 5=very often, 4=often, 3=sometimes, 2=rarely, 1=never. They indicate that undergraduate foreign language learners make frequent use of metacognitive strategies. The most frequent strategies relate to the three dimensions of metacognition: planning (advance organisation), monitoring (self-monitoring) and evaluation (self-evaluation). The mean response for these three strategies relates to the category 'often'. Revision is the least used metacognitive strategy for language learners with the mean score representing a response close to 'sometimes' .

4.2.2 Influences on Metacognitive Strategy Use

CVA was used in order to assess the degree of relationship between variables relating to the learning context (mode of study, TL, level of study, language use opportunities) and the measures of metacognitive strategy use (MSU).

The first relationship to be examined was that between mode of study and the MSU measures. CVA was performed on the data and a plot of the canonical variate scores was obtained (Figure 4.1). The plot indicated that classroom and distance learners are separated according to their use of metacognitive strategies along the X-axis, that is, the axis representing the first canonical variate.

Similar procedures were used to obtain plots to examine the relationship between the TL and MSU measures, between level of study and MSU measures and between language use opportunities and MSU measures. An examination of the plots revealed that the TL appeared to have some influence on MSU, though this was not so marked as the influence of mode of study.

A similar set of six canonical variate analyses was performed between the variables relating to learner characteristics (age, gender, proficiency, prior TL experience, experience in the learning of other languages and motivation) and the MSU variables. Again, plots of the canonical variate scores were obtained. The six plots were examined to see whether learners were differentiated on the MSU measures according to the learner characteristic variables. The clearest influence on MSU from this set of analyses was the age of subjects (Figure 4.2).

CVA of MSU Variables
Mode of Study as Groups

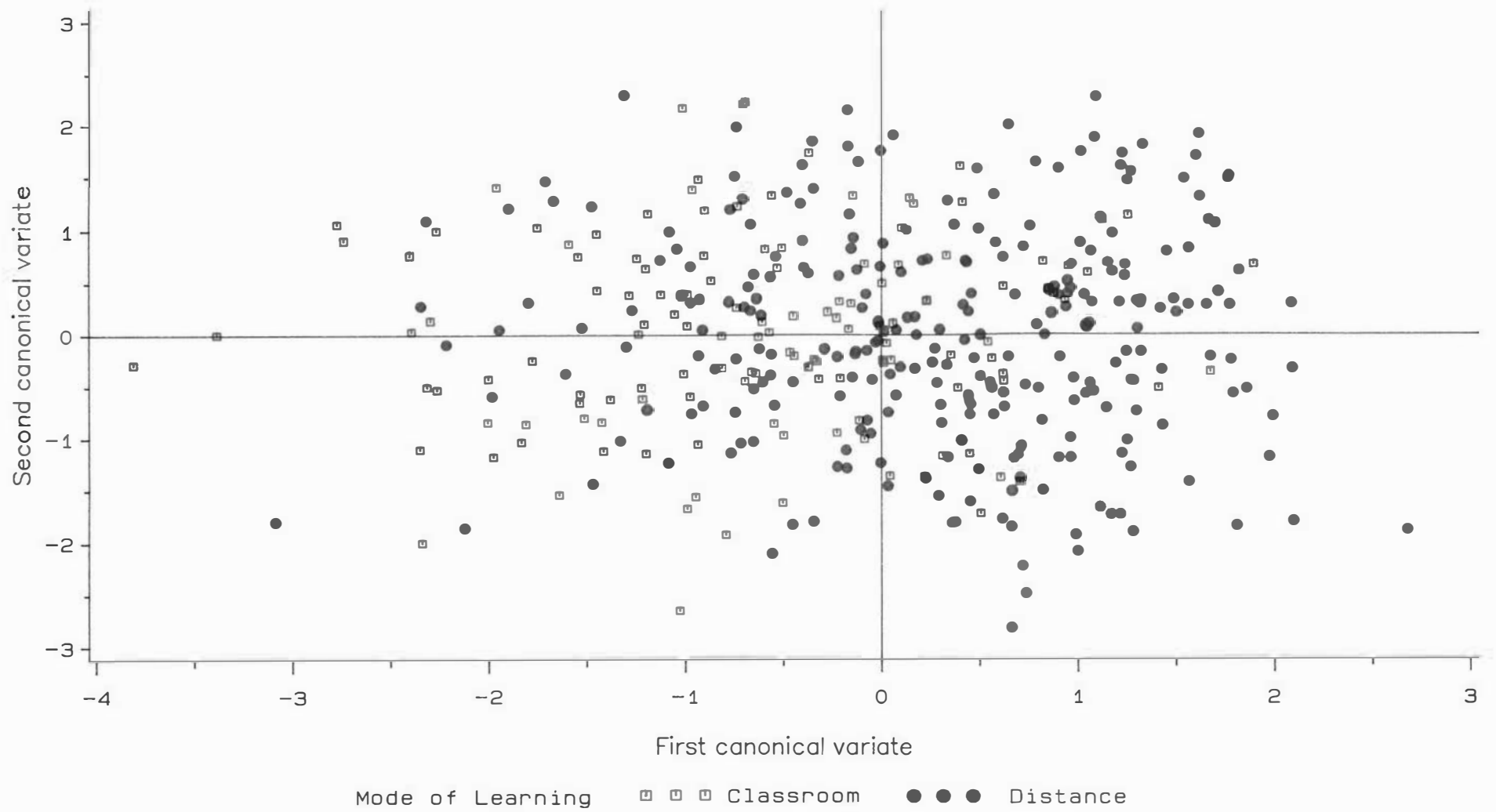


Figure 4.1

CVA of MSU Variables
Age as Groups

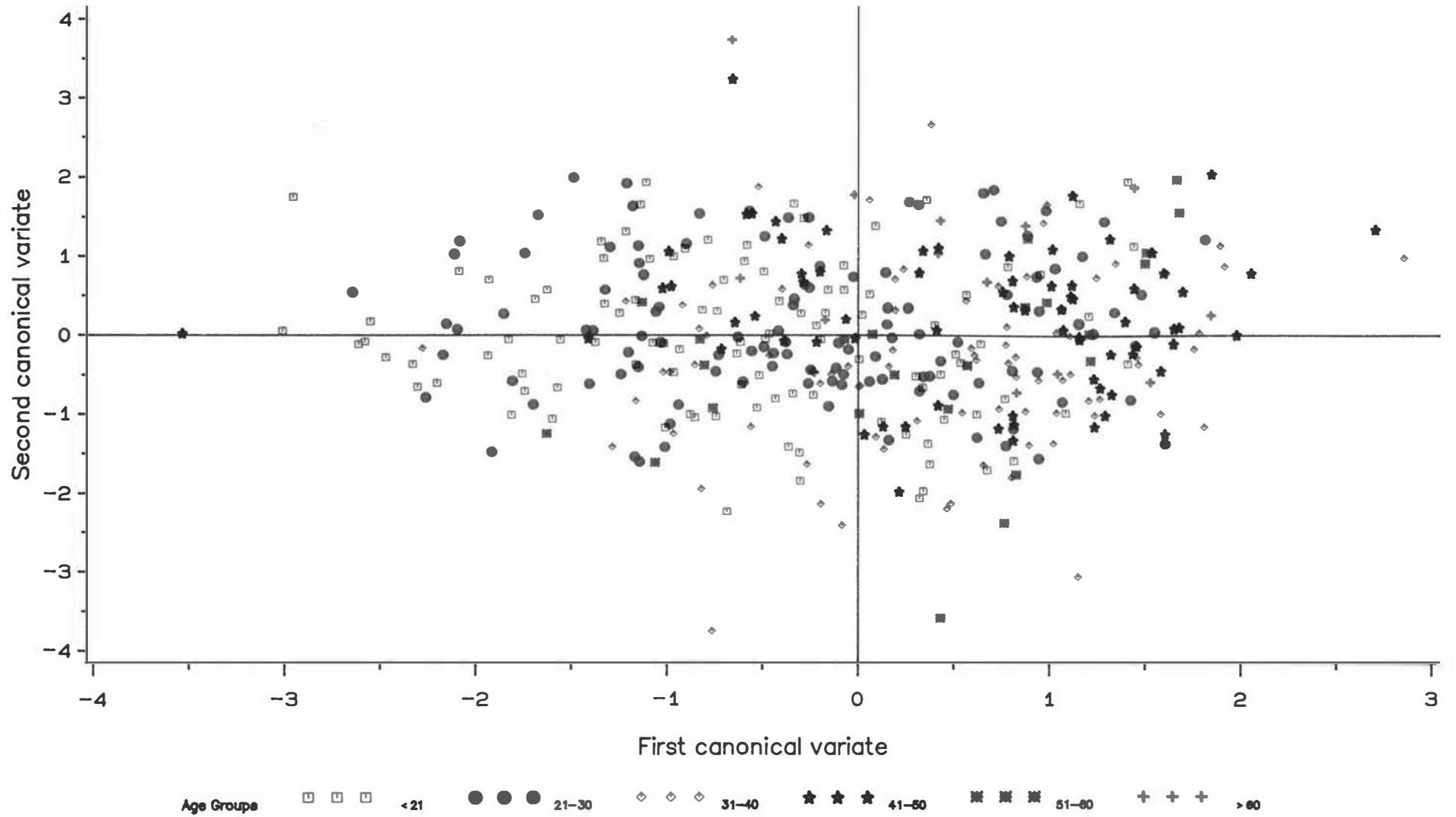


Figure 4.2

Findings from the set of canonical variate analyses introduced in this section are summarised in Table 4.2. Overall, an examination of the plots revealed that learners were maximally separated in their MSU according to mode of study (Figure 4.1) and age (Figure 4.2). Proficiency and the TL also exerted some influence on the separation of language learners on MSU measures (ranked third and fourth in terms of influence). There were lesser effects for prior TL experience. Learners were not differentiated in their MSU according to their level of study, language use opportunities, gender, experience in the learning of other languages or motivation.

Table 4.2
Influences on Metacognitive Strategy Use
(In Rank Order of Importance)

Learning Context Variables	Mode of Study	1
	Target Language	4
	Level of Study	-
	Language Use Opportunities	-
Learner Characteristic Variables	Age	2
	Gender	-
	Proficiency	3
	Prior Target Language Experience	5
	Other Language Learning	-
	Motivation	-

Note: little or no influence by a variable on MSU measures is indicated by - .

To evaluate the significance of the first canonical variate scores used to produce the plot in Figure 4.1, F values were obtained through analysis of variance (ANOVA). The results, $F=78.92 (1,411)$, $p<.0001$ indicate that the separation of classroom and distance learners on MSU measures as displayed in Figure 4.1 is significant.

F values were also obtained through ANOVA to test the significance of the first canonical variate scores displayed in Figure 4.2 relating to the influence of age on MSU. Again, significant values were obtained: $F=17.61$ (5,406), $p<.0001$.

Further analyses of the relationship between mode of study and MSU measures (section 4.2.3) and between age and MSU measures (section 4.2.4) were then carried out.

4.2.3 The Influence of Mode of Study on MSU Variables

In order to determine which strategies among the ten variables of MSU are optimal in distinguishing between the two groups of classroom and distance learners, as displayed in Figure 4.1, standardised coefficients and correlation coefficients were obtained. As Rencher (1992:224) points out, in CVA 'interpretation is aided by the use of standardised coefficients since they provide multivariate information about how the variables contribute jointly to the separation of groups'. Correlation coefficients are also useful. They rank the variables in order of their individual contribution to the separation of groups.

The coefficients listed in Table 4.3 relate to the first canonical variate which accounts for all the variation represented in the plot in Figure 4.1. This variation occurs along the horizontal, first canonical variate axis.

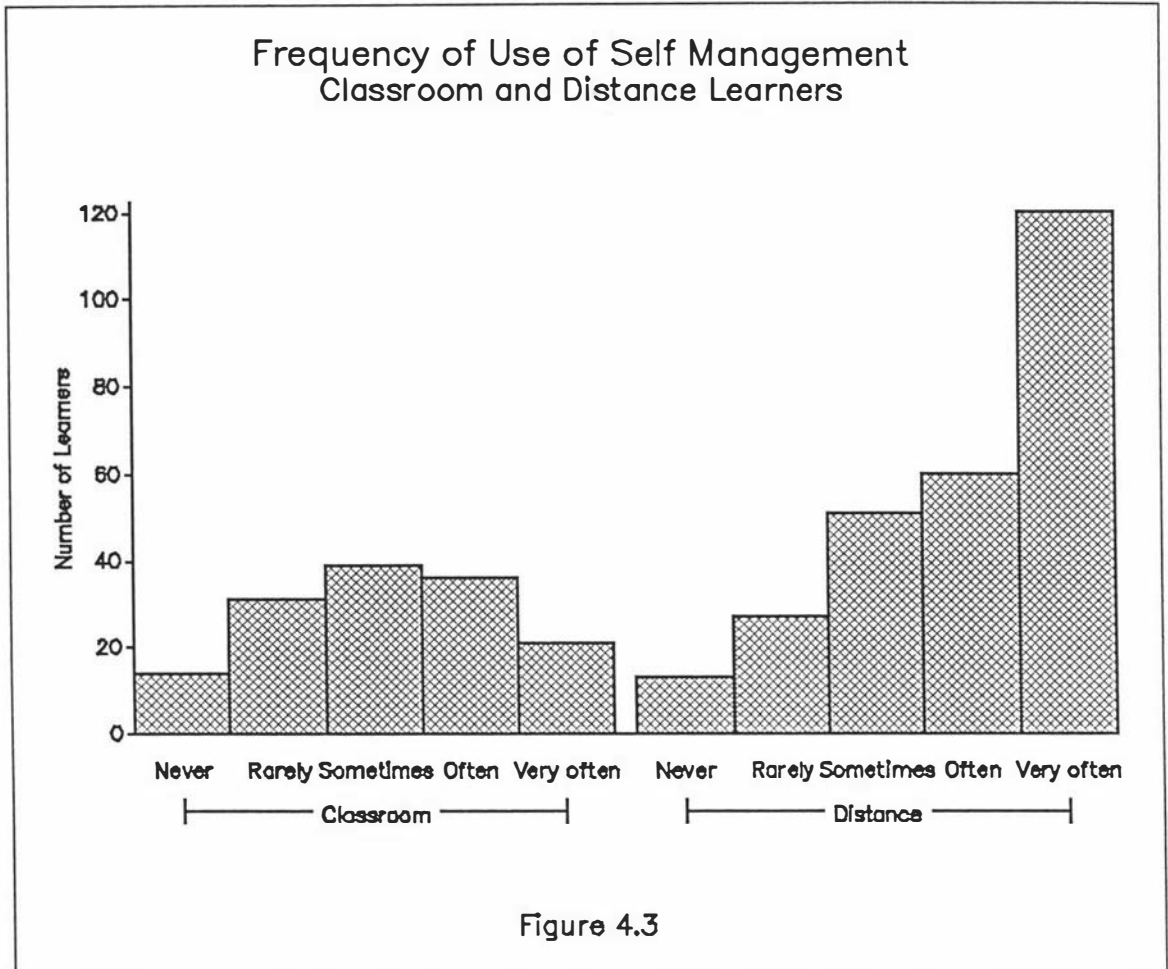
Table 4.3
Standardised Coefficients and Correlation Coefficients for MSU Variables
Mode of Study as Groups

Strategy	Standardised Coefficients	Correlation Coefficients
Advance Organisation	.50	.60
Selective Attention	-.16	.19
Directed Attention	.12	.37
Delayed Production	.07	.22
Self-management	.70	.72
Problem Identification	-.10	.08
Self-monitoring	-.11	.21
Self-evaluation	.21	.37
Priorities	-.31	-.01
Revision	.38	.53

Inspection of the standardised coefficients indicates that a combination of three strategies influences the separation of classroom and distance learners: self-management (.70), advance organisation (.50) and revision (.38).

An examination of the correlation coefficients reveals that the same three strategies also, independently of each other, serve to differentiate between classroom and distance learners: self-management (.72), advance organisation (.60) and revision (.53).

Response frequencies for the three key metacognitive variables which maximally separate classroom and distance learners were obtained. These are displayed in Figures 4.3, 4.4 and 4.5.



The responses of classroom (N=143) and distance (N=274) learners according to their use of self-management are presented in Fig. 4.3. This illustrates the fact that distance learners 'very often' employ self-management in their language learning while the most frequent response for classroom learners is that they 'sometimes' use this strategy.

Fig. 4.4 shows the response of classroom and distance learners in terms of their use of advance organisation. Classroom learners respond in almost equal numbers to the categories of 'sometimes' 'often' and 'very often' while the most frequent response for distance learners is 'very often'.

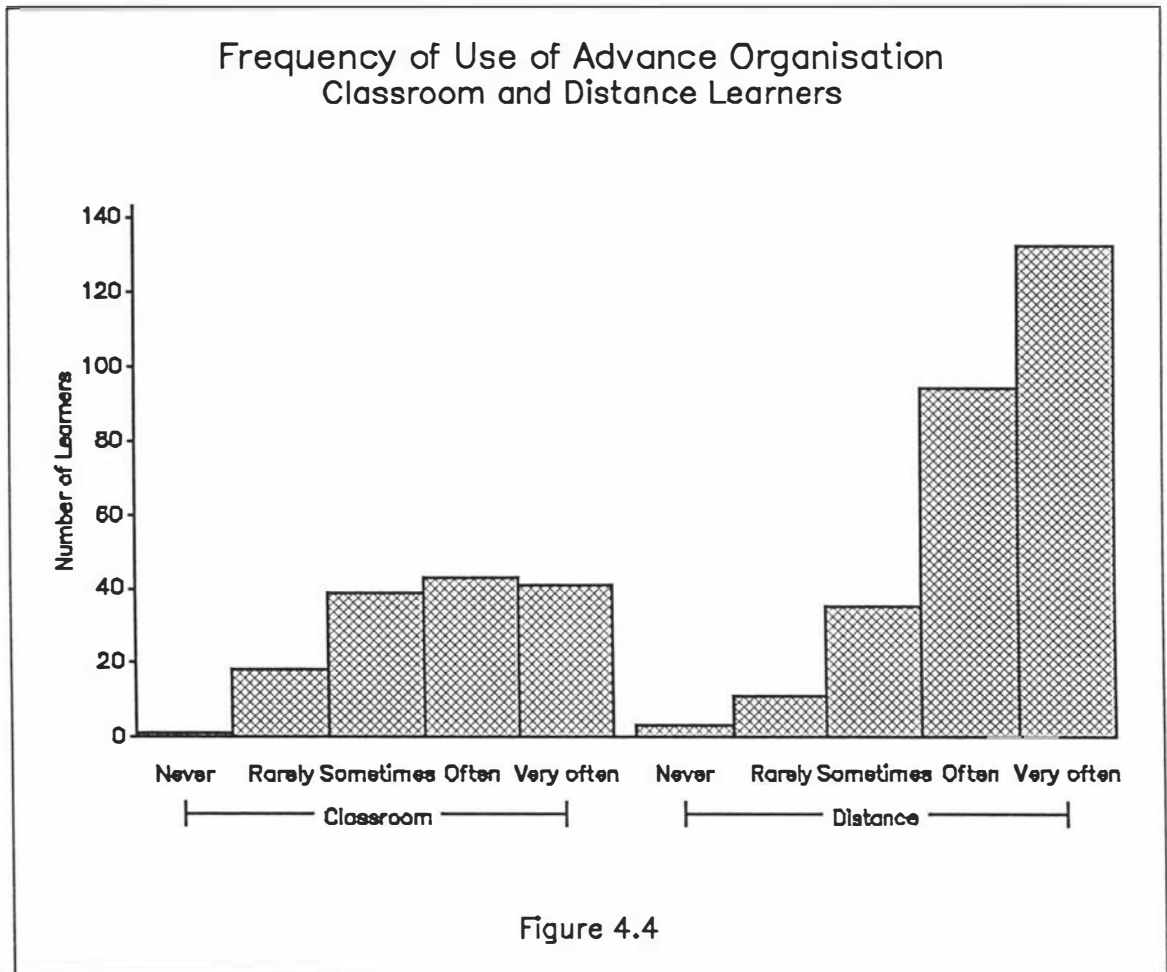
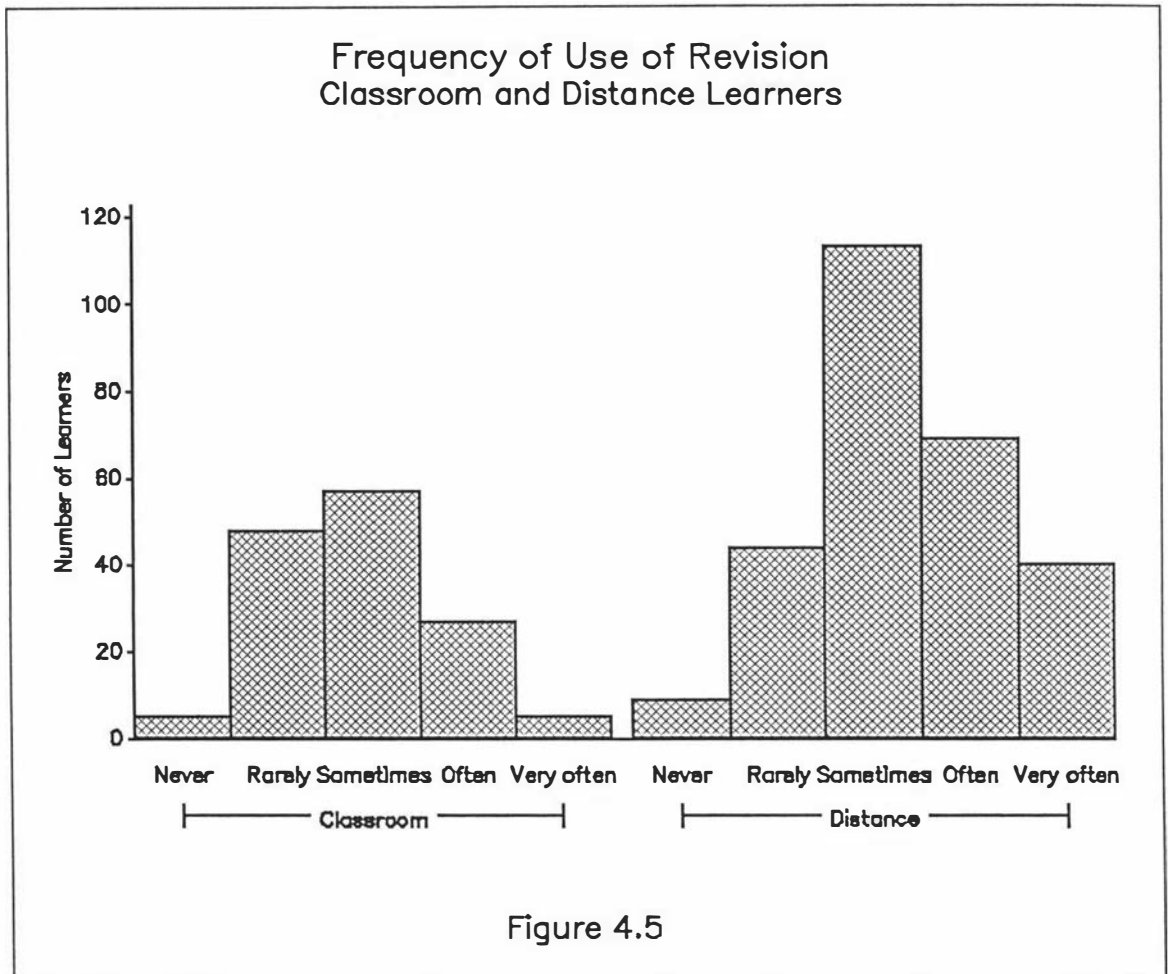


Fig. 4.5 illustrates the response to the third strategy, revision, which contributes to a significant difference between classroom and distance learners in terms of MSU. Classroom learners tend to respond at the lower end of the frequency scale while the distance learners respond towards the higher end of the scale.



Thus three metacognitive strategies were identified which account for the separation of classroom and distance learners in the first plot (Figure 4.1).

Section 4.3 is devoted to further analysis of the relationship between mode of study and metacognition in language learning. The next section deals with the second main influence on MSU, namely the age of learners.

4.2.4 The Influence of Age on MSU Variables

Figure 4.2 included in section 4.2.2 presented a visual interpretation of the separation of learners of different age groups according to their MSU.

CVA was performed to identify the influence of particular metacognitive variables on the separation of the age groups. Correlation coefficients and standardised coefficients for the first two canonical variates are presented in Table 4.4. The first canonical variate extracts 60% of the variation in the data and the second canonical variate extracts 26% of the variation. Together, the two canonical variates account for 86% of the variation in the data represented in the second plot (Figure 4.2). In interpreting Figure 4.2 it is evident that the dispersal of learners according to age groups occurs mostly along the horizontal axis. While there is apparently some variation (26%) along the vertical axis, no clear overall pattern emerges for the dispersal of age groups along the vertical axis (second canonical variate). This is another indicator that the first canonical variate is the most important representation of the variation in the data.

Table 4.4
Standardised Coefficients and Correlation Coefficients for MSU Variables
Age of Learners as Groups

Strategy	First Canonical Variate		Second Canonical Variate	
	Standardised Coefficients	Correlation Coefficients	Standardised Coefficients	Correlation Coefficients
Advance Organisation	.24	.44	-.03	.08
Selective Attention	-.10	.20	.01	.12
Directed Attention	.09	.34	.45	.34
Delayed Production	.27	.41	-.15	-.17
Self-management	.76	.81	-.47	-.25
Problem Identification	.15	.31	-.09	-.04
Self-monitoring	.03	.33	.66	.42
Self-evaluation	.20	.33	-.45	-.04
Priorities	-.18	-.07	-.34	-.19
Revision	.22	.38	.63	.54

The standardised coefficients for the first canonical variate reveal that self-management (.76) makes the principal contribution to the separation of learners according to their age. The other strategies which contribute jointly to the separation of learners by age are delayed production (.27), advance organisation (.24) and revision (.22).

When we consider the individual contribution of metacognitive variables by referring to the correlation coefficients the most significant one is again self-management (.81). Advance organisation (.44), delayed production (.41) and revision (.38) contribute individually to the separation of learners by age groups represented in Figure 4.2.

For the second canonical variate, self-monitoring and revision are the key strategies and they are important both jointly and individually. The strategies identified through the second canonical variate can explain a much smaller percent of the variation than those in the first canonical variate.

To summarise then, self-management makes the major contribution to the separation of learners according to their age groups as shown in Figure 4.2.

Table 4.5 presents the mean scores for the five metacognitive strategies which maximally distinguish learners in different age groups: self-management, advance organisation, delayed production, revision and self-monitoring.

Table 4.5
Mean Scores for Use of Metacognitive Strategies by Age Groups

Strategy	Age Groups					
	<21	21-30	31-40	41-50	51-60	>60
Self-management	3.02	3.48	4.07	4.16	4.20	3.57
Adv. Organisation	3.88	3.93	4.21	4.32	4.08	4.42
Delayed Production	3.50	3.60	4.07	3.83	3.83	4.21
Revision	2.89	3.15	3.08	3.42	3.33	3.85
Self-monitoring	3.80	4.07	4.00	4.31	3.91	4.28

Perusal of Table 4.5 reveals that the trend is for the frequency of MSU to increase steadily with age, though there are some fluctuations in this pattern, particularly within the higher age groups.

As noted in section 3.2.2, distance learners are mostly over 21, while classroom learners are largely under 21. Thus, in order to be able to interpret accurately the results in Table 4.5, it is necessary to check for increases in MSU according to age within the two populations of classroom and distance learners. To this end two sets of mean scores for MSU according to age were obtained: one for classroom learners, the other for distance learners.

The results for classroom learners are presented in Table 4.6.

Table 4.6
Mean Scores for Use of Metacognitive Strategies by Age Groups
Classroom Learners

Strategy	Age Groups			
	<21 N=84	21-30 N=43	31-40 N=9	41-50 N=5
Self-management	2.91	3.18	4.22	4.40
Adv. Organisation	3.77	3.65	3.55	4.20
Delayed Production	3.47	3.69	4.11	4.40
Revision	2.76	2.83	3.22	3.40
Self-monitoring	3.83	4.07	3.77	4.20

Perusal of the figures in Table 4.6 reveals that classroom learners display steady increases in MSU with age, particularly for self-management, delayed production, revision and self-monitoring.

Mean frequencies for the use of metacognitive strategies by distance learners of different age groups are presented in Table 4.7.

Table 4.7
Mean Scores for Use of Metacognitive Strategies by Age Groups
Distance Learners

Strategy	Age Groups					
	<21 N=22	21-30 N=73	31-40 N=74	41-50 N=68	51-60 N=24	>60 N=14
Self-management	3.54	3.64	4.06	4.14	4.20	3.57
Adv. Organisation	4.27	4.08	4.31	4.33	4.08	4.42
Delayed Production	3.72	3.53	4.08	3.79	3.83	4.21
Revision	3.45	3.30	3.08	3.42	3.33	3.85
Self-monitoring	3.63	4.06	4.04	4.32	3.91	4.28

Perusal of Table 4.7 indicates that increases in MSU with age are not so evident for distance learners as for classroom learners. There are a number of fluctuations to the pattern of the increasing frequency of MSU. However, overall the tendency is for older learners to make greater use of metacognitive strategies, particularly for self-management and self-monitoring.

To summarise, MSU is influenced by age, particularly with regard to the self-management strategy, irrespective of mode of study. The separation of learners on MSU variables by age groups was presented in Figure 4.2. What is not indicated by CVA however, is whether the differences in MSU are more marked between some age groups than others. The rest of this section is devoted to locating the most marked differences between particular age groups on MSU measures.

Perusal of the means presented earlier in Table 4.6 suggests that the main separation for learners in terms of MSU occurs between the under thirty and the over thirty age groups. To determine exactly where the significant differences between the age groups are located, Duncan's multiple-range test ($\alpha=0.05$) was applied to the first canonical variate. The results are presented in Table 4.8.

Table 4.8
Duncan's Test for Comparison of Means
Age Groups for the First Canonical Variate

Duncan Grouping	Mean	N	Age Group
A	.59	72	41-50
A	.52	14	>60
A	.39	82	31-40
A	.35	24	51-60
B	-.26	115	21-30
B	-.57	106	<21

In Table 4.8, age groups with the same letter have means which are not significantly different. It is evident then that there is a statistically significant difference on MSU measures between the learners who are under thirty and the rest of the population. Figure 4.6 shows the separation of the under thirty and over thirty age groups in terms of MSU. CVA indicated that this separation can be largely attributed to the use of the self-management strategy.

4.2.5 Summary

Mode of study and the age of learners were found to be the principal influences on MSU measures. Classroom and distance learners were differentiated in terms of their use of self-management, advance organisation, revision and self-monitoring. As far as the influence of age on MSU variables was concerned, the most marked separation between age groups occurred for learners under thirty and over thirty, irrespective of mode of study. Differences in MSU according to age were related to the use of self-management, delayed production, advance organisation and revision. The tendency was for the frequency of use of these metacognitive strategies increased with age.

CVA of MSU Variables
Learners Under Thirty and Over Thirty as Groups

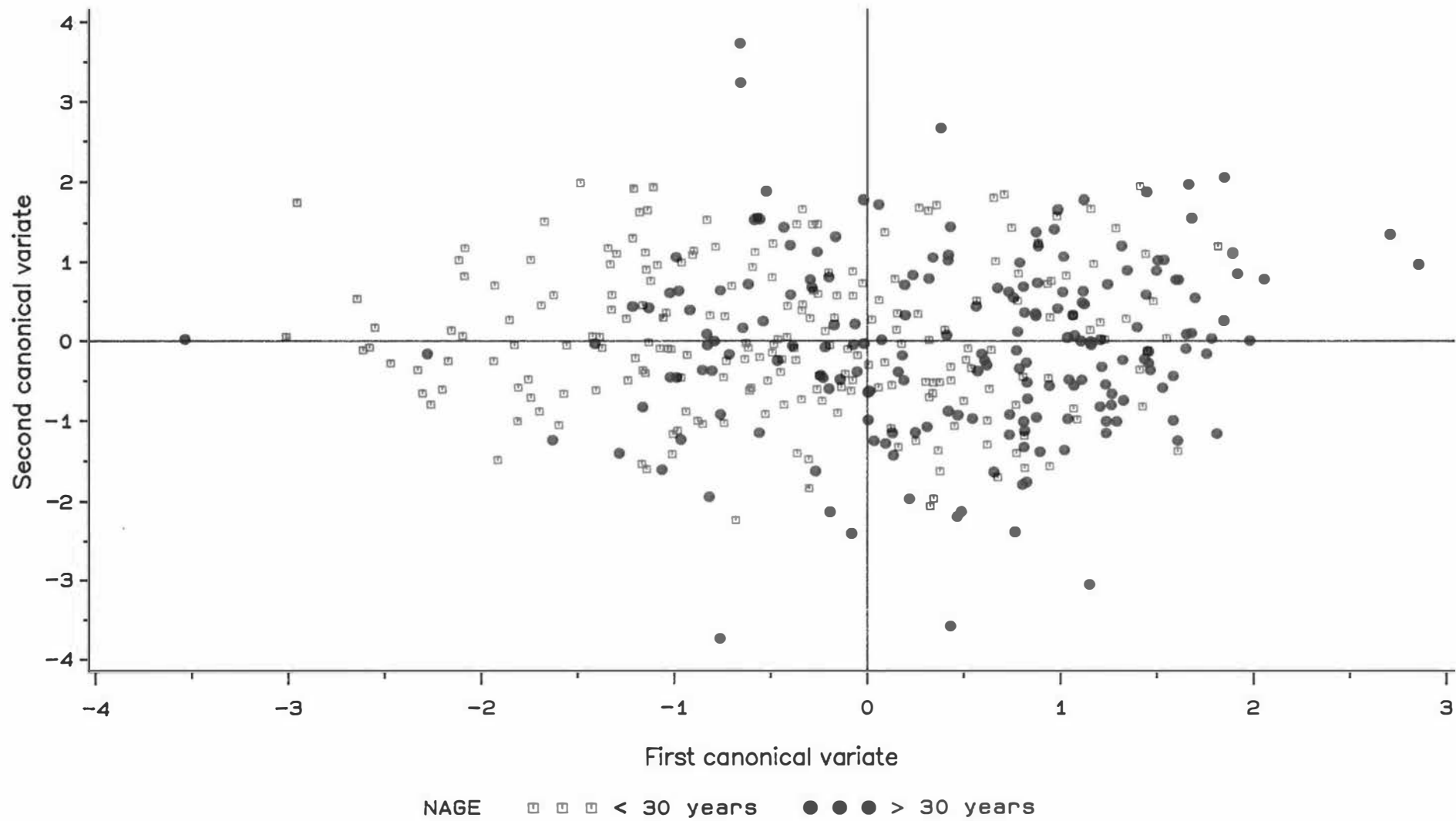


Figure 4.6

4.3 INTERACTION OF VARIABLES WITH MODE OF STUDY AND MSU

Having established the influence of mode of study on MSU, the next stage was to determine which variables interact with mode of study to contribute to the differences in MSU . That is, to discover any further characteristics of learners who show a marked difference in MSU according to mode of study.

Ten sets of CVA were performed in which mode of study was combined with each of the learning context and learner characteristic variables. Plots of the values of the canonical variate scores were obtained to aid in the interpretation of the findings. Analysis of the plots revealed that four variables influenced the separation between classroom learners and distance learners on MSU measures. These were the level of study, proficiency, the TL and prior experience in learning the TL.

Listed below are the values for each of the key variables which appear to further influence the separation of classroom and distance learners on MSU measures. Level of study, for example, is represented by three values: 100-level, 200-level, 300-level.

Table 4.9
Values for Variables Interacting with Mode of Study and MSU Variables

Variable	Value
Level of Study	100-level 200-level 300-level
Proficiency	'A' 'B' 'C' 'D'
Target Language	French German Japanese Chinese
Prior TL Experience	Yes No

Further canonical variate analyses were performed to identify which of the above values maximises the difference between classroom and distance learners for the MSU measures.

4.3.1 Level of Study

As indicated in Table 4.9, there are three values for the level of study variable. CVA was performed to determine at which level of study, classroom and distance learners were maximally separated in terms of their MSU. An analysis of the plots of the canonical variate scores revealed that the greatest difference occurred at the 200-level (Figure 4.7). All the variation between the two groups is captured by the first canonical variate, that is, along the horizontal axis. This is true for all the analyses presented in the remainder of the chapter.

CVA of MSU Variables
200-level Classroom and Distance Learners as Groups

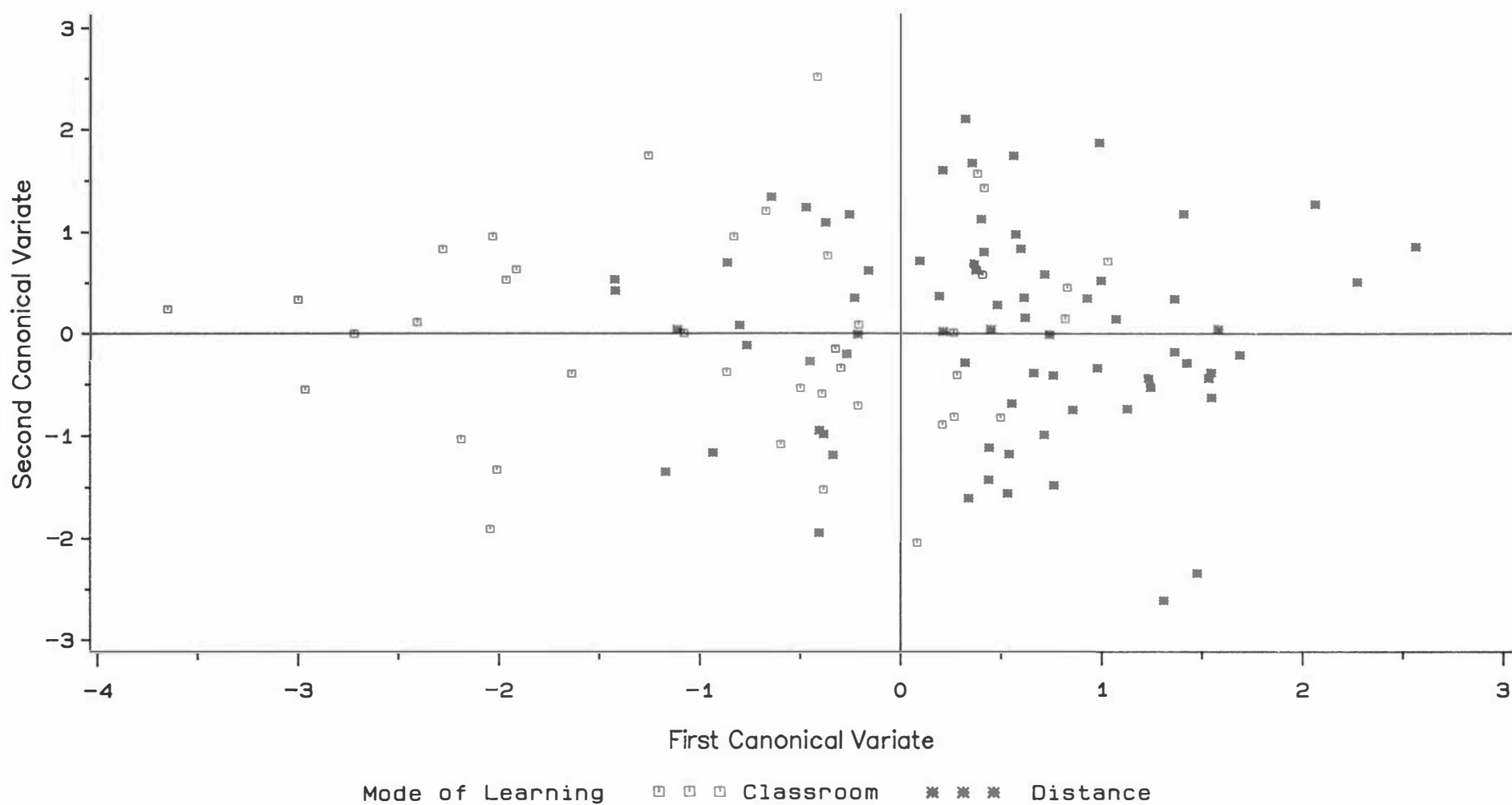


Figure 4.7

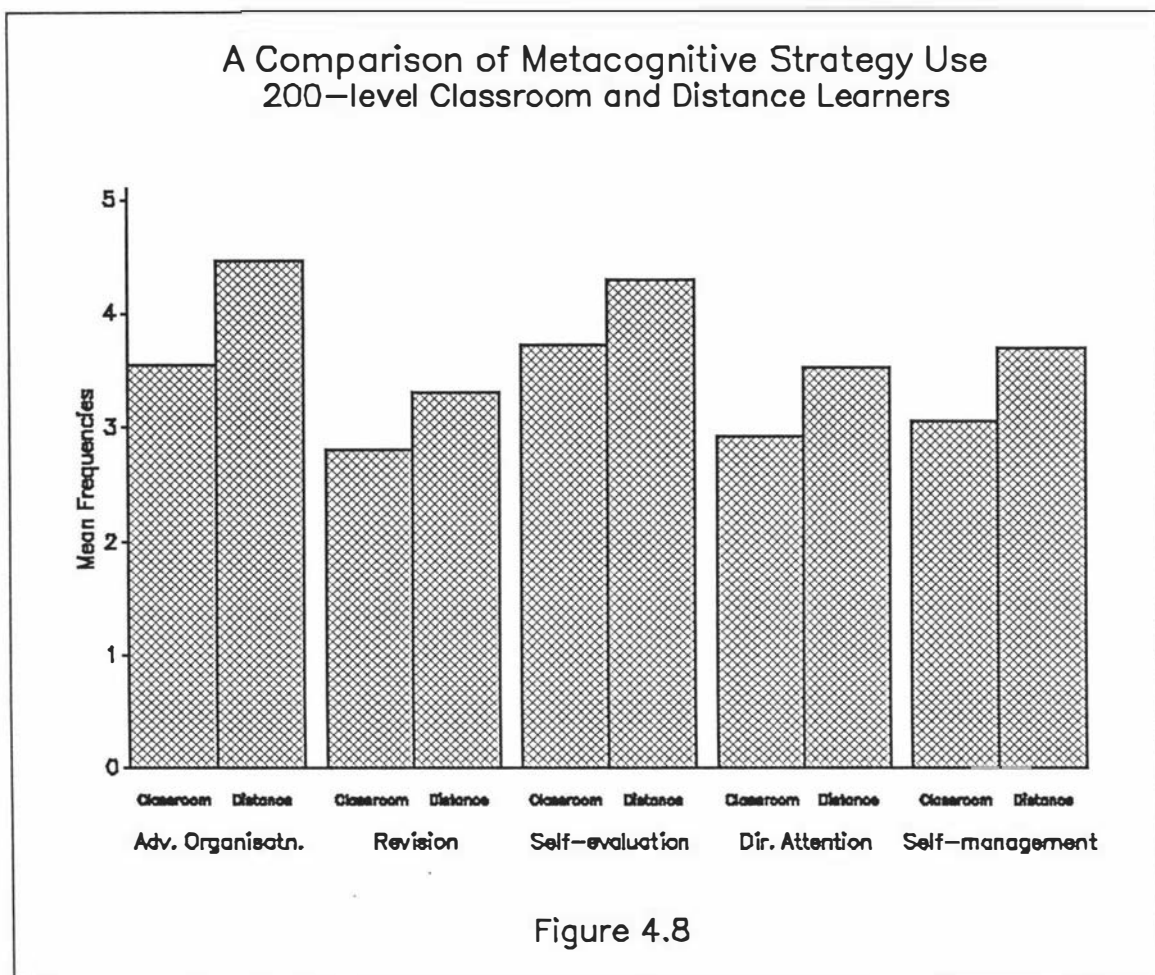
The standardised coefficients and correlation coefficients presented in Table 4.10 show the contribution of each of the ten metacognitive strategies to the separation of classroom and distance learners at the 200-level. The significance of the canonical variate scores was evaluated using the F distribution obtained through ANOVA: $F=43.90 (1,112)$, $p<.0001$.

Table 4.10
Standardised Coefficients and Correlation Coefficients for MSU Measures
200-level Classroom and Distance Learners as Groups

Strategy	Standardised Coefficients	Correlation Coefficients
Advance Organisation	.91	.84
Selective Attention	-.13	.13
Directed Attention	.35	.47
Delayed Production	.12	.24
Self-management	.15	.44
Problem Identification	.05	.24
Self-monitoring	-.05	.28
Self-evaluation	.10	.48
Priorities	.01	.23
Revision	.29	.49

An analysis of the coefficients in Table 4.10 reveals that the key strategies influencing the separation of classroom and distance learners both separately and jointly at the 200-level are advance organisation, revision, self-evaluation, directed attention and self-management. The large coefficients for the advance organisation strategy (.91, .84) show the high contribution it makes to the separation of learners in the plot (Figure 4.7).

Figure 4.8 presents a comparison of mean strategy use for the five key MSU measures for classroom and distance learners at the 200-level.



In each case distance learners make more frequent use of metacognitive strategies than classroom learners. The greatest differences occur for the use of advance organisation.

4.3.2 Proficiency

Four values for proficiency, as presented in Table 4.10, were tested using CVA to determine their contribution to the separation of classroom and distance learners on MSU measures. An analysis of the plots of canonical variate scores revealed that the maximum contrast between classroom and distance learners occurred for those who achieved a proficiency grade of 'B'. The results are displayed in Figure 4.9.

Standardised and correlation coefficients were obtained and are listed in Table 4.11.

Table 4.11
Standardised Coefficients and Correlation Coefficients for MSU Variables
Grade 'B' Classroom and Distance Learners as Groups

Strategy	Standardised Coefficients	Correlation Coefficients
Advance Organisation	.58	.71
Selective Attention	.04	.43
Directed Attention	.18	.55
Delayed Production	-.18	.06
Self-management	.57	.67
Problem Identification	-.12	.18
Self-monitoring	.14	.29
Self-evaluation	-.01	.37
Priorities	-.10	.21
Revision	.39	.62

The coefficients indicate that the separation represented in Figure 4.9 can be accounted for by three metacognitive strategies, which operate both individually and jointly towards this separation. The key strategies are advance organisation, self-management and revision. The standardised coefficients reveal that the joint contribution of advance organisation and self-management is virtually equal.

ANOVA performed on the canonical variate scores revealed that the separation of grade 'B' classroom learners from grade 'B' distance learners on MSU measures is highly significant: $F=46.63 (1,130)$, $p<.0001$.

CVA of MSU Variables
Grade B Classroom and Distance Learners as Groups

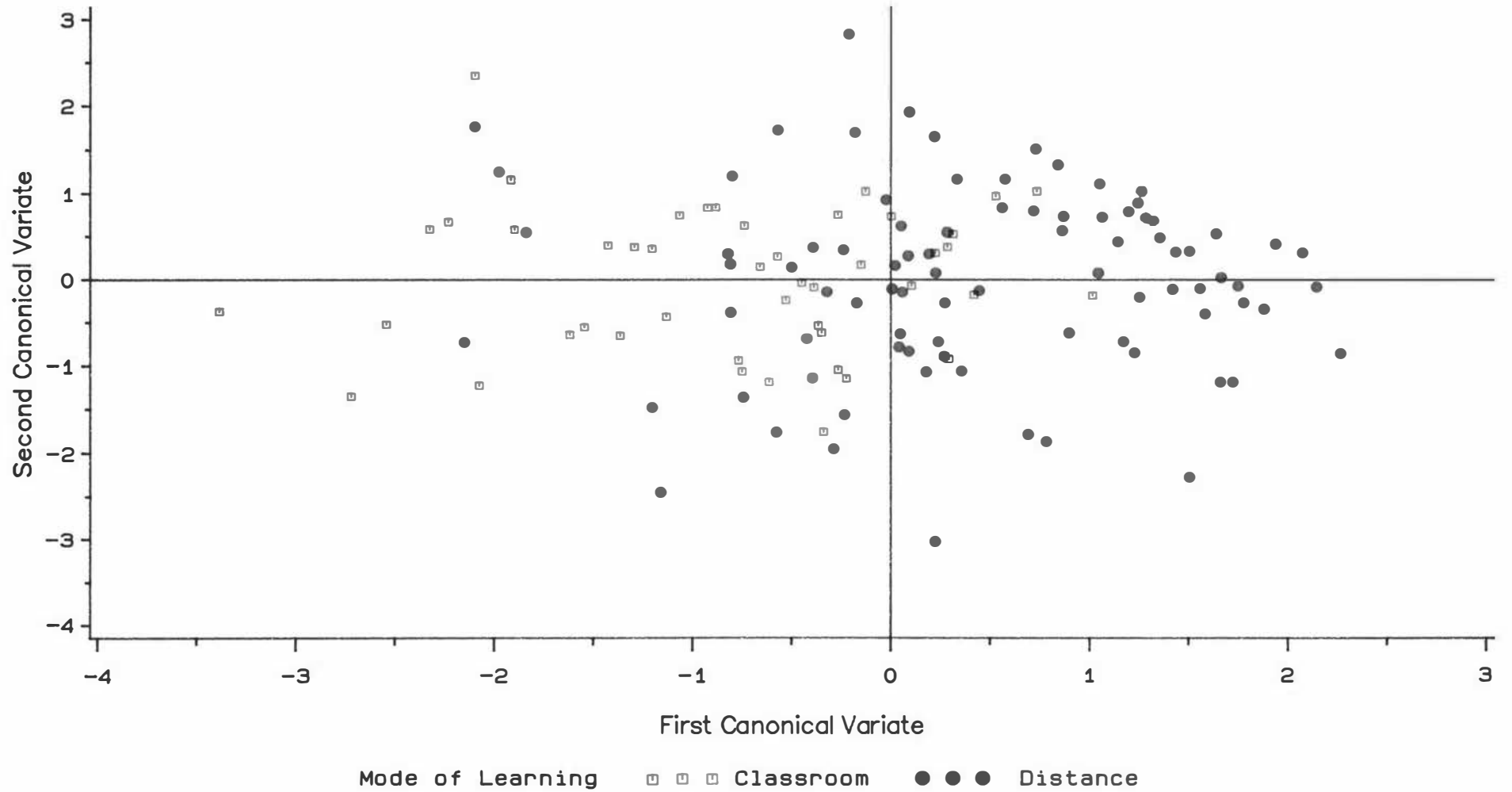
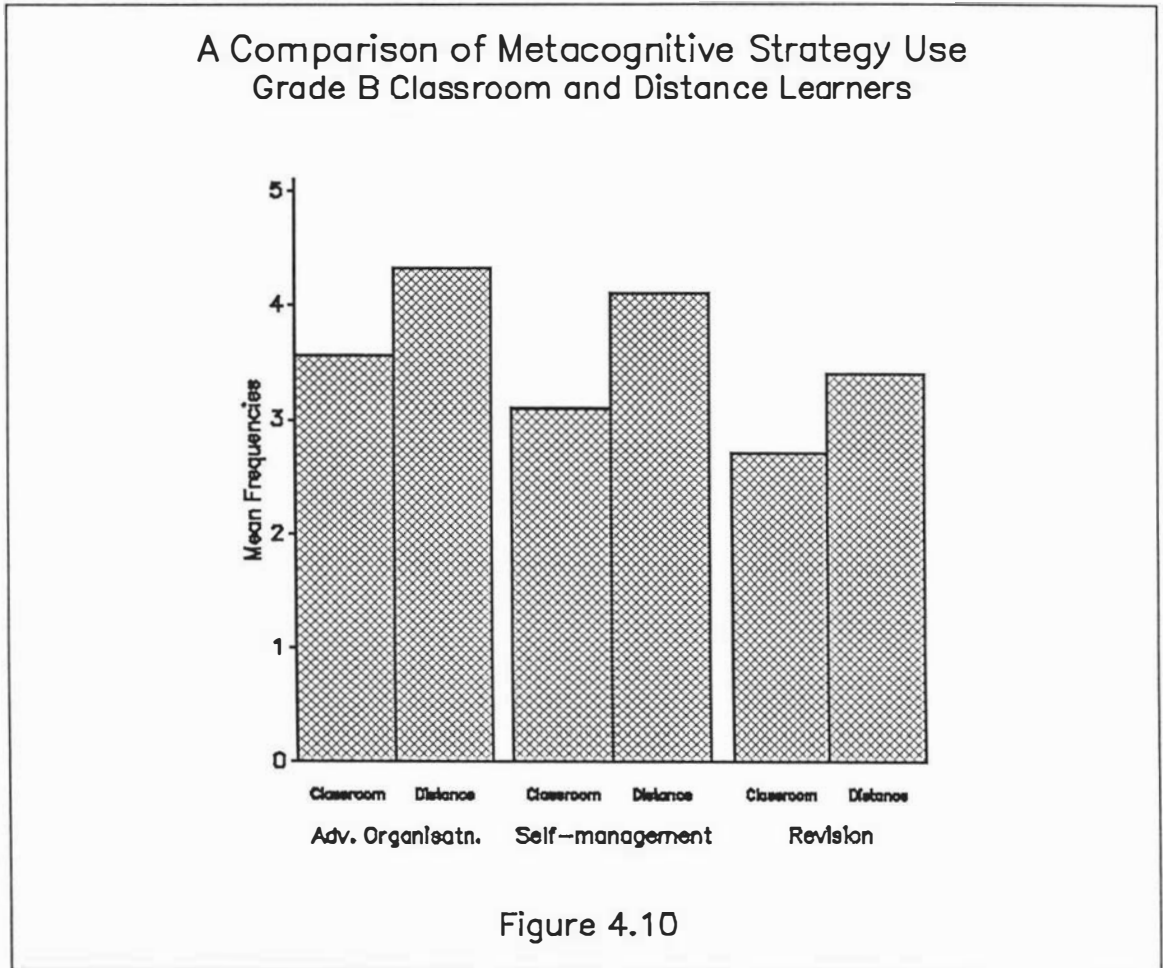


Figure 4.9

A comparison of the use of the three key strategies responsible for this separation is presented in Figure 4.10.



4.3.3 Target Language

In terms of the influence of the TL on MSU, the most marked effects take place when the TL is Japanese. The resulting separation of classroom and distance learners is displayed in Figure 4.11.

The standardised and correlation coefficients presented in Table 4.12 reveal that three strategies are principally responsible for the separation displayed in Figure 4.11: advance organisation, self-management, and revision. The contribution made by the advance organisation strategy exceeds that made by other metacognitive strategies.

Table 4.12
Standardised Coefficients and Correlation Coefficients for MSU variables
Classroom and Distance Learners of Japanese as Groups

Strategy	Standardised Coefficients	Correlation Coefficients
Advance Organisation	.80	.81
Selective Attention	-.25	.14
Directed Attention	.29	.44
Delayed Production	.05	.16
Self-management	.37	.59
Problem Identification	-.14	.12
Self-monitoring	-.13	.23
Self-evaluation	.06	.29
Priorities	-.31	.00
Revision	.38	.50

The significance of the canonical variate scores was evaluated using the F distribution obtained through ANOVA: $F=52.03 (1,156)$, $p<.0001$.

CVA of MSU Variables
Classroom and Distance Learners of Japanese as Groups

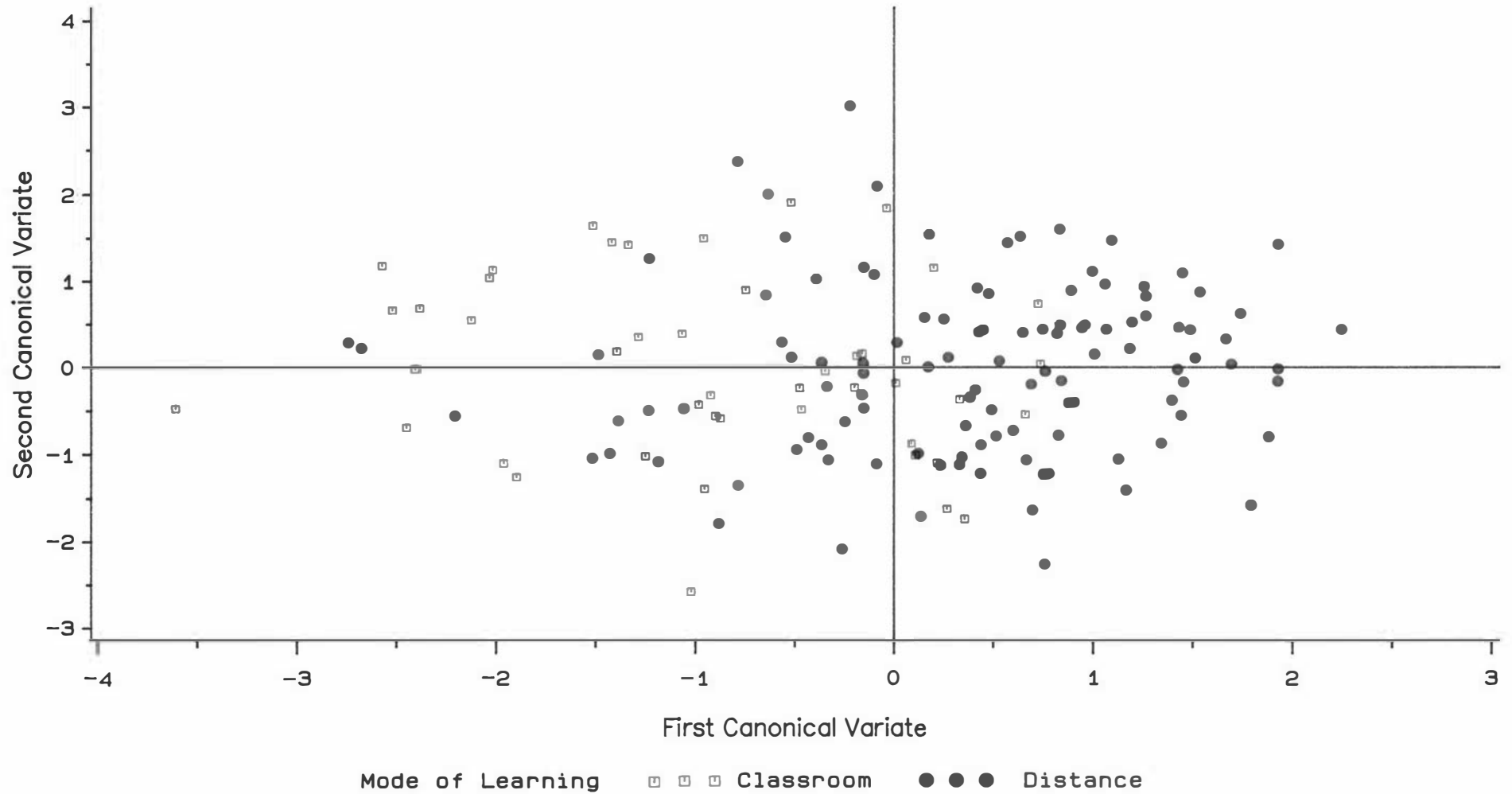
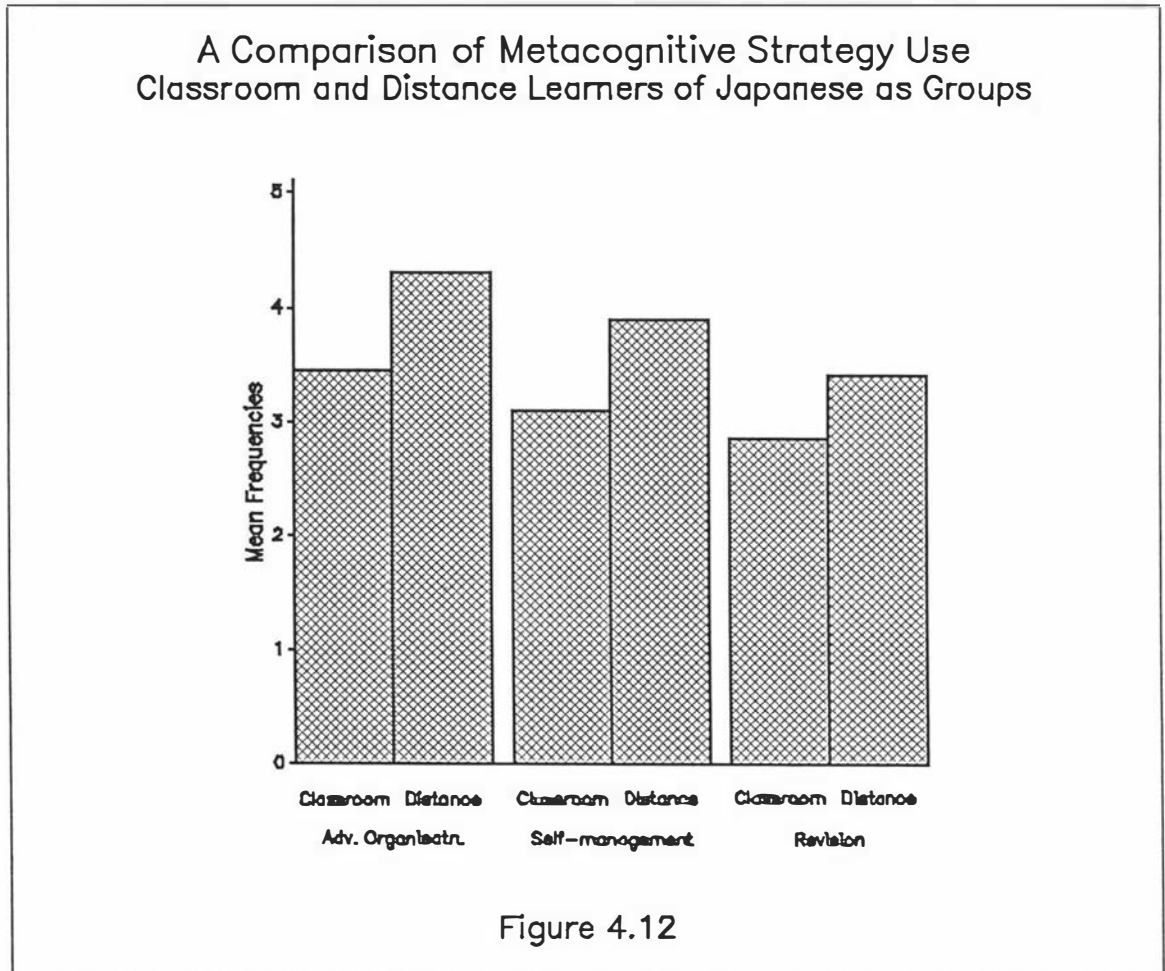


Figure 4.11

A comparison of the use of the three strategies which differentiate classroom learners of Japanese from distance learners of Japanese is presented in Figure 4.12.



4.3.4 Prior Target Language Experience

Classroom and distance learners who had no prior experience in the TL before enrolling in a language course at Massey University were maximally distinguished in terms of their MSU. This separation is presented in Figure 4.13.

Table 4.13
Standardised Coefficients and Correlation Coefficients for MSU Variables
Classroom and Distance Learners with No Prior TL Experience as Groups

Strategy	Standardised Coefficients	Correlation Coefficients
Advance Organisation	.41	.57
Selective Attention	-.04	.23
Directed Attention	.41	.49
Delayed Production	.23	.35
Self-management	.70	.76
Problem Identification	-.28	-.15
Self-monitoring	-.01	.14
Self-evaluation	-.08	.19
Priorities	-.33	-.07
Revision	.27	.38

The standardised and correlation coefficients presented in Table 4.13 reveal that three strategies contribute to the separation displayed in Figure 4.13: self-management, advance organisation and directed attention. In this case the greatest joint (.70) and individual (.76) contribution is made by the self-management strategy.

CVA of MSU Variables
Classroom and Distance Learners with No Prior TL Experience as Groups

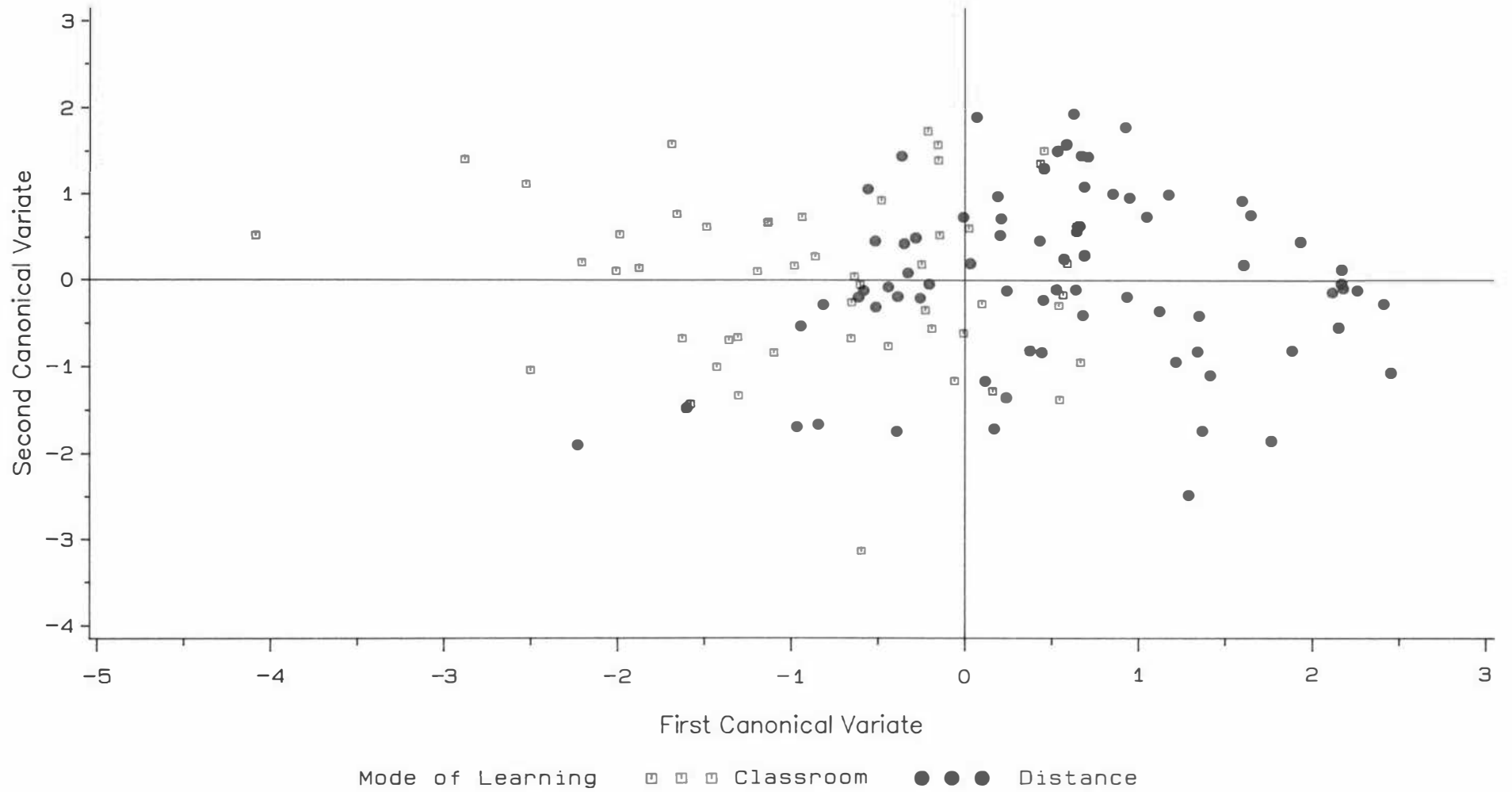
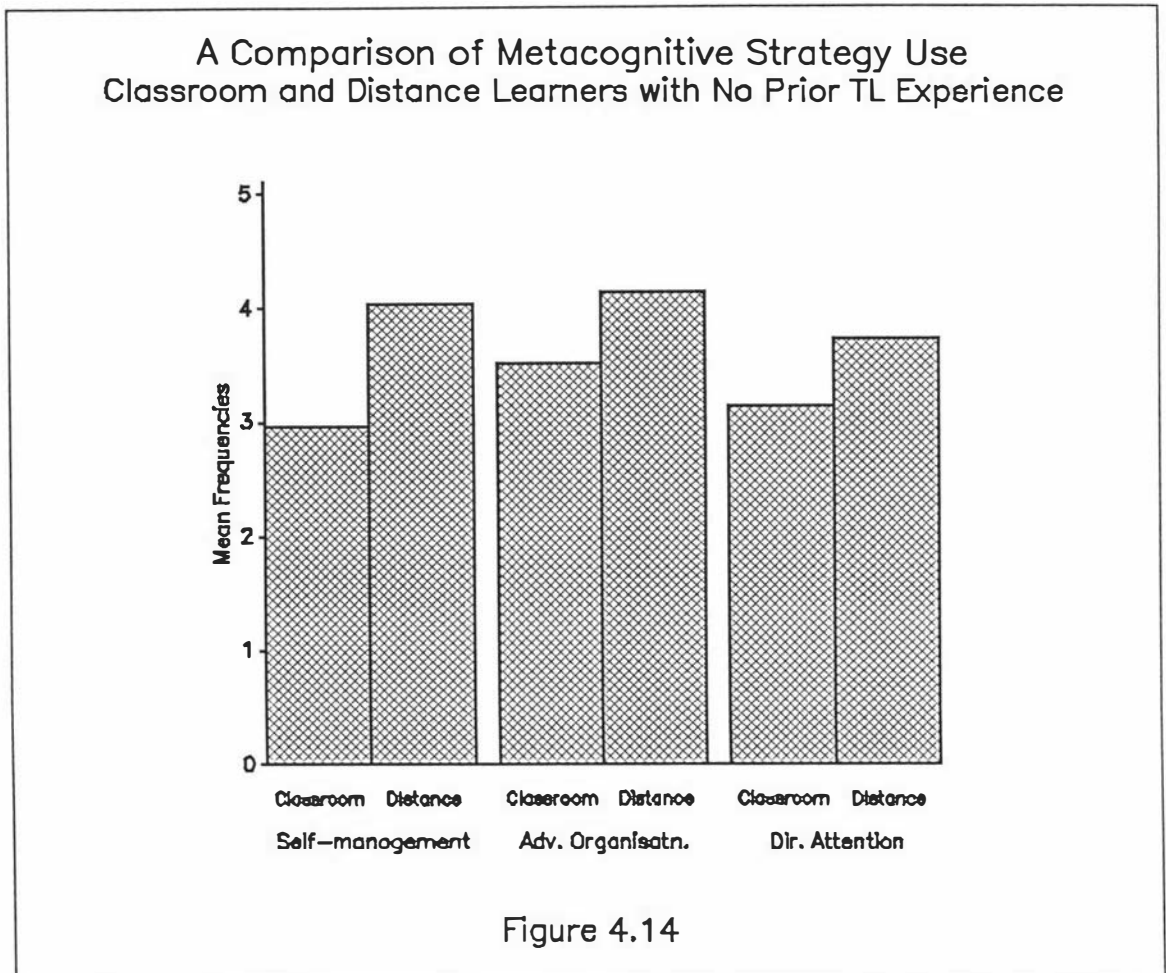


Figure 4.13

A comparison of the use of these three strategies by classroom learners and distance learners with no prior TL experience is presented in Figure 4.14.



Referring to Figure 4.14 it is evident that distance learners with no prior experience of the TL used self-management strategies 'often', while classroom learners used them 'sometimes'. Difference also occurred in the use of advance organisation and directed attention between the two groups according to mode of study.

F values were obtained through ANOVA performed on the canonical variate scores. They were found to be significant at the .0001 level: $F=59.51 (1,124)$, $p<.0001$.

4.3.5 Summary

CVA revealed that mode of study had the greatest effect on the MSU of undergraduate foreign language students. The key strategies contributing to the separation of classroom and distance learners were the use of self-management and advance organisation, and to a lesser extent revision.

The differences between classroom and distance learners in terms of their MSU were particularly notable in four circumstances: firstly when language learning took place at the 200-level, secondly when the TL was Japanese, thirdly for learners who achieved a proficiency level of 'B' and finally when learners had no prior experience of the TL before enrolling in the university language courses. In the first three sets of circumstances the strategy which had the greatest impact on the differentiation of classroom and distance learners was the use of advance organisation. When learners had no prior experience of the TL, classroom and distance learners were maximally separated in terms of their use of self-management.

4.4 COGNITIVE STRATEGY USE

4.4.1 Frequency of Cognitive Strategy Use

Table 4.14 lists descriptive statistics for the cognitive strategy use (CSU) measures for the undergraduate language learners in this study.

Table 4.14
Frequency of Cognitive Strategy Use
(Means and Standard Deviations N=417)

Strategies	Mean	S.D.
Repetition	3.94	.91
Resourcing	4.21	.94
Grouping	2.93	1.09
Note-taking	3.42	1.10
Deduction	3.55	.98
Substitution	4.00	.94
Elaboration-Imagery	3.48	1.26
Visualisation	3.60	1.12
Elaboration-World	3.54	1.09
Elaboration-Parts	3.93	.93
Contextualisation	3.05	1.02
Summarisation	3.28	1.10
Translation TE	3.84	.99
Translation FE	3.68	1.10
Inferencing	4.42	.72
Transfer	4.02	.94
Rehearsal	2.99	1.16

Referring to Table 4.14, the four most frequently used cognitive strategies are inferencing, resourcing, transfer and substitution. The mean response for these strategies relates closest to the category of 'often'. The least used strategies are rehearsal and grouping which are used less than 'sometimes'.

4.4.2 Influences on Cognitive Strategy Use

In order to assess the relationship between variables relating to the context of learning and CSU, CVA was used. The procedure was identical to that described in the opening paragraphs of section 4.2.2. When plots of the canonical variate scores were obtained, there was some separation on CSU measures according to mode of study. A less marked separation occurred when the influence of the TL and the level of study were considered. Learners were not differentiated in their CSU according to their language use opportunities.

A similar procedure was followed to assess the relationship between the learner characteristic variables and CSU. The most marked separation of learners occurred in terms of their prior TL experience. No effects were found for the variables of age, gender, proficiency, other language learning or motivation.

The results of the analyses of the plots appear in Table 4.15.

Table 4.15
Influences on Cognitive Strategy Use
(In Rank Order of Importance)

Learning	Mode of Study	2
Context	Target Language	4
Variables	Level of Study	3
	Language Use Opportunities	-
Learner	Age	-
Characteristic	Gender	-
Variables	Proficiency	-
	Prior Target Language Experience	1
	Other Language Learning	-
	Motivation	-

The two most important variables, in terms of their influence on CSU measures, namely prior TL experience and mode of study, were then selected for further analysis.

4.4.3 The Influence of Prior TL Experience on CSU Variables

Figure 4.15 displays the separation of learners with and without prior TL experience according to their CSU.

In order to assess the significance of the canonical variate scores, F values were obtained through ANOVA: $F=64.86 (1,411)$, $p<.0001$.

The next stage was to identify which cognitive variables contribute to the separation in Figure 4.15. Standardised coefficients and correlation coefficients were obtained and are listed in Table 4.16.

Table 4.16
Standardised Coefficients and Correlation Coefficients for CSU Measures:
Prior TL Experience as Groups

Strategy	Standardised Coefficients	Correlation Coefficients
Repetition	-.06	.04
Resourcing	.61	.54
Grouping	-.24	-.17
Note-taking	.12	.07
Deduction	.31	.23
Substitution	.29	.53
Elaboration-Imagery	-.20	-.13
Visualisation	.09	.08
Elaboration-World	.21	.25
Elaboration-Parts	-.23	-.20
Contextualisation	.11	.15
Summarisation	-.16	-.22
Translation TE	-.25	-.39
Translation FE	-.25	-.42
Inferencing	.08	.09
Transfer	.04	.11
Rehearsal	-.25	-.24

CVA of CSU Variables
Prior TL Experience as Groups

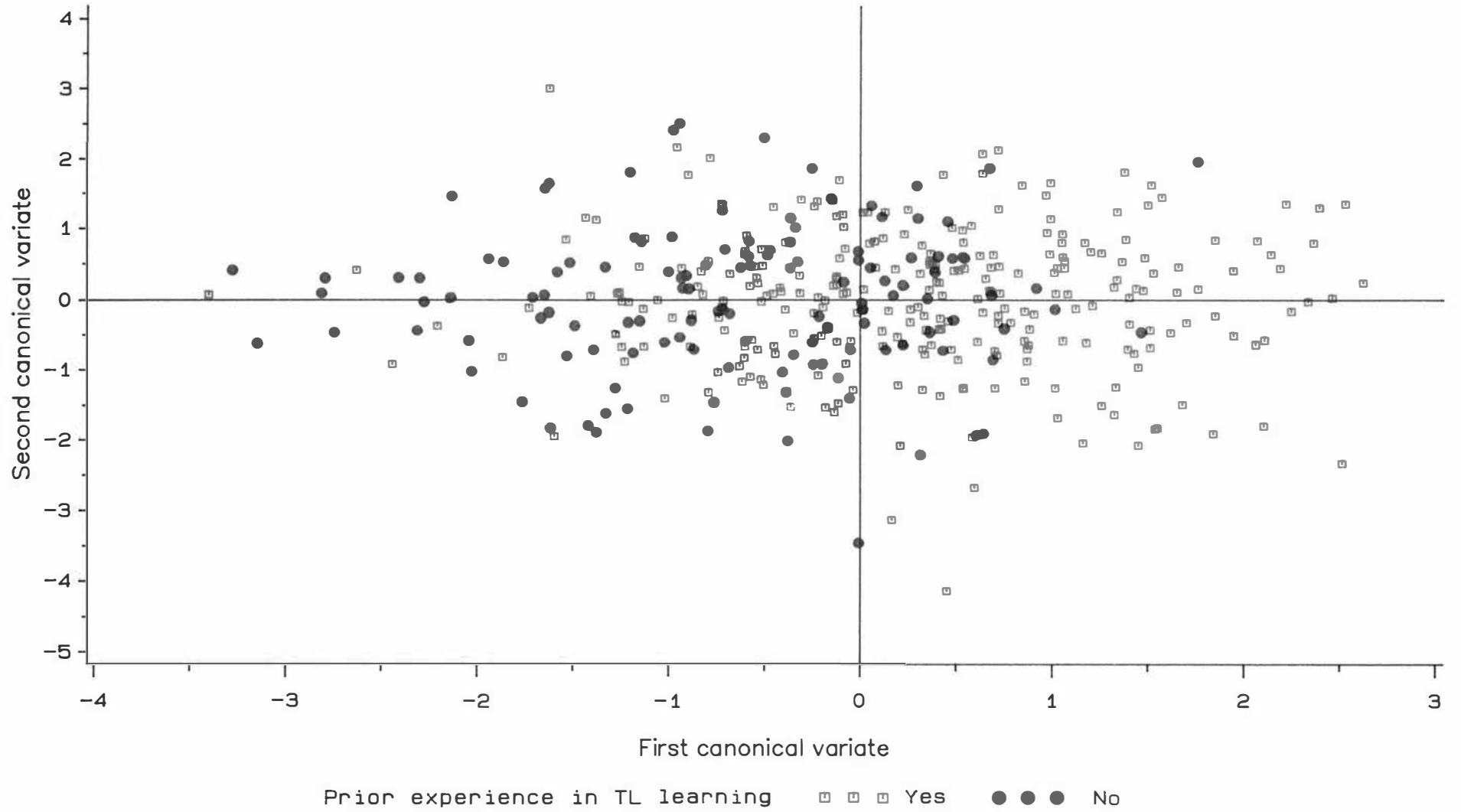


Figure 4.15

Perusal of the coefficients in Table 4.16 indicates that the two main cognitive variables which contribute individually and jointly to the separation of the groups in Figure 4.15 are resourcing and substitution. There is also a joint contribution made by deduction (.31), though individually this strategy is not important. Relatively high coefficients appear for translation both to and from English. The translation strategies have negative values for both the standardised coefficients (-.25) (-.25) and for the correlation coefficients (-.42) (-.39). This indicates that the use of translation both to and from English contributes to the separation of learners according to prior TL experience, but that the contribution operates in the opposite direction to that of strategies such as resourcing and substitution. This can be seen by referring to Figure 4.16.

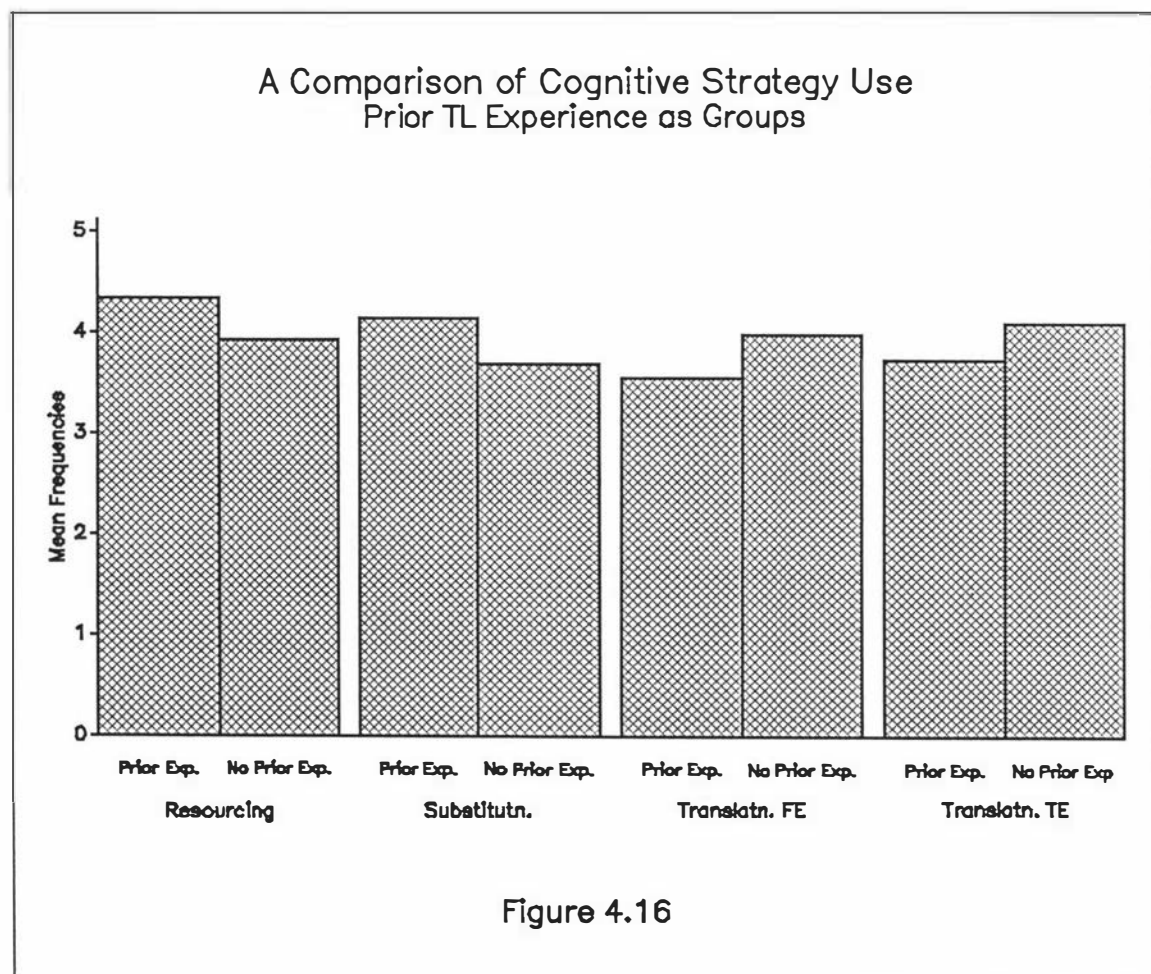


Figure 4.16 reveals that learners with prior experience of the TL make more use of resourcing and substitution than do learners without such experience. On the other hand they make less use of translation, both to and from English, than do learners with no prior experience of learning the TL before enrolling in the university language course.

4.4.4 The Influence of Mode of Study on CSU Variables

In section 4.4.2 the influence of mode of study on CSU was investigated and some separation of classroom and distance learners was found. This is displayed in Figure 4.17.

From a comparison of Figure 4.1 (presenting the influence of mode on MSU measures) and of Figure 4.17 (showing the influence of mode on CSU measures), it can be seen that the influence of mode of study is more marked for MSU than for CSU. This is also indicated by the fact that the means on the first canonical variate are further apart for the influence of mode on MSU measures than for the means relating to the influence of mode on CSU measures. A comparison of the means is presented in Table 4.17.

Table 4.17
Class Means on Canonical Variate One
MSU Measures and CSU Measures

Mode of Study	MSU Measures	CSU Measures
Classroom	-.61	-.56
Distance	.31	.28

To evaluate the significance of the first canonical variate scores F values were obtained through ANOVA: $F=64.86 (1,411), p<.0001$.

CVA of CSU Variables
Mode of Study as Groups

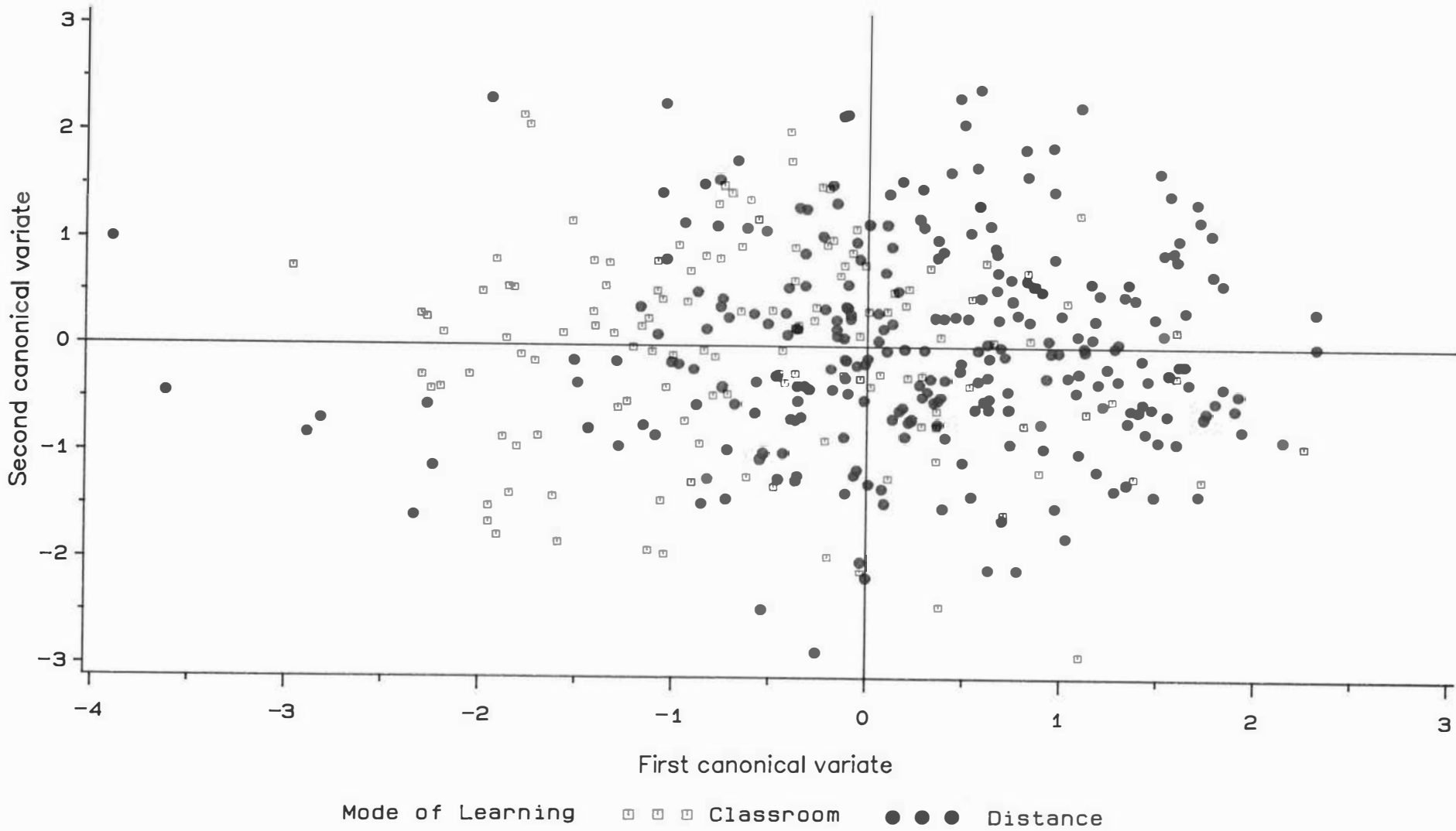


Figure 4.17

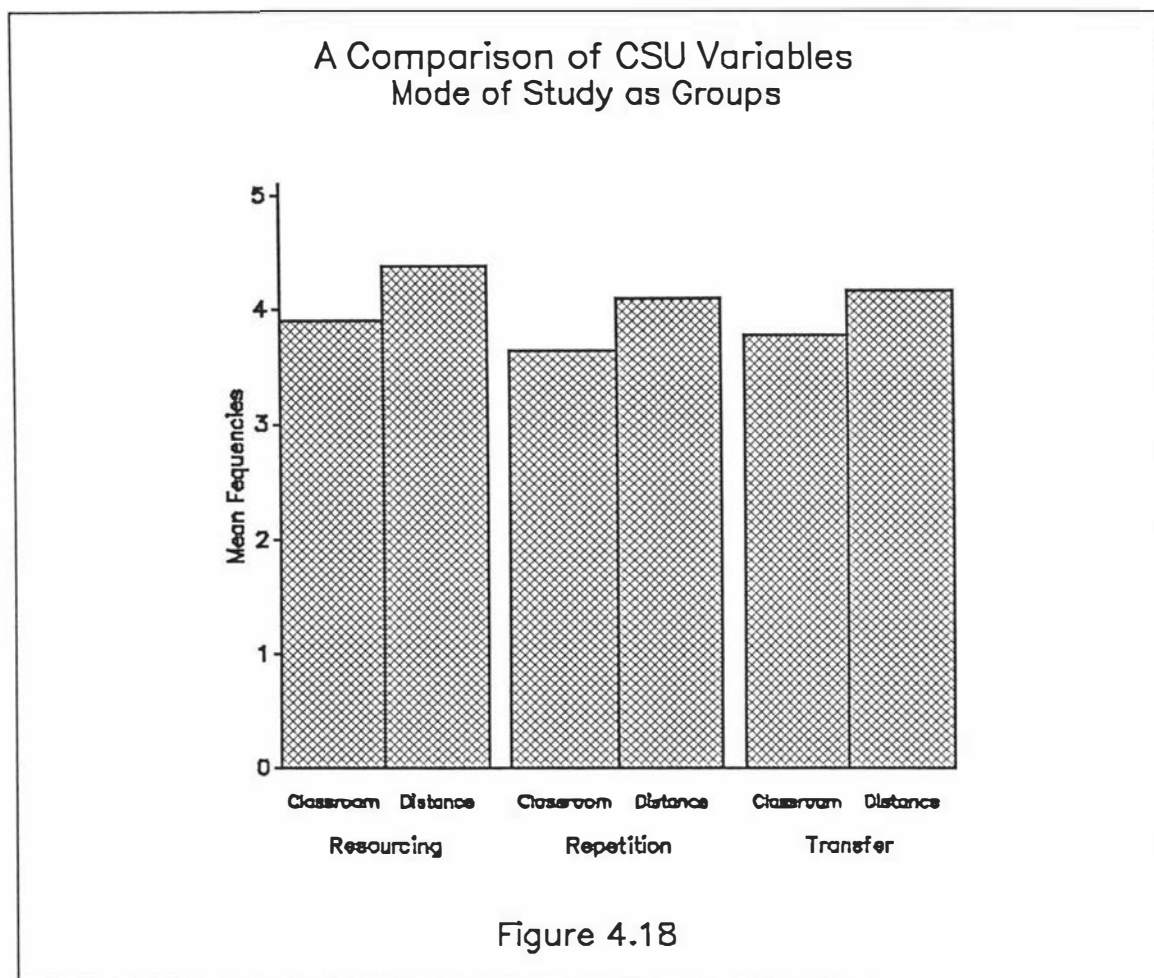
In order to discover which set of cognitive variables is influencing the tendency for classroom and distance learners to separate in Figure 4.17, standardised coefficients and correlation coefficients were obtained. These coefficients appear in Table 4.18.

Table 4.18
Standardised and Correlation Coefficients for CSU Variables
Mode of Study as Groups

Strategy	Standardised Coefficients	Correlation Coefficients
Repetition	.36	.58
Resourcing	.49	.62
Grouping	.16	.39
Note-taking	.05	.32
Deduction	.09	.37
Substitution	-.13	.04
Elaboration-Imagery	-.04	.21
Visualisation	-.01	.21
Elaboration-World	.28	.35
Elaboration-Parts	.02	.22
Contextualisation	-.16	.11
Summarisation	.01	.33
Translation TE	-.11	-.05
Translation FE	-.07	-.02
Inferencing	.02	.20
Transfer	.37	.51
Rehearsal	.32	.46

Referring to Table 4.18, three cognitive strategies contribute individually and jointly to the separation of classroom and distance learners in Figure 4.17. These are resourcing, repetition and transfer.

A comparison of mean frequencies of classroom and distance learners for their use of these three strategies is displayed in Figure 4.18.



The investigation of the influence of mode of study on CSU measures was furthered using procedures identical to those described in section 4.3. This was to discover if there were marked effects for mode on CSU once the influence of other variables, such as prior experience, was taken into account. However, no further marked separation of classroom and distance learners was found.

4.4.5 Summary

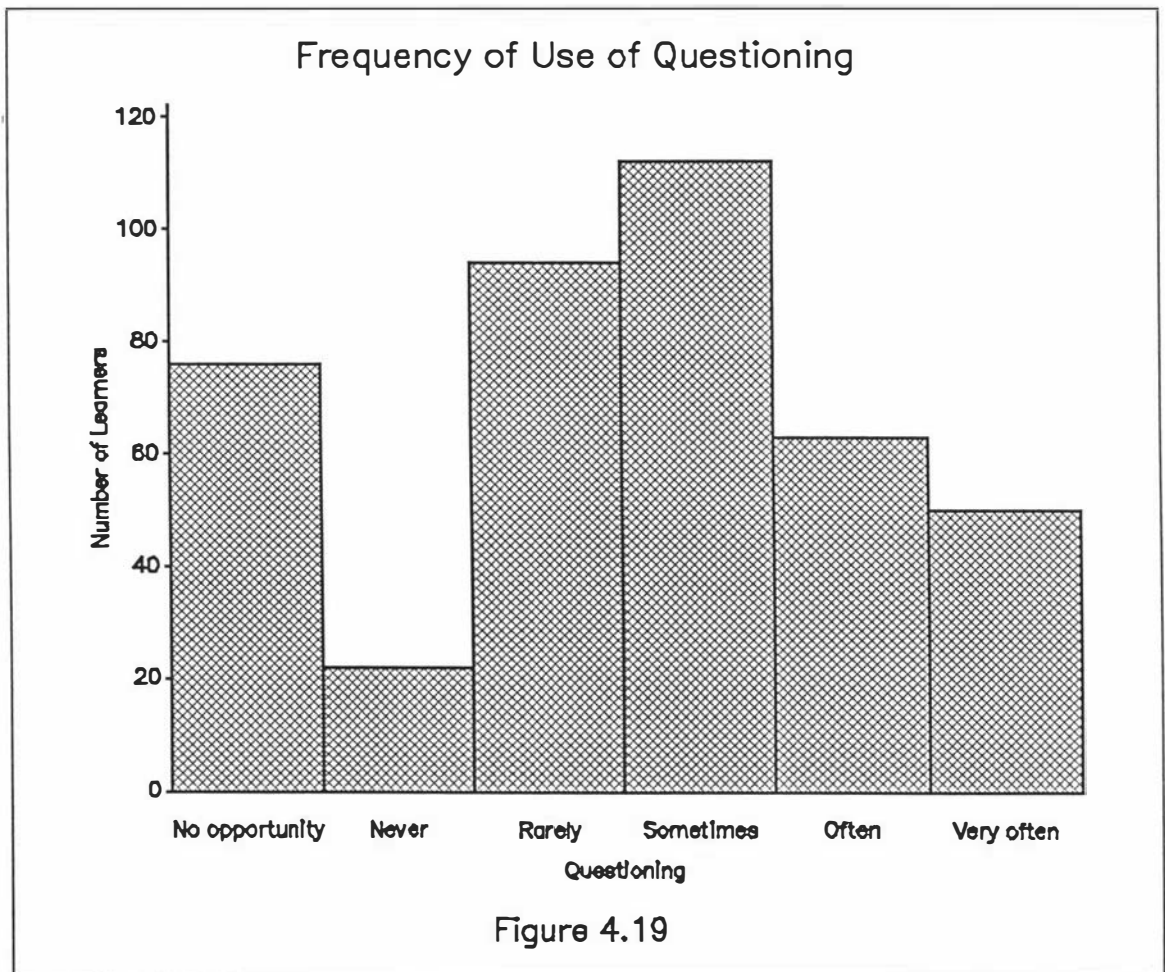
The greatest influence on CSU measures for foreign language learners proved to be prior experience in learning the TL. When learners had no such prior experience they made greater use of translation and less use of substitution and resourcing, than did learners who had already learnt the TL before enrolling in the foreign language course.

Mode of study had less impact on CSU measures than on MSU measures. Differences on CSU measures according to mode of study were dominated by the use of resourcing, repetition and transfer.

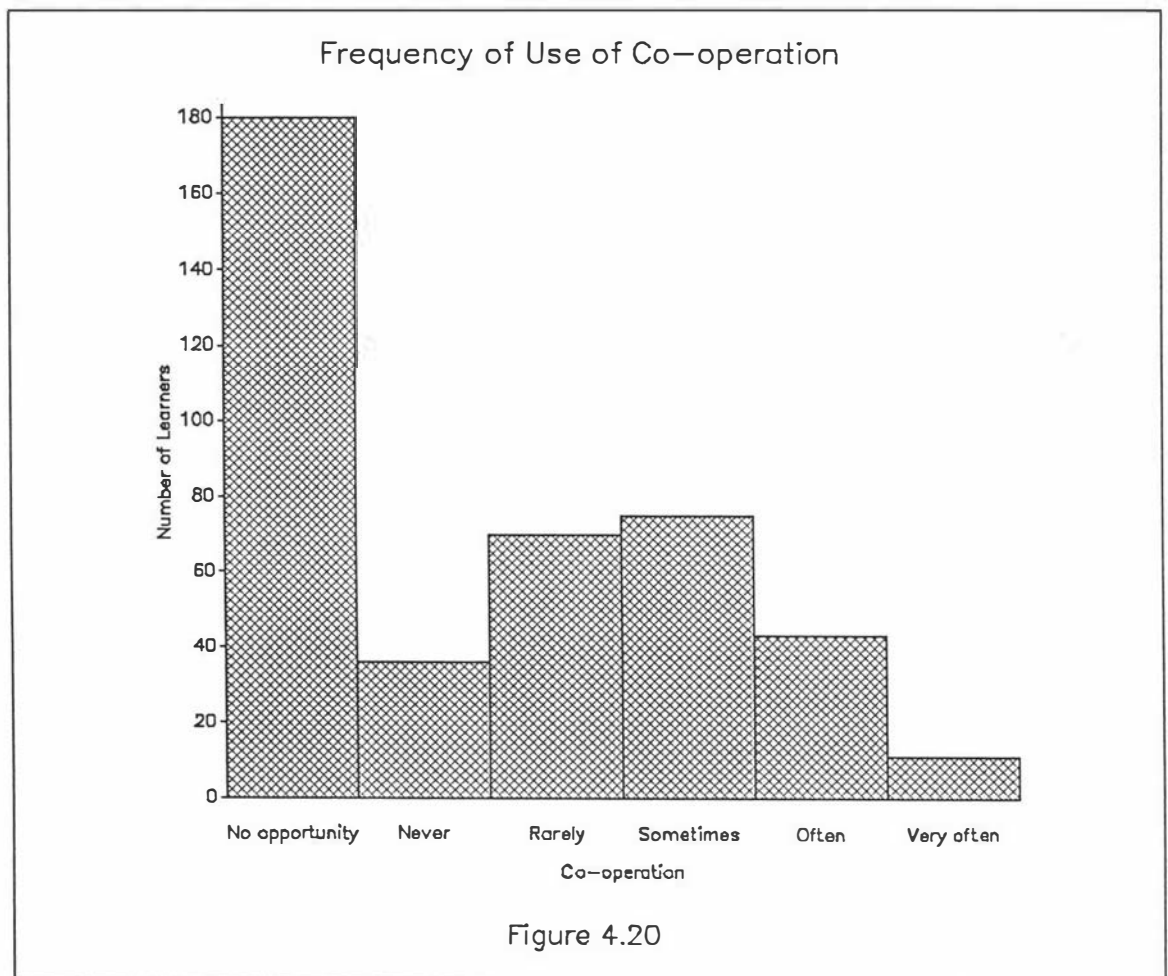
4.5 SOCIAL STRATEGY USE

4.5.1 Frequency of Social Strategy Use

As discussed in section 4.1, the SSU scale is a categorical scale, and thus it is not appropriate to obtain statistics such as means and standard deviations from the scale. A graphical representation of the frequency of use of the questioning strategy among the sample as a whole is presented in Figure 4.19. The most frequent response categories were 'sometimes' (26.9%), 'rarely' (22.5%) and 'no opportunity' (18.2%).

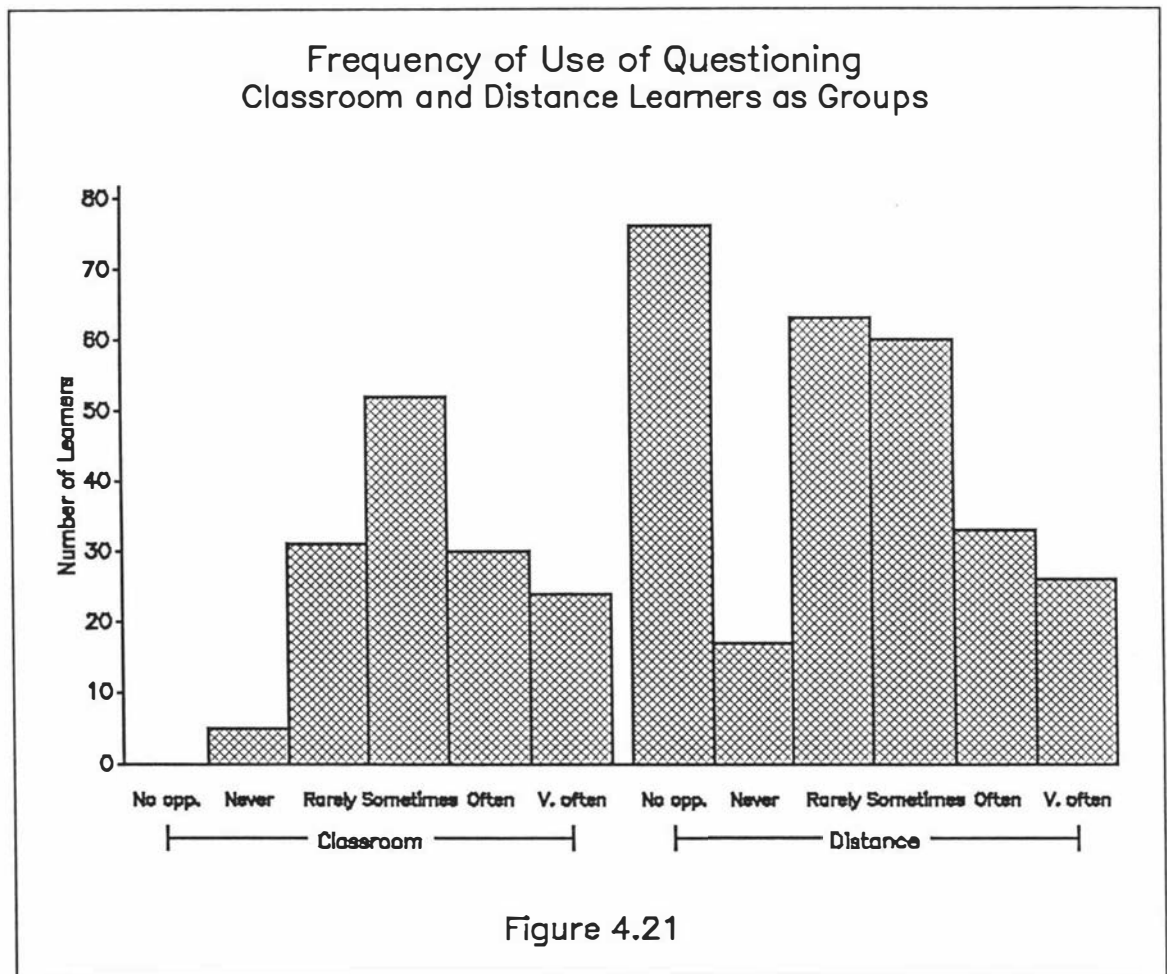


A display of the frequency of use of co-operation by foreign language learners is presented in Figure 4.20. The co-operation strategy was used even less than the questioning strategy. The 'no opportunity' response was the most frequent and amounted to 43.5 percent of the responses. The next most frequent responses were 'sometimes' and 'rarely'.



4.5.2 Influences on Social Strategy Use

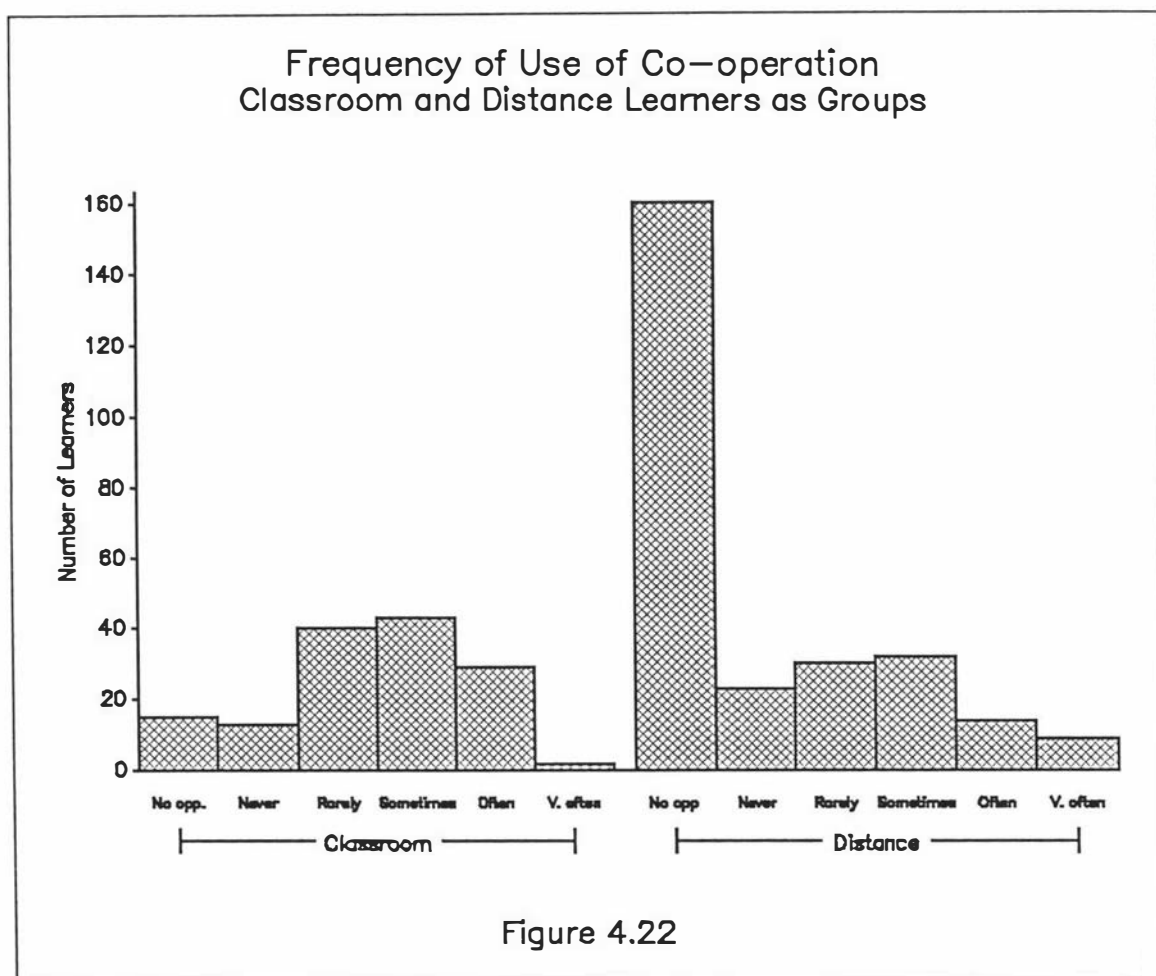
Since the SSU scale is a categorical scale as mentioned in section 4.1, it was not appropriate to apply CVA to investigate the relationship between SSU and the learning context variables or the learner characteristic variables in the study. The analysis of influences on SSU was confined to an investigation of the relationship between mode of study and SSU, and between the TL and SSU. This was carried out firstly through a comparison of the use of social strategies by classroom and distance learners displayed in frequency charts.



The response frequencies displayed in Figure 4.21 reveal that the most frequent response by distance learners was that they did not have any opportunity to use the questioning strategy. The next most frequent response categories were 'rarely' and 'sometimes'. The low proportion of 'never' responses compared to 'no opportunity' suggests that distance learners would make use of social strategies

if they were available. For classroom learners the most frequent response was 'sometimes' and most responses occurred towards the higher end of the response scale.

The response for the use of co-operation as a strategy in language learning is displayed in Figure 4.22.



The pattern is similar to that for the questioning strategy, but differences between classroom and distance learners are more pronounced. For distance learners the most frequent response was 'no opportunity', and this was also the majority response. The most frequent responses for classroom learners were 'sometimes' and 'rarely'. For both classroom and distance learners the 'no opportunity' response was more frequent than the 'never' response.

Frequency charts were then obtained for the use of questioning and co-operation according to the four TL groups: French, German, Japanese and Chinese. Each TL group showed very similar responses with respect to their use of the two social strategies. The patterns of response corresponded closely to those for the sample as a whole (see Figure 4.19 and Figure 4.20). Thus, learners were not differentiated in their SSU according to TL.

4.5.3 Summary

Classroom and distance learners differ in terms of their use of social strategies. Responding to questions about their use of the strategies of questioning and co-operation, distance learners noted that they did not have the opportunity to make use of these strategies, particularly with respect to the co-operation strategy. The responses of classroom learners generally ranged between 'sometimes' and 'rarely'. Learners of different TLs were not found to differ in their use of the social strategies of questioning and co-operation.

4.6 AFFECTIVE STRATEGY USE

4.6.1 Frequency of Affective Strategy Use

The affective response scale was identical to that for the MSU measures and the CSU measures, so it was possible to compute means and standard deviations for each of the three affective strategies. These are listed in Table 4.19.

Table 4.19
Frequency of Affective Strategy Use
(Means and Standard Deviations N=417)

Strategy	Mean	S.D.
Self-talk	1.61	.95
Self-reinforcement	2.16	1.22
Self-encouragement	2.48	1.20

Undergraduate foreign language learners made infrequent use of affective strategies, that is, strategies which involved managing their feelings about the language learning process, with mean responses corresponding closest to the category of 'rarely'. The least used affective strategy involved techniques to lower anxiety (self-talk) while the most frequently used affective strategy was self-encouragement.

4.6.2 Influences on Affective Strategy Use

CVA was carried out to investigate whether learners were differentiated in their ASU according to mode of study or the TL. Results indicated that neither mode of study nor the TL was found to exert a significant influence on ASU measures.

4.7 SUMMARY

The results from the analysis of the questionnaire data reveal that the principal influences on MSU are mode of study and the age of learners.

Distance learners made greater use of metacognitive strategies than classroom learners, most notably with regard to the strategies of self-management and advance organisation and, to a lesser extent, revision. Four sets of circumstances were identified in which the differentiation of classroom and distance learners on MSU measures became particularly pronounced. These were when the TL was Japanese, when the proficiency level of learners was 'B', when learners had no prior TL experience or when they were studying at the 200-level. One metacognitive strategy, namely the use of advance organisation, which involves previewing the main ideas and concepts from the learning material, proved to be the primary influence on the differentiation of classroom and distance learners at the 200-level, for learners at a proficiency level of 'B', and for learners of Japanese. When learners had no prior experience of the TL before enrolling in a university language programme, distance learners made significantly greater use of self-management than classroom learners. To summarise, then, the impact of mode of study on MSU was primarily associated with the self-management strategy and the use of advance organisation.

As far as the influence of age on MSU measures was concerned, results indicated that learners over thirty made significantly greater use of metacognitive strategies, particularly of self-management, than learners under thirty. This was equally true for classroom and distance learners.

The main influence on CSU measures was very clearly prior TL experience. Learners who had had such prior experience before enrolling in a university foreign language course were maximally distinguished from learners without such prior experience in terms of their greater use of resourcing and substitution and their decreased use of translation both to and from English.

Mode of study exerted some influence on CSU measures, but this was less than the influence of prior TL experience. Classroom and distance learners could be contrasted in terms of a more frequent use of resourcing, repetition and transfer by distance learners. The influence of mode of study on CSU measures was much less apparent than the influence of mode of study on MSU measures.

In terms of SSU, classroom learners reported more frequent use of questioning and co-operation than distance learners. The most frequent response of distance learners to questions about their use of social strategies was that they had 'no opportunity' to use either questioning or co-operation. Classroom learners reported that they used these strategies 'sometimes' or 'rarely'.

Undergraduate foreign language learners were comparable in their infrequent use of affective strategies, irrespective of their learning context (e.g., mode of study, TL) or individual characteristics (e.g., age, gender, motivation).

Results from the verbal report study are presented in the following chapter.

5. RESULTS: VERBAL REPORT STUDY

The early part of this chapter outlines the methods used to analyse the verbal report data (section 5.1) and appraises the effectiveness of the yoked subject technique in terms of productivity (section 5.2). The classification of instances of strategy use which were not part of the questionnaire study is explained through definitions and verbatim extracts from the reports (section 5.3). The findings are presented in terms of the influence of mode of study on strategy use (section 5.4) and the influence of the TL on strategy use (section 5.5). The summary underlines the main findings from the verbal report study (section 5.6).

5.1 METHOD FOR ANALYSING VERBAL REPORT DATA

Methods for processing the verbal report data were outlined in section 3.6.5. Analysis of the verbatim transcripts involved identifying and classifying each occurrence of reported strategy use. The preliminary classification was made according to the main categories of strategy use: metacognitive, cognitive, social and affective. Each instance of strategy use was then further classified according to the taxonomy used for the questionnaire data and presented, in a modified form, in section 3.3.1. The lists and definitions of learning strategies provided by Ellis and Sinclair (1989:151-154) were consulted when examples of strategy use did not appear to 'fit' the questionnaire model.

The researcher and an independent rater analysed separate copies of the verbatim transcripts. The application of the same strategy to a different learning activity was recorded as a new instance of strategy use. Repetition of strategy use in relation to a particular activity was recorded as a single occurrence. For

example, in the following extract the underlining strategy, which is a form of note-taking, was mentioned twice but was recorded as a single instance of strategy use.

1FD *While I am going through the workbook exercises I underline points which occur in reading passages which I am not too sure about and I underline them and I put a note in the margin. It is either a question mark to say I don't understand this or I specify what it is I don't understand and I don't let it bother me too much unless it affects my understanding of the whole passage. I find that sooner or later the problem I have got in that place is cleared up because later on I see many other structures that are similar.*

Some strategies reported by learners did not easily fit into descriptions found in the literature, and in these cases new strategy names and definitions were developed to match the descriptions in the transcripts. Examples of these newly identified strategies, such as time lapse and other-reinforcement are presented in section 5.3.

In order to ensure consistency in strategy classification a number of steps were taken and these are outlined below.

Firstly, the two raters transformed the raw data independently, identifying and classifying instances of strategy use. Several descriptions of the use of each strategy were extracted from the reports and put into a separate file. An example from the problem identification file follows.

Problem Identification

Definition:

Explicitly identifying the central point needing resolution in a task or identifying an aspect of the task that hinders its successful completion. O'Malley and Chamot (1990:137)

Examples:

- 1FD *Sometimes it is difficult to imagine what a lecturer's interpretation of a question might be and you wonder whether your interpretation is the same. For example it's difficult to pick out exactly what the key ideas are sometimes.*
- 8FD *If I get stuck it is often because I haven't checked something out before. It might be a point of grammar or vocabulary and I just go and check it in the appropriate sources - dictionaries, grammar books - and I usually manage to work it out myself.*
- 7JD *The verbs are usually the difficult point that I can't get clear in my mind. That's what lets me down. It is the verbs I get wrong in my written work and in my conversation.*
- 11JD *When I'm reading it's usually the vocabulary that throws me. I really have to learn the kanji first before I try reading otherwise I just get bogged down and it feels as if I am not making any headway.*

Each rater was then able to compare different instances of the use of a particular strategy type, and to check that each instance was consistent with the definition. This was one way of ensuring intrarater reliability.

Intrarater reliability was also assessed by both raters re-analysing the reports in a different order using fresh transcripts to compare the degree of agreement which existed between the first and second analyses. Each rater then attempted to resolve any disparities between their first and second analyses.

Up to this point analysis of the verbal report data was carried out by the two raters working independently. The next stage was for the two raters to compare their analyses. Any differences in classification were noted and agreement was reached through discussion. The major difficulties related to determining when particular instances of strategy use were sufficiently frequent and different from the definitions which appeared in the literature (Chamot et al. 1987; Chamot et al. 1988a, 1988b; Ellis and Sinclair 1989; O'Malley and Chamot 1990; Oxford 1990) to warrant identification of a new strategy.

Finally, descriptive statistics (frequencies and percentages) relating to strategy use were computed, and these were used to compare the range, type and frequency of strategy use of classroom and distance learners, and of learners of the two TL groups (French and Japanese).

5.2 PRODUCTIVITY OF THE YOKED SUBJECT TECHNIQUE

The 37 verbal reports were analysed following the procedures described in section 5.1 and were found to contain a total of 836 instances of strategy use. The foreign language learners in this study related easily and readily to the yoked subject technique and were able to talk about the techniques they used to master a foreign language. The high number of instances of reported strategy use indicates that, in the context of the present study, the yoked subject technique was a productive means of obtaining information about the strategies used by foreign language learners.

5.2.1 Range of Strategies

The range of strategies identified through the verbal reports extended beyond the list used for the questionnaire data. This applied to all strategy groupings as shown in Table 5.1.

Table 5.1
Comparison of the Range of Strategies
Questionnaire and Verbal Report Data

Strategy Groupings	Number of Strategy Types	
	Questionnaire Data	Yoked Subject Data
Metacognitive	10	24
Cognitive	17	28
Social	2	3
Affective	3	4
Total	32	59

The increase in the range of strategy types pertaining to different data collection procedures was particularly pronounced for metacognitive strategies. The number of metacognitive strategy types more than doubled from the questionnaire data to the yoked subject data.

The 32 strategies which formed part of the questionnaire data were identified and defined in section 3.3.1. A further 27 strategies were added to that classification scheme through analysis of the verbal report data. This demonstrates that the yoked subject technique can yield rich data related to questions about how students manage their language learning. The additional strategies are defined in the following section.

5.3 THE CLASSIFICATION OF STRATEGIES

5.3.1 Metacognitive Strategies

Fourteen further metacognitive strategies were identified in the verbal report data. Definitions for these strategies appear in Table 5.2.

Table 5.2
Metacognitive Strategy Definitions

Metacognitive Strategy	Description
Organisational Planning	Generating a plan for the parts, sequence, main ideas, or language functions to be used in handling a task. O'Malley and Chamot (1990:137)
Time Lapse	Consciously using the spacing of time to facilitate mastery of a particular task or aspect of the TL.
Analysing Needs	Analysing linguistic needs or wants in order to clarify long-term aims. Ellis and Sinclair (1989:151)
Seeking Practice Opportunities	Arranging opportunities to use the TL.
Comprehension Monitoring	Checking, verifying, or correcting one's understanding. O'Malley and Chamot (1990:137)
Production Monitoring	Checking, verifying, or correcting one's language production. O'Malley and Chamot (1990:137)
Auditory Monitoring	Using one's 'ear' for the language to make decisions. O'Malley and Chamot (1990:137)
Visual Monitoring	Using one's 'eye' for the language to make decisions. O'Malley and Chamot (1990:137)
Strategy Monitoring	Tracking use of how well a strategy is working. O'Malley and Chamot (1990:137)
Plan Monitoring	Tracking how well a plan is working. O'Malley and Chamot (1990:137)
Double-check Monitoring	Tracking, across the task, previously undertaken acts or possibilities considered. O'Malley and Chamot (1990:137)
Performance Evaluation	Judging one's overall execution of the task. O'Malley and Chamot (1990:137)
Ability Evaluation	Judging one's ability to perform the task. O'Malley and Chamot (1990:137).
Strategy Evaluation	Judging one's strategy use when the task is completed. O'Malley and Chamot (1990:137)
Language Repertoire Evaluation	Judging how much one knows of the L2 at the word, phrase, sentence or concept level. O'Malley and Chamot (1990:138)

Most of these strategies had been identified through the indicated sources: O'Malley and Chamot (1990), Ellis and Sinclair (1989). Two strategy types which did not appear to fit any of the previous classification schemes were labelled time lapse and seeking practice opportunities.

Time Lapse

The use of the time lapse strategy involved the deliberate structuring of time to allow for spaces to occur between study sessions. This strategy was usually employed in three sets of circumstances. The first of these relates to occasions when learners found they were having difficulty with a particular task or aspect of the TL.

2FD *If I get hopelessly stuck I'll just have a break. An overnight break is great. You reach a total dead end and then you pick it up the next morning and usually it comes clear, sometimes it does, sometimes it doesn't. If it doesn't you can put it aside and keep going.*

The time lapse strategy was also used as a means of spacing either the amount of learning, or the length of learning sessions, when practising extensive listening or learning new words, for example:

9JD *When I'm listening to the tapes the degree of concentration required is so intense that I can't do it in big stints. I have to limit myself to about an hour at a time otherwise I find that I am just not learning anything.*

11JD *I don't try to learn too many kanji at once - I just do a few at a time, otherwise if I try to learn too many too quickly I start forgetting the ones I learnt two or three weeks earlier.*

Time lapse was also used in a third way, close to a kind of mental drafting of work over time, particularly for extensive writing.

1FD *I find the essay writing section the most problematic. So, I wait. I let those sections stew and I do them almost subconsciously. I have them ticking over gently for most of the four weeks that I have to complete the assignment.*

8JD *After I have worked through the workbook I leave it for a few days. I find that a few days are necessary to remember things that I have learnt in the past about the constructions or whatever, remember conversations that I heard when I lived in Japan and to get my mind set on the subjects that that particular lesson is about. Once I have had a break from that and thought about it a bit ... I sit down and try to do the assignment.*

Time lapse can be viewed as an aspect of self-management. It was coded as a separate category because it was relatively frequent (24 instances of the time lapse strategy were reported) and because it was described very specifically as a way of planning the learning process.

Seeking Practice Opportunities

Seeking practice opportunities involved either arranging extra activities for the use of the TL, or creating an environment which provided language input. Examples of seeking practice opportunities are:

11FD *I spend quite a bit of time doing things like attending Alliance breakfasts, listening to the radio when they have the French session once a month, going to French movies ... all these things help me with my oral work .*

1FD *I write out lists of key words I need to know and have them dotted all over the house where I can find them unexpectedly. The element of surprise helps me to remember them.*

9JD *I play Japanese dialogues to myself in the car and I always have a list of kanji on a card near the dashboard so I can study in traffic jams.*

Seeking practice opportunities was classified as a metacognitive activity related to planning.

The definitions provided in this section, together with the definitions of metacognitive strategies in section 3.3.1 comprise the metacognitive classification scheme used in the analysis of the yoked subject data.

5.3.2 Cognitive Strategies

As shown in Table 5.1, the questionnaire data comprised 17 cognitive strategy types and the verbal report data comprised 28. The questionnaire CSU scale drew a distinction between translation to English and translation from English. In the verbal report classification scheme these differences were subsumed into one category for translation, because it was not always possible to tell whether the translation was to or from English. The questionnaire CSU scale also distinguished between imagery and visualisation (see section 3.3.1). However, visualisation did not occur in the verbal reports, though there were five instances of imagery, as an aspect of elaboration.

Table 5.3 presents descriptions of cognitive strategies which formed part of the verbal report study, but which were not mentioned in section 3.3.1.

Table 5.3
Cognitive Strategy Descriptions

Cognitive Strategy	Description
Note-taking	Writing down concepts from an extended context in an abbreviated form to assist comprehension or performance in the TL.
Writing Out	Copying language items several times as an aid to memorisation
Listing	Writing out lists of vocabulary with TL synonyms or the English translation.
Noting Down	Noting down key language items as they occur usually selected from an oral or written text.
Highlighting	Highlighting language items or concepts as a way of selecting key words or points as an aid to memorisation.
Underlining	Underlining language items or concepts as a way of selecting key words or points as an aid to memorisation.
Personal Elaboration	Making judgements about or reacting personally to the material presented. O'Malley and Chamot (1990:138)
Creative Elaboration	Making up a story line, or adopting a clever perspective. O'Malley and Chamot (1990:138)
Read Aloud	Reading aloud from a text in order to practise pronunciation, stress, rhythm, etc. Ellis and Sinclair (1989:153)
Auditory Representation	Playing in the back of one's mind the sound of a word, phrase, or fact in order to assist comprehension and recall. O'Malley and Chamot (1990:198)
Work in TL	Carrying out particular language activities in the TL - including formulating ideas, note-taking, compiling word lists.
Memorisation	Learning language items by heart. Ellis and Sinclair (1989:155)
Recombination	Constructing a meaningful sentence or larger language sequence by combining known elements in a new way. O'Malley et al. (1985a:34)

The note-taking strategy defined in section 3.3.1 was further differentiated in the course of analysing the verbal report data. A number of variations emerged in terms of the nature, purpose, and extent of note-taking which made it necessary to refine the single broad category used for the questionnaire scale. This was also important since note-taking proved to be the most frequent cognitive strategy for both classroom and distance learners.

A number of extracts from the verbal reports provide examples of the different kinds of note-taking strategies. The following report contains examples of both note-taking and underlining:

7JD *I try to compile an exercise book of grammar rules because I find it's helpful to write those down in my own way ... to underline things in my own writing, to reinforce them in my mind visually.*

The next extract contains instances of noting down and writing out:

4JI *If something is difficult I write it down. If something is new and I want to remember it I will write it down in a list. If it is something I think I ought to have known I will write it out many times.*

Examples of listing and highlighting are presented below:

13JD *I write words on old envelopes, folded. So I put the Japanese down one side and the English down the other side. I run every morning and I take these notes with me and I check myself against either the Japanese or the English.*

12FD *I read through the grammar material and I highlight the important points while I also make sure that I have understood them.*

Elaboration can be described as the mental process of relating new knowledge to existing information already held in long-term memory. The two further types of elaboration (personal and creative) identified in Table 5.3 appeared relatively

infrequently in the reports. Personal elaboration usually involved the reaction of learners to material in terms of their personal interest:

10FD *I am not interested in the unit on sports so I find it very hard to work through that. However I am usually amused by the cartoons and find I can easily remember them. The variety of material for each unit stops you getting bored.*

The one instance of creative elaboration involved constructing a story line as a means of remembering the grammatical behaviour of particular words:

1FD *When I want to make sure I know some words with irregular plurals I put them together into a story so that they are connected and one triggers the other off. So I concoct a crazy little tale that puts them all together. That tale has to be done in a series of pictures so that I can remember it.*

Reading aloud was used particularly to practise pronunciation and intonation patterns, and, at times, as an aid to comprehension.

8FD *I practise reading aloud usually using the compositions that I have done. I do this to improve my accent.*

6FD *I sometimes read French passages out loud. I think I understand things better if I read out loud. It is better to hear it than just to read it.*

4JD *I read Japanese sentences out loud to get myself used to talking.*

Auditory representation of words or sentences was used as a means to memorise or practise TL forms:

11JD *I listen to sentences and repeat them over and over in my mind until I can say them without stumbling. That develops a kind of fluency. It's not real fluency because obviously I can't produce any sentence that I want to, but it certainly helps. It forms a very strong basis for producing sentences that I personally want to produce.*

3F1 *I often run French sentences or phrases through my head during the day - often to do with the immediate context.*

Working in the TL involved a conscious decision to perform in the TL all aspects of working through particular tasks:

8FD *I don't translate into English. I try at this stage to work everything as much as possible in French.*

2FC *I tend not to translate - I try to get the sense in French.*

Memorisation as a strategy was mentioned infrequently and in very general terms. In the following example it was evaluated in negative terms:

10JD *I used to get very earnest when studying some of the workbooks and I used to try to learn some of the key sentences off by heart but really in the end it is pretty absurd because they don't have any relation to anything, they are not in any wider context. So I really found I got very frustrated with that kind of system.*

An example of the use of the recombination strategy is:

7JD *I repeat the sentence containing the new structure, then I try to use the same structure with new words, adding bits before the sentence and after. So I end up using longer bits of the language.*

The strategies discussed in this section were reported relatively infrequently by language learners, apart from the different kinds of note-taking strategies and the read aloud strategy. The influence of mode of study and the TL on CSU reports will be discussed in sections 5.4 and 5.5.

5.3.3 Social Strategies

One further social strategy, not included in section 3.3.1 was identified in the verbal reports and is defined in Table 5.4.

Table 5.4
Social Strategy Definition

Social Strategy	Description
Other-reinforcement	Appealing to others to increase personal motivation.

An example of how a learner uses this social strategy to reinforce her learning endeavours is:

9FD *When I feel I'm not making much progress I ring up one of the other course members and we tend to give each other the inspiration and motivation to keep going.*

5.3.4 Affective Strategies

Self-motivation was a new affective strategy identified in the verbal reports. This proved to be the most frequently mentioned affective strategy. Self-motivation can be differentiated from the other affective strategies defined in section 3.3.1 because it involves an explicit focus on the means learners use to keep themselves going, other than the arranging of rewards after an activity has been completed (self-reinforcement), beyond saying positive things to oneself (self-encouragement) or apart from using techniques in order to feel competent to carry out a task (self-talk). The self-motivation strategy is defined in Table 5.5.

Table 5.5
Affective Strategy Definition

Affective Strategy	Description
Self-motivation	Providing an impetus to keep going by reminding oneself of reasons for or advantages of continuing with the course.

Many examples of self-motivation were included in the reports and some of these are mentioned below:

- 1FD *The longer I keep going the less liable I am to stop because all the previous work that I've done will count for nothing. Sheer panic and terror keep me going probably - I've got a limited time to do something. From a positive point of view, sheer escapism.*
- 8JD *I encourage myself to keep going - pride does this. I guess more than anything I want to feel I can learn another language. That it's not just foreigners that can learn my language, I can learn someone else's.*
- 9JD *Once I have got a certain amount of work done I remind myself that the big incentive is to keep going otherwise I am throwing away all the advantage.*

5.3.5 Strategy Combinations

The process of identifying, classifying and defining particular strategy types as outlined so far tends to obscure the fact that reports by language learners of the means they used to improve their TL competence often contained a complex 'synthesis of strategies. A single description given by a learner frequently represented the concurrent use of several strategies. A similar observation was made by O'Malley et al. (1985a:35) when they noted that 'in order to reflect accurately the richness of strategies used by students, we sometimes found it necessary to assign multiple strategy names to a single description'.

Furthermore, analysis of the verbal reports in the current study revealed very clearly that metacognitive and cognitive strategies do not operate in isolation from each other. An illustration of this occurs in the extract below. The descriptions given can best be analysed as a combination of three metacognitive strategies

(self-monitoring, comprehension monitoring, strategy evaluation) which serve to monitor and evaluate the use of a cognitive strategy (note-taking).

9FD *If I take notes I make sure it's in my own words. And I make sure I have understood them. Notes reinforce something.*

The cognitive strategy of translation was frequently combined with metacognitive strategies such as comprehension monitoring, directed attention and self-management as in:

1FD *I translate the words I don't know first. I find that if I do that it frees me up mentally to concentrate on the actual comprehension of the material and to think about answering the questions. If I have to stop and look up a lot of words I forget what it is that I am supposed to be doing.*

Translation is combined with comprehension monitoring in this shorter example:

8FD *I sometimes translate the questions just to be sure what it is that I am being asked.*

The metacognitive strategy of revision is combined with between-parts elaboration in:

6FD *I go back and revise those previous units which are relevant to what I am doing at the moment, for example, certain sections of vocabulary which prove useful.*

Two metacognitive strategies, namely comprehension monitoring and problem identification are used with two cognitive strategies, underlining and inferencing, in:

4JD *While I am going through the workbook I put a line under sections which I am sure I understand. Then I write a in the margin what exactly I am not sure about. I usually find that later on things come clear when I have met other similar words or structures. Then I can figure out what they mean or how they work.*

A final example of the combining of metacognitive and cognitive strategies is given below where strategy evaluation is carried out together with grouping and rehearsal strategies:

7FD *I analyse the vocabulary content of the readings. I find words of the same family and group them together. I find doing that is very helpful in preparing myself for doing written comprehensions and essays.*

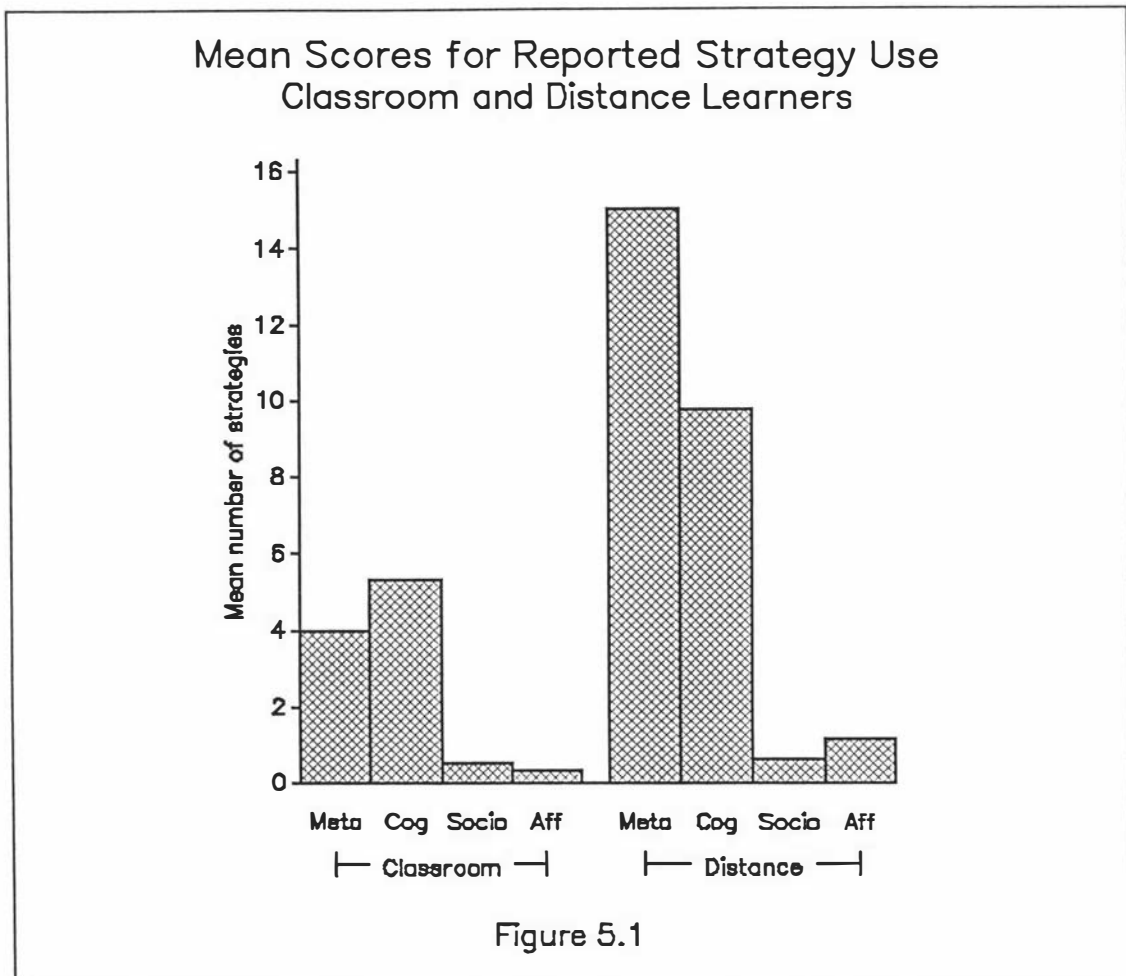
The listing of the frequency of use of individual strategies in this chapter is not meant to suggest that each instance of strategy use is a discrete occurrence in itself. Instead, the verbatim excerpts quoted from the verbal reports of learners are included to represent the diverse ways in which particular strategies are used and combined with other strategies.

5.4 THE INFLUENCE OF MODE OF STUDY ON STRATEGY USE

In comparing the strategy use of classroom and distance learners, it is important to bear in mind the difference in size between the groups. As detailed in section 3.6, it was possible to use only nine of the 11 reports given by classroom learners. This meant that for final comparisons, there were 28 reports by distance learners, but only nine by classroom learners. The reasons for this discrepancy in size, and some of the possible drawbacks resulting from it have already been presented (section 3.7 and section 3.8). Had the classroom sample been larger, that is closer to the size of the distance sample, the effects of individual variability would probably have been more similar for the two populations.

Preliminary analysis revealed that significantly more descriptions of strategy use appeared in the reports of distance learners compared to classroom learners. The verbal reports obtained from classroom learners contained on average 10.2 instances of strategy use while those obtained from distance learners contained on average 26.6 instances of strategy use. There was no appreciable difference

in the length of reports of either group. A breakdown of the mean number of strategies reported by classroom and distance learners is displayed in Figure 5.1.



The most marked difference between classroom and distance learners as displayed in Figure 5.1 occurs for reports of MSU. Classroom learners reported on average four instances of MSU, while distance learners reported 15 such instances. A similar trend occurred for CSU, though mean differences were not so great. On average distance learners reported 9.75 uses of cognitive strategies while classroom learners reported 5.37 instances.

While the number of reports of cognitive strategies was lower for classroom learners than for distance learners, within the population of classroom learners

cognitive strategies accounted for more than half (52.17 percent) of their strategy use, while for distance learners the figure was closer to one third (36.64 percent). The proportion of reported SSU was also higher for classroom learners (5.43 percent) than for distance learners (2.42 percent). These results are displayed in Figure 5.2.

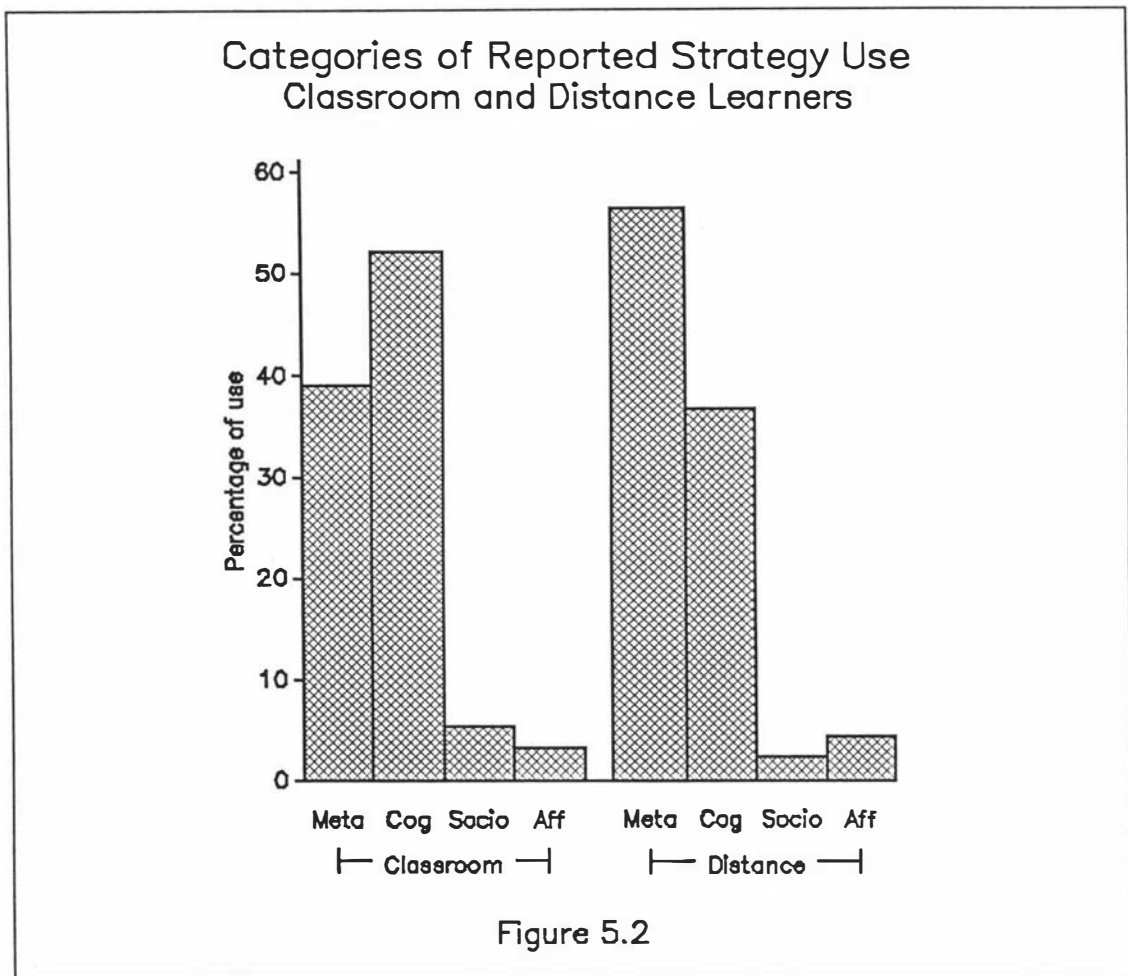


Figure 5.2 also shows that distance learners used proportionately more metacognitive strategies and affective strategies than classroom learners. More than half (56.51 percent) of the reported strategies of distance learners related to MSU and 4.43 percent related to ASU. For classroom learners these proportions were 39.13 percent for MSU and 3.26 percent for ASU.

To summarise then, classroom learners as a group used proportionately more cognitive strategies than metacognitive strategies in their language learning. They also used more social strategies than affective strategies. The reverse situation was found for distance learners who made more frequent use of metacognitive strategies than cognitive strategies. They also used more affective strategies than social strategies. When the two populations are compared in terms of the frequency of strategy use, classroom learners used on average fewer metacognitive, cognitive and affective strategies than distance learners.

The results of the comparison of the reported strategy use of classroom and distance learners will now be presented in more detail in terms of each of the four categories of strategy use.

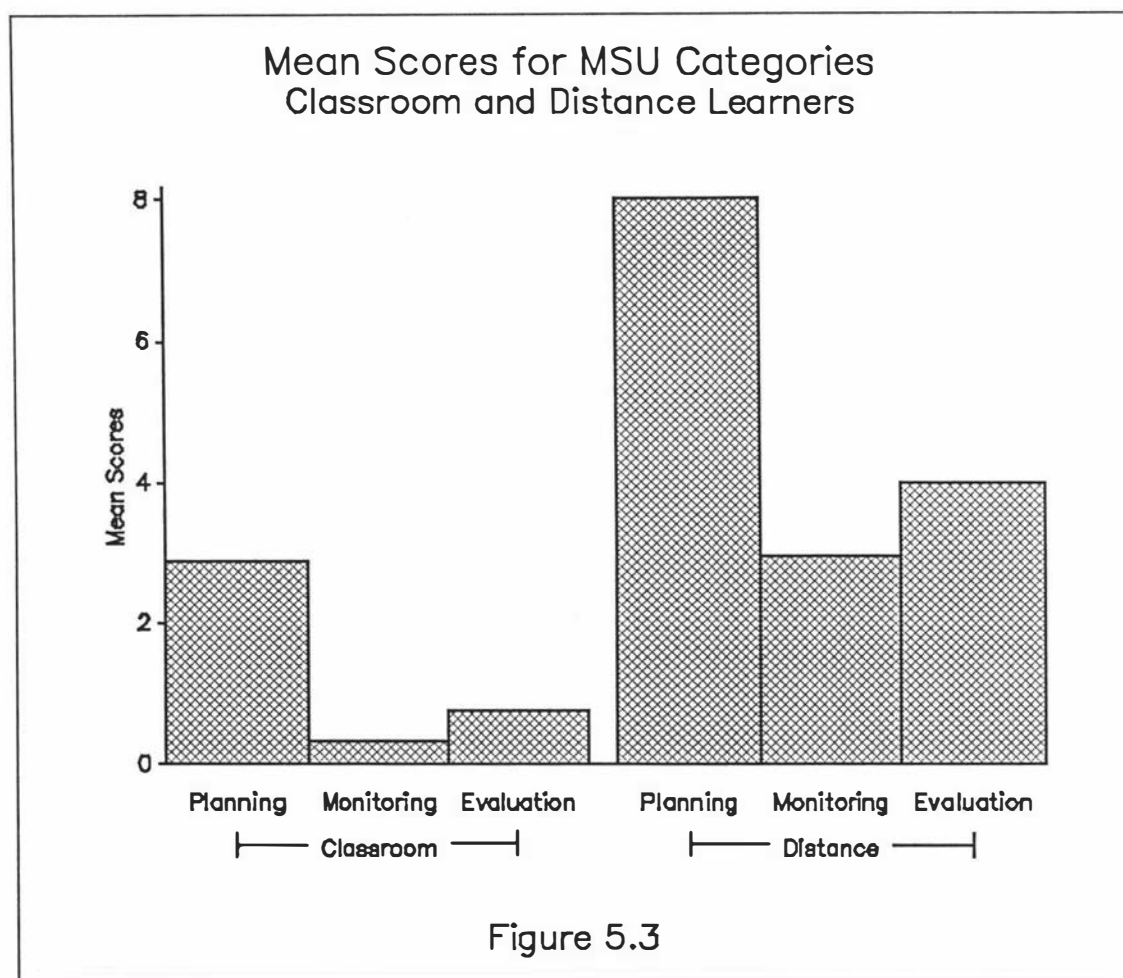
5.4.1 The Influence of Mode of Study on MSU Reports

MSU reports were firstly classified according to the three categories established by Brown et al. (1983) for planning, monitoring and evaluating learning.

For both classroom and distance learners, the majority of metacognitive strategies related to planning activities. Evaluation strategies accounted for 26.67 percent of the MSU of distance learners and 19.44 percent of that of classroom learners. Monitoring strategies were the least mentioned group. They accounted for almost 20 percent of the metacognitive strategies used by distance learners, but for only eight percent of the MSU reports of classroom learners.

Distance learners made proportionately greater use of the monitoring and evaluating dimensions of metacognition than did classroom learners. For classroom learners, metacognition, when it was used, was related very closely to planning activities (comprising 72.22 percent of MSU). Some evaluation of learning took place (19.44 percent of MSU), but very little monitoring (8.34 percent of MSU).

When the mean number of instances of planning, monitoring and evaluating strategies was compared for classroom and distance learners, the differences in the amount of MSU between the two populations were very evident. The least reported category of MSU for distance learners, that of monitoring, matched the most frequently reported dimension of MSU for classroom learners namely, planning. This is represented in Figure 5.3.



The next stage of the analysis was to compare the strategy use of classroom and distance learners in terms of the use of individual metacognitive strategies. Results of the analyses of the frequency of use of individual metacognitive strategies appear in Table 5.6.

Table 5.6
Frequency of Metacognitive Strategy Use
Classroom and Distance Learners

Metacognitive Strategies	Classroom Learners (N=9)		Distance Learners (N=28)		Total	
	N	%	N	%	N	%
PLANNING						
Advance Organisation	1	2.78	22	5.24	23	5.04
Organisational Planning	3	8.33	48	11.43	51	11.18
Time Lapse	4	11.11	20	4.76	24	5.26
Directed Attention	1	2.78	16	3.81	17	3.73
Selective Attention	3	8.33	27	6.43	30	6.58
Self-management	2	5.56	61	14.52	63	13.82
Analysing Needs	0	0.00	2	.48	2	.44
Revision	5	13.89	14	3.33	19	4.17
Delayed Production	1	2.78	3	.71	4	.88
Prioritising	2	5.56	5	1.19	7	1.54
Seek Practice Opp.	4	11.11	7	1.67	11	2.41
Subtotal	26	72.22	225	53.57	251	55.05
MONITORING						
Comprehension Monitoring	2	5.56	39	9.29	41	8.99
Production Monitoring	0	0.00	7	1.67	7	1.54
Auditory Monitoring	0	0.00	1	.24	1	.22
Visual Monitoring	0	0.00	1	.24	1	.22
Strategy Monitoring	0	0.00	10	2.38	10	2.19
Plan Monitoring	0	0.00	2	.48	2	.44
Double-check Monitoring	0	0.00	1	.24	1	.22
Problem Identification	1	2.78	22	5.24	23	5.04
Subtotal	3	8.34	83	19.76	86	18.86
EVALUATION						
Production Evaluation	1	2.78	7	1.67	8	1.75
Performance Evaluation	0	0.00	6	1.43	6	1.32
Ability Evaluation	1	2.78	27	6.43	28	6.14
Strategy Evaluation	4	11.11	60	14.29	64	14.04
Lang. Repertoire Evaluation	1	2.78	12	2.86	13	2.85
Subtotal	7	19.44	112	26.67	119	26.10
Total	6	100.00	420	100.00	456	100.00

Due to rounding the total percentages do not equal 100.

For distance learners the four most frequent strategies were self-management, strategy evaluation, organisational planning and comprehension monitoring. This group of strategies draws on the three main categories of MSU (planning, monitoring and evaluation).

Self-management and strategy evaluation together accounted for 28.81 percent of MSU reports for distance learners. The following excerpt illustrates the use of self-management:

10FD *When the dossier arrives it can be a little daunting but I give myself time to work consistently at it, to come to grips with the theme and what is required for the written and oral work, time to try to expand my thoughts and then I can usually resolve any problems.*

Strategy evaluation in the following example relates to the time lapse strategy:

4JD *I choose certain kanji to work with, to read in context, then I practise with the same ones, a week later, then a month later. I find that this constant reading is a very effective drip feed. It's far more effective for me than having a long continuous learning session.*

Frequently, descriptions of self-management and strategy evaluation were combined, as in the following extract:

3FD *I find that if I do that first (translate unknown words) it frees me up mentally to concentrate on the actual comprehension of the material and to think about answering the questions. If I have to stop and look up a lot of words I forget what it is that I am supposed to be doing.*

Organisational planning accounted for 11.43 percent of MSU for distance learners. This strategy was usually associated with deciding how to work through the study guides or how to manage a production task, particularly a writing task. The organisational planning strategy involved, for example, planning the order of

tasks, planning the sections of assignments, planning to use particular vocabulary or planning particular sentences. An example of organisational planning is:

1FD *First of all I plan the whole layout of the assignment then I go back and work on what I consider to be the easiest questions first. I will do all of them and leave any essays until last.*

Comprehension monitoring was also mentioned regularly in the reports and was the most frequently used monitoring strategy by distance learners. It was used by learners in two circumstances: firstly to check up on their comprehension of the study guide material and secondly was combined with translation as a way of checking comprehension. Examples of this are:

8JD *While I am reading through these four pages I attempt to gauge how much I can understand. I put a line down the margin for sections which puzzle me, and I move more quickly when I can understand well.*

5FD *I sometimes translate the questions just to be sure of what I am being asked.*

The least used strategies were other monitoring activities (auditory and visual monitoring, plan monitoring and double-check monitoring) as well as two planning strategies (analysing needs and delayed production).

Classroom learners used a smaller range of metacognitive strategies than distance learners, particularly in terms of monitoring strategies. The most frequently used strategies were revision, time lapse, strategy evaluation and seeking practice opportunities. The five instances of revision reported by classroom learners account for 13.89 percent of their overall MSU. Revision appears to be the most frequent metacognitive strategy for classroom learners. However, if one compares the mean use of this strategy (.55), it is very close to

the mean use of the revision strategy reported by distance learners (.50). A description of revision produced by a classroom learner is :

2JC *Rarely do I go back and relisten to the oral work, however I do go back and revise the work that I have written down corresponding to that oral work.*

When the more frequently used strategies of classroom and distance learners are compared, only strategy evaluation appears to be used frequently by both groups. One explanation for this could be that the yoked subject technique in requiring learners to report on the strategies they used also elicited more accounts of strategy evaluation.

As with the questionnaire data a very wide gap emerged between classroom and distance learners in the use of the self-management strategy. Classroom learners reported two instances of this strategy, while distance learners reported 61 instances.

There were also similar findings between the questionnaire data and the verbal report data for the advance organisation strategy. In Table 5.6, advance 'organisation is among the least frequently used planning strategies for classroom learners, but are among the most frequently used planning strategies for distance learners. An example of the use of advance organisation is:

4FD *I familiarise myself with each section first and then I work through it systematically.*

Closely related to the use of advance organisation is organisational planning, a strategy which was not used for the questionnaire study. Organisational planning ranked third in frequency of strategy use for distance learners, but appeared to be used much less frequently by classroom learners. The following extract contains firstly an example of the use of an advance organisation, that is, going through what is expected for each task, and then of organisational planning,

which involves devising a way of working through the different sections of the workbook.

6FD *I read through the instructions given for each section so that I am clear about what I have to do. Then I go back to the beginning and work through the first section of exercises because this is good practice for learning anything new that comes up.*

Summary

Classroom learners reported a significantly smaller number of metacognitive strategies than distance learners. The range of MSU was also more limited for classroom learners, particularly in terms of monitoring strategies. Marked difference on MSU reports occurred for self-management, a finding consistent with questionnaire results. Findings were also consistent with the questionnaire results for the use of the advance organisation strategy. Classroom learners who made infrequent use of advance organisation were set apart from distance learners for whom this strategy was among the most frequently used planning strategies. Classroom and distance learners were comparable in their frequent reporting of strategy evaluations, though possible effects from the yoked subject procedure cannot be entirely ruled out.

5.4.2 The Influence of Mode of Study on CSU Reports

Table 5.7 presents the range and frequency of cognitive strategies used by classroom and distance learners. The strategies are listed in order of frequency.

Table 5.7
Frequency of Cognitive Strategy Use
Classroom and Distance Learners

Cognitive Strategies	Classroom Learners (N=9)		Distance Learners (N=28)		Total	
	N	%	N	%	N	%
Note-taking						
Note-taking	4	8.33	16	5.86	20	6.23
Writing Out	4	8.33	13	4.76	17	5.30
Listing	1	2.08	8	2.93	9	2.80
Noting Down	1	2.08	6	2.20	7	2.18
Highlighting	0	0.00	5	1.83	5	1.56
Underlining	0	0.00	2	0.73	2	.62
Subtotal	10	20.82	40	18.31	50	18.69
Resourcing	7	14.85	38	13.92	45	14.02
Repetition	8	16.67	35	12.82	43	13.40
Elaboration						
Between-Parts	0	0.00	29	10.62	29	9.03
Personal	0	0.00	7	2.56	7	2.18
Imagery	0	0.00	5	1.83	5	1.56
World	0	0.00	5	1.83	5	1.56
Creative	0	0.00	1	.37	1	.31
Subtotal	0	0.00	47	17.21	47	14.64
Translation	8	16.67	27	9.89	35	10.90
Read Aloud	4	8.33	18	16.59	22	6.85
Transfer	0	0.00	12	4.40	12	3.74
Contextualisation	2	4.17	9	3.30	11	3.43
Summarisation	1	2.08	6	2.20	7	2.18
Auditory Representation	1	2.08	6	2.20	7	2.18
Work in TL	2	4.17	4	1.47	6	1.87
Grouping	1	2.08	4	1.47	5	1.56
Inferencing	0	0.00	5	1.83	5	1.56
Memorisation	2	4.17	3	1.10	5	1.56
Rehearsal	0	0.00	4	1.47	4	1.25
Recombination	1	2.08	2	0.73	3	0.93
Deduction	1	2.08	1	0.37	2	0.62
Substitution	0	0.00	2	0.73	2	0.62
Total	48	100.00	273	100.00	321	100.00

Due to rounding the total percentages do not equal 100.

The information presented in Table 5.7 reveals that classroom and distance learners were comparable in their patterns of CSU. Among the most frequent cognitive strategies for both groups were note-taking, resourcing, repetition, translation and reading aloud. When the note-taking category was differentiated further, the most frequent strategies were note-taking and writing out regardless of mode of study. Examples of these strategies were presented in section 5.3.2.

Resourcing involves referring to sources of information about the TL. These sources can include dictionaries, text books and prior work. An example of resourcing is:

6JD *If there's anything I don't understand I go to a text book, look up dictionaries and write out the basic points I don't know in a shortened form.*

Repetition was used generally for the memorisation of words or phrases, or longer stretches of discourse, as illustrated in the following extract:

11JD *I make myself a vocabulary list and repeat the words over and over. I also put dialogues on my walkman and repeat them - especially the dialogues that have useful phrases in them.*

Learners often reported the use of translation to be a necessary part of an intermediate stage in their learning but one which they would like to be able to dispense with. Others used translation in conjunction with comprehension monitoring, or as a kind of delayed translation after they had used the inferencing strategy.

8FD *I sometimes find it very valuable to work the tenses of French verbs into English just to check that I've got the right tenses.*

13FD *I always try to work out the meaning of a word in context, but I also like to know the meaning of something I'm not sure of in English. So afterwards, not when I'm doing the*

dossier, I tend to write the vocabulary down with the English equivalents.

Examples of reading aloud were presented in section 5.3.2.

Thus, the most frequently used cognitive strategies for classroom and distance learners were strategies which did not involve active involvement with the learning material. There is one notable exception to this trend which also serves to differentiate classroom learners from distance learners - the use of elaboration strategies.

Elaboration strategies entail a high level of active involvement with the materials, particularly in terms of making associations between the material and prior knowledge, or between different sections of the materials. Distance learners made frequent use of elaboration strategies, which together formed the second most frequent group of strategies after note-taking. Within the elaboration category, between-parts elaboration was the most frequent with 29 reported instances of use. Classroom learners did not report any instances of the use of between-parts elaboration. Between-parts elaboration involves the learner relating parts of a task to each other as in:

3FD *Often the comprehension questions are a guide as to what is in the passage.*

7FD *I keep an eye on the grammar unit and read it along just while I am also working on the other units - so in fact I relate the two and keep going over the grammar several times. I find this is useful throughout the period that I am covering the dossier rather than concentrating on it only for a particular concentrated period.*

The lower frequency strategies presented in Table 5.7 were those which required the learner to engage actively with the TL materials - strategies such as deduction, substitution, inferencing and rehearsal. Only one category of CSU

involving active involvement with the TL was used frequently by learners. This was the application of elaboration strategies to TL materials by distance learners.

5.4.3 The Influence of Mode of Study on SSU Reports

Social strategies proved to be the least frequently reported category of strategy use by distance learners, while for classroom learners SSU was more frequent than ASU. Figures relating to the frequency of SSU for classroom and distance learners are presented in Table 5.8.

Table 5.8
Frequency of Social Strategy Use
Classroom and Distance Learners

Social Strategies	Classroom Learners (N=9)		Distance Learners (N=28)		Total	
	N	%	N	%	N	%
Questioning	4	80.00	11	61.11	15	65.22
Co-operation	1	20.00	3	16.67	4	17.39
Other-Reinforcement	0	0.00	4	22.22	4	17.39
Total	5	100.00	18	100.00	23	100.00

Distance learners made proportionately less use of questioning (61.1 percent) and co-operation strategies (16.67 percent) than classroom learners (80.00 percent and 20.00 percent). This finding is consistent with the results from the questionnaire study, in which a large proportion of distance learners noted that they had no opportunity to use these strategies.

However, the results also indicated that distance learners do ask for assistance and support by contacting fellow learners or by asking friends and family members to provide encouragement (other-reinforcement). This strategy appeared to be strongly associated with the desire to complete the course and not to withdraw. Examples of other-reinforcement were provided in section 5.3.3. Other-reinforcement has been classified as a social strategy since it involves

contact with others, however it clearly also has a strong affective component. Classroom learners did not report any instances of the use of the other-reinforcement strategy.

5.4.4 The Influence of Mode of Study on ASU Reports

Frequency data for the use of affective strategies by classroom and distance learners are presented in Table 5.9.

Table 5.9
Frequency of Affective Strategy Use
Classroom and Distance Learners

Affective Strategies	Classroom Learners (N=9)		Distance Learners (N=28)		Total	
	N	%	N	%	N	%
Self-motivation	3	100.00	16	48.48	19	52.78
Self-encouragement	0	0.00	11	33.33	11	30.56
Self-reinforcement	0	0.00	5	15.15	5	13.89
Self-talk	0	0.00	1	3.03	1	2.78
Total	3	100.00	33	100.00	36	100.00

Perusal of the figures in Table 5.9 reveals that distance learners use a wider range of affective strategies than classroom learners, and that they also make more frequent use of affective strategies than their classroom counterparts. The most frequent strategy used by learners irrespective of mode of study was self-motivation, examples of which were given in section 5.3.4. Self-encouragement was reported relatively frequently by distance learners and often contained some elements similar to the self-management strategy. An example of this strategy is:

6FD *I do the section that appeals to me first because it gives me a psychological boost.*

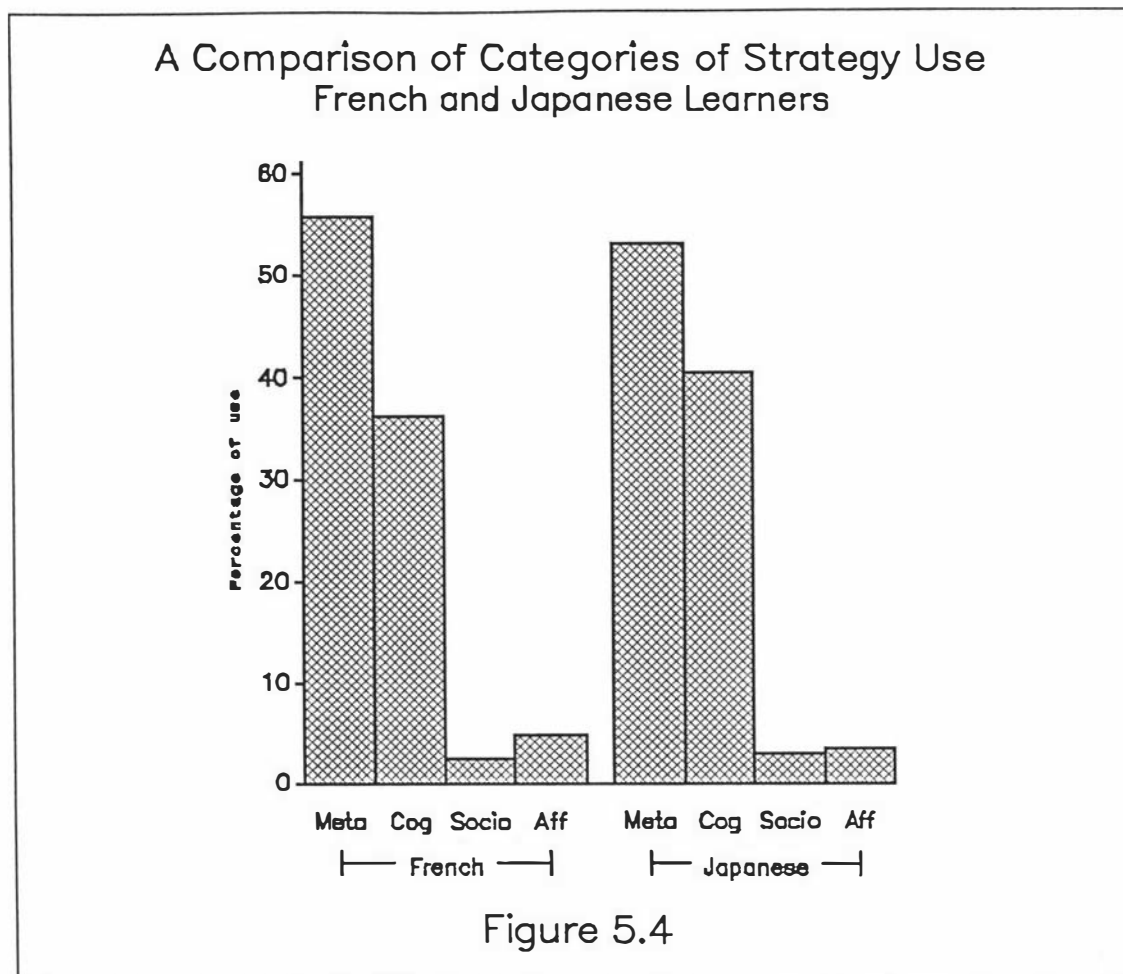
Self-reinforcement, involving arranging awards for oneself, and self-talk, involving ways of reducing anxiety to make oneself feel competent, were relatively infrequent:

- 11JD *My favourite way to encourage myself to keep going is to treat myself to a Japanese meal at a restaurant and to visit Japan whenever I can afford it.*
- 7JD *When I find something too hard I do not let myself worry about it. I tell myself if I worry I won't manage to do anything.*

The main findings from the study concerning the influence of mode on strategy use in the verbal report data are reviewed in section 5.6. The next section presents findings related to the influence of the TL on strategy use.

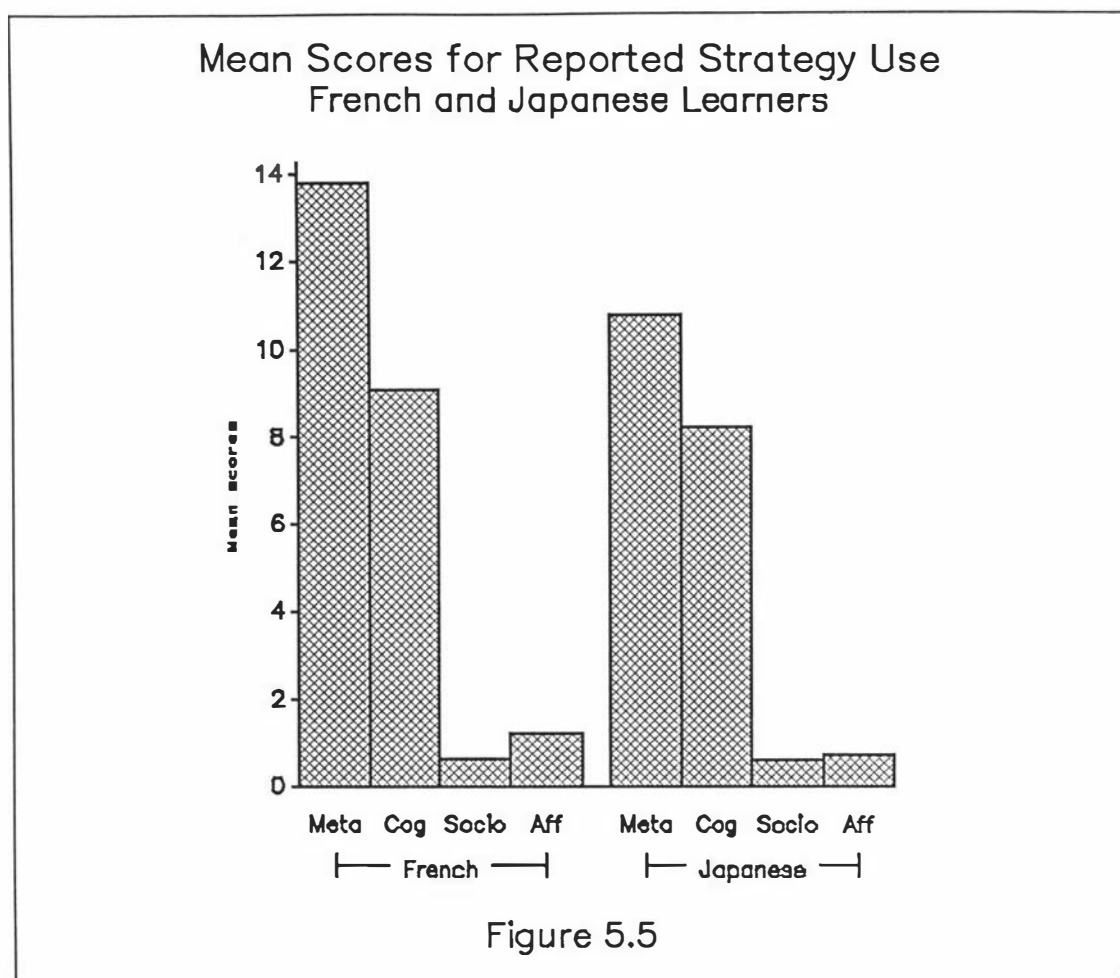
5.5 THE INFLUENCE OF THE TARGET LANGUAGE ON STRATEGY USE

Learners of French and Japanese were comparable in their patterns of use of the four main strategy categories: metacognitive, cognitive, social and affective. As represented in Figure 5.4, the most frequently reported category of strategy use for both groups concerned metacognition.



For learners of French MSU reports accounted for 55.74 percent of strategy use and CSU reports accounted for 36.81 percent. These figures are close to those for learners of Japanese whose MSU reports accounted for 53.01 percent of strategy use, and CSU reports accounted for 40.44 percent. Both groups of learners reported using more affective strategies than social strategies.

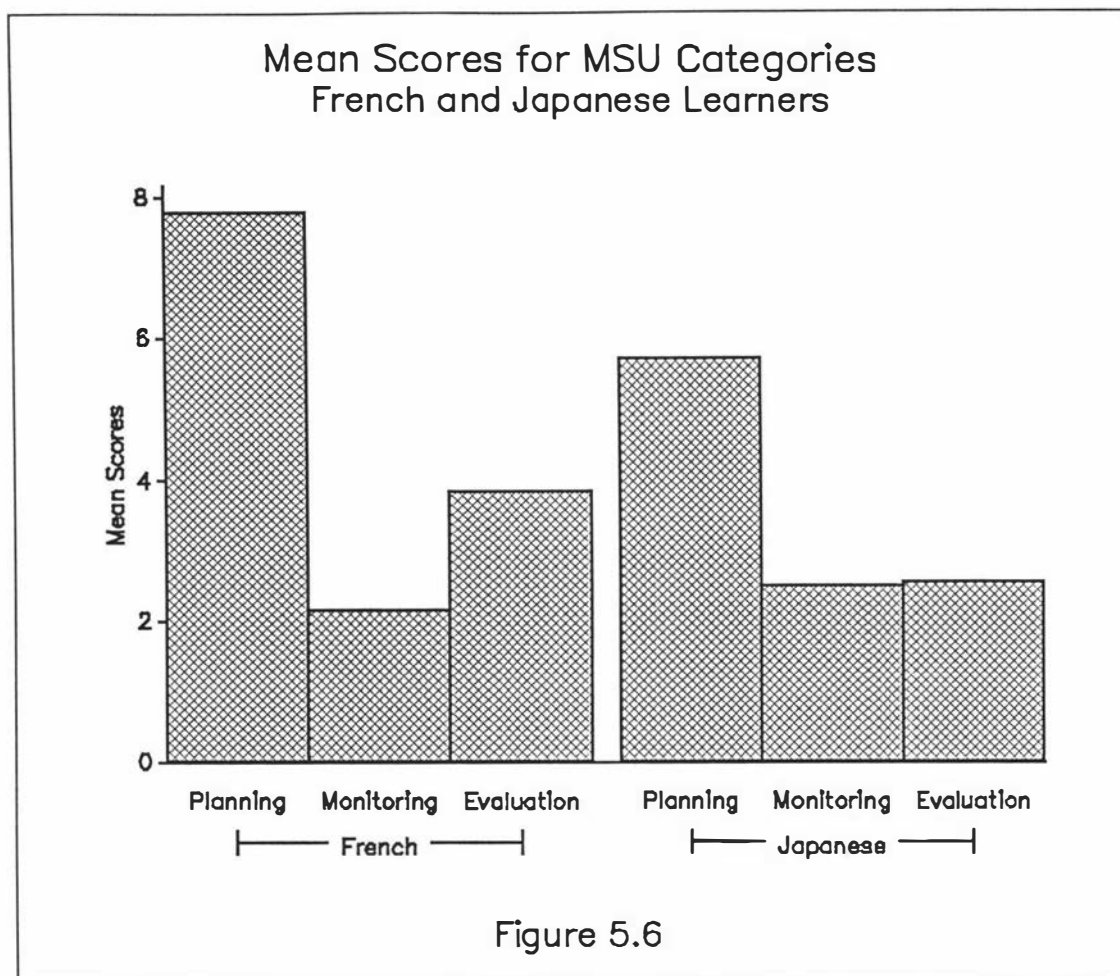
Learners of French reported using on average 24.7 strategies per verbal report while learners of Japanese reported on average 20.3 instances of strategy use. The lower frequency of reporting by learners of Japanese is represented in Figure 5.5 where the main difference in frequency of strategy reporting occurs for MSU reports.



However this difference is relatively small compared to the divergence between classroom and distance learners on the mean scores for MSU reports as shown in Figure 5.1.

5.5.1 Influence of the Target Language on MSU Reports

Preliminary analysis of the influence of the TL on MSU reports was carried out in terms of the three dimensions of metacognition: planning, monitoring and evaluation. Figure 5.6 presents a comparison of learners of French and Japanese in terms of their use, on average, of these three dimensions.



Learners of French reported, on average, two more instances of planning strategies and one more instance of evaluation strategies than learners of Japanese. Learners of French and Japanese were similar in their frequency of use of monitoring. A comparison of Figure 5.6 and Figure 5.3 reveals that the impact of mode of study on the generic categories of MSU, namely planning, monitoring and evaluation, was much greater than the impact of the TL.

Further comparison of learners of French and Japanese was carried out based on their use of individual metacognitive strategies. Frequency data are presented in Table 5.10.

Table 5.10
Frequency of Metacognitive Strategy Use
Learners of French and Japanese

Metacognitive Strategies	French Learners (N=19)		Japanese Learners (N=18)		Total	
	N	%	N	%	N	%
PLANNING						
Advance Organisation	17	6.49	6	3.09	23	5.04
Organisational Planning	29	11.07	22	11.34	51	11.18
Time Lapse	10	3.82	14	7.22	24	5.26
Directed Attention	8	3.05	9	4.64	17	3.73
Selective Attention	18	6.87	12	6.19	30	6.58
Self-management	40	15.27	23	11.86	63	13.82
Analysing Needs	2	.76	0	.00	2	.44
Revision	8	3.05	11	5.67	19	4.17
Delayed Production	4	1.53	0	.00	4	.88
Prioritising	4	1.53	3	1.55	7	1.54
Seek Practice Opp.	8	3.05	3	1.55	11	2.41
Subtotal	148	56.49	103	53.09	251	55.05
MONITORING						
Comprehension Monitoring	19	7.25	22	11.34	41	8.99
Production Monitoring	2	.76	5	2.58	7	1.54
Auditory Monitoring	0	0.00	1	.52	1	.22
Visual Monitoring	1	.38	0	.00	1	.22
Strategy Monitoring	6	2.29	4	2.06	10	2.19
Plan Monitoring	2	.76	0	.00	2	.44
Double-check Monitoring	0	0.00	1	.52	1	.22
Problem Identification	11	4.20	12	6.19	23	5.04
Subtotal	41	15.65	45	23.20	86	18.86
EVALUATION						
Production Evaluation	5	1.91	3	1.55	8	1.75
Performance Evaluation	3	1.15	3	1.55	6	1.32
Ability Evaluation	24	9.16	4	2.06	28	6.14
Strategy Evaluation	32	12.21	32	16.49	64	14.04
Lang. Repertoire Evaluation	9	3.44	4	2.06	13	2.85
Subtotal	73	27.86	46	23.71	119	26.10
Total	262	100.00	194	100.00	456	100.00

(Due to rounding the percent total does not always equal 100.)

Analysis of the information in Table 5.10 reveals that learners of French and Japanese were very similar in their use of individual metacognitive strategies. For both groups the most frequent metacognitive strategies were two planning strategies and one evaluation strategy: self-management, organisational planning and strategy evaluation. Both groups also reported high use of the comprehension monitoring strategy.

The most notable difference in MSU between the TL groups related to the ability evaluation strategy. For learners of French, ability evaluation is the fourth most frequent metacognitive strategy (totalling 24 instances of strategy use), but for learners of Japanese this strategy is hardly used at all (amounting to four reported instances of strategy use). Ability evaluation takes place as the learner judges his/her ability to perform a task. Instances such as the following were frequently reported by learners of French:

8FD *I can usually manage the grammar questions quite easily so I work on those first. I do all of them, and I leave the part I find the most difficult, the essay questions, until last.*

11FD *The oral work I usually find hardest - that's my weakest point. I find I can read French without too much difficulty, but I find I am not always able to use words actively in speaking. On the other hand I can usually carry out the written work without too much of a struggle.*

For both groups the least frequently used strategies were one planning strategy (analysing needs) and several monitoring strategies (auditory monitoring, visual monitoring, plan monitoring, double-check monitoring).

5.5.2 The Influence of the Target Language on CSU Reports

Table 5.11 presents frequency data on the use of cognitive strategies by learners of French and Japanese.

Table 5.11
Frequency of Cognitive Strategy Use
Learners of French and Japanese

Cognitive Strategies	French Learners (N=19)		Japanese Learners (N=18)		Total	
	N	%	N	%	N	%
Note-taking						
Note-taking	12	6.94	8	5.41	20	6.23
Writing Out	2	1.16	15	10.14	17	5.30
Listing	6	3.47	3	2.03	9	2.80
Noting Down	6	3.47	1	.68	7	2.18
Highlighting	5	2.89	0	0.00	5	1.56
Underlining	1	.58	1	.68	2	.62
Subtotal	32	18.51	28	18.94	50	18.69
Resourcing	30	17.34	15	10.14	45	14.02
Repetition	15	8.67	28	18.92	43	13.40
Elaboration						
Between-Parts	24	13.87	5	3.38	29	9.03
Personal	7	4.05	0	0.00	7	2.18
Imagery	3	1.73	2	1.35	5	1.56
World	2	1.16	3	2.03	5	1.56
Creative	1	.58	0	0.00	1	.31
Subtotal	37	21.39	8	6.76	47	14.64
Translation	12	6.94	23	15.54	35	10.90
Read Aloud	10	5.78	12	8.11	22	6.85
Transfer	6	3.47	6	4.05	12	3.74
Contextualisation	6	3.47	5	3.38	11	3.43
Summarisation	3	1.73	4	2.70	7	2.18
Auditory Representation	5	2.89	2	1.35	7	2.18
Work in TL	5	2.89	1	.68	6	1.87
Grouping	4	2.31	1	.68	5	1.56
Inferencing	2	1.16	3	2.03	5	1.56
Memorisation	0	0.00	5	3.38	5	1.56
Rehearsal	4	2.31	0	0.00	4	1.25
Recombination	1	.58	2	1.35	3	0.93
Deduction	0	0.00	2	1.35	2	0.62
Substitution	1	.58	1	.68	2	0.62
Total	173	100.00	148	100.00	321	100.00

(Due to rounding the total percentages do not equal 100.)

Initial perusal of the figures in Table 5.11 may suggest that learners of French and Japanese were comparable in terms of frequent use of note-taking, resourcing and repetition. However, a more detailed study of the figures brings to light differences in the patterns of use of these strategies. For note-taking, learners of Japanese reported frequent use of the writing out strategy (15 instances), while for learners of French this strategy was very infrequent (two instances). Writing out is a mechanical procedure involving repeated copying in order to memorise material. The examples presented below show that for learners of Japanese writing out was almost always linked to the learning of kanji:

- 1JD *I go through the word lists which have the kanji I need to learn and keep writing them out. I find that by writing things out I retain them better.*
- 3JD *I have a visual memory so I need to write things out, especially with the kanji. I write out several words which exemplify one kanji, then I cover up the Japanese side, look at the English side, then write it out again.*
- 9JD *I write out the kanji several times just to get the flow of the strokes. Learning the kanji is the most mind-numbing part of it all. Writing out the kanji helps me to concentrate on learning them.*

A similar emphasis on the more rote aspects of learning was reflected in the greater use of repetition by learners of Japanese (28 reported instances) than by learners of French (15 reported instances). Learners of French tended to make use of other resources in mastering the TL (30 reported instances) more than learners of Japanese (15 reported instances).

The most marked differences between learners of French and Japanese relate to the use of elaboration and translation. Overall, learners of French reported 37 instances of elaboration, while learners of Japanese reported only eight such instances. Elaboration, as discussed in section 5.3.2, takes place as the learners make meaningful connections between new information and old information, or

between information in different parts of a text. Instances of between-parts elaboration and personal elaboration appeared 31 times for learners of French, but only five times for learners of Japanese. Thus, in attempting to master the French language, learners made more active, meaningful associations with and within the TL material than did their Japanese counterparts.

Learners of Japanese appeared to rely more heavily on translation. They reported 23 instances of translation, that is almost double the number given by learners of French (12 instances). This tendency to rely on translation is also mirrored in the extent to which learners chose to work in the TL. Learners of French gave five instances when they made a conscious choice to carry out in French all aspects of working through a particular task, while for learners of Japanese only one such instance was reported.

Summary

To summarise, then, more differences emerged between learners of French and Japanese for CSU than for MSU. The most frequent strategies used by learners of French and Japanese were note-taking, resourcing and repetition, though the way in which and the extent to which these strategies were used varied according to the TL group. Learners of Japanese made greater use of the writing out and repetition strategies than did learners of French. Very clear differences emerged between the TL groups when the use of elaboration and translation was considered. Learners of French made frequent associations between new and old information and between different parts of the learning materials. Conversely, learners of Japanese made hardly any use at all of elaboration strategies. Instead, for learners of Japanese attempts to improve TL competence were characterised by the frequent use of translation.

5.5.3 The Influence of the TL on SSU Reports

Learners of French and Japanese reported an almost equal number of instances of SSU, as displayed in Table 5.12.

Table 5.12
Frequency of Social Strategy Use
Learners of French and Japanese

Social Strategies	French Learners (N=19)		Japanese Learners (N=18)		Total	
	N	%	N	%	N	%
Questioning	5	41.67	10	90.91	15	65.22
Co-operation	3	25.00	1	9.09	4	17.39
Other-Reinforcement	4	33.33	0	.00	4	17.39
Total	12	100.00	11	100.00	23	100.00

For both groups the largest category of SSU was questioning. However differences emerged when the range of SSU was examined. Learners of French used a greater variety of social strategies, particularly in enlisting the help of friends or family to encourage their learning endeavours (other-reinforcement), as in:

3FD *I ask my husband to make sure I keep on track so when I start to procrastinate about getting down to my work he reminds me that what I should be doing is not housework but French.*

5.5.4 The Influence of the TL on ASU Reports

Learners of French made more frequent use of affective strategies than learners of Japanese, and also used a greater range of affective strategies.

Table 5.13
Frequency of Affective Strategy Use
Learners of French and Japanese

Affective Strategies	French Learners (N=19)		Japanese Learners (N=18)		Total	
	N	%	N	%	N	%
Self-motivation	10	43.48	9	69.23	19	52.78
Self-encouragement	8	34.78	3	23.08	11	30.56
Self-reinforcement	4	17.39	1	7.69	5	13.89
Self-talk	1	4.35	0	0.00	1	2.78
Total	23	100.00	13	100.00	36	100.00

The figures in Table 5.13 reveal that both groups made almost equal use of self-motivation, but learners of French made greater use of self-encouragement, self-reinforcement and self-talk than learners of Japanese. The following excerpts show how learners of French used the strategies of self-encouragement and self-reinforcement to manage their feelings about the learning process.

8FD *What I try not to do at the beginning is to look at the devoir until I have done the work because that can actually scare me silly and I do not like to put that extra stress on myself before I have had a chance to learn what is in the actual dossier.*

11FD *I do the sections that I least like first and then I do the sections that I enjoy, like the recreation, as a sort of reward.*

5.6 SUMMARY

The yoked subject technique proved to be a productive method for eliciting reports of strategy use from undergraduate foreign language learners. Several new strategies were identified which had not appeared in the strategy use literature. These were time lapse and seeking practice opportunities (metacognitive strategies), a number of subtypes of the note-taking strategy (cognitive strategies), other-reinforcement (a social strategy) and self-motivation (an affective strategy).

As mentioned in section 3.3.2, the verbal report study was not as comprehensive in scope as the questionnaire study. Through the yoked subject procedure two variables were examined, namely mode of study and the TL, for their relationship to strategy choice.

In the verbal report study variance in MSU was more strongly associated with mode of study than with the TL. Distance learners made more frequent use of metacognitive strategies and employed a wider range of metacognitive strategies than classroom learners. Furthermore, distance learners used all three aspects of metacognition (planning, monitoring, evaluation) to oversee their learning endeavours while classroom learners confined their metacognitive control mostly to planning activities. Distance learners made greater use of self-management and advance organisation than classroom learners.

The TL was not found to play an obvious role in metacognitive strategy choice by language learners in different TL groups. Learners of French and Japanese were comparable in their MSU, though learners of French used slightly more planning and evaluation strategies than learners of Japanese.

The main influence on CSU was very clearly the TL rather than mode of study. Learners of Japanese relied on strategies which pertained to the more mechanical aspects of language learning, in particular repetition, translation and

writing out. A major characteristic of the CSU of learners of French was their attempts to make active, meaningful associations with and within the TL material, in particular through the frequent use of elaboration strategies.

Mode of study was not found to exert a marked influence on CSU. Classroom and distance learners made regular use of note-taking, repetition and resourcing. One notable exception to this comparable pattern was the frequent use of elaboration strategies by distance learners. This strategy did not appear in the reports of classroom learners.

There was a stronger relationship between mode of study and SSU than between the TL and SSU. Classroom learners made proportionately greater use of the social strategies of questioning and co-operation than distance learners, a finding consistent with the questionnaire study. Reports of the use of other-reinforcement appeared in the yoked subject data, a strategy which had not been mentioned in the learning strategy literature. Instances of the use of this strategy were confined to distance learners. Learners of French and Japanese were similar in the frequency with which they used social strategies, though learners of French used a wider range of social strategies than learners of Japanese.

Variance in ASU was related to both mode of study and the TL. Distance learners made wider and more frequent use of affective strategies than classroom learners. Learners of French reported more instances of ASU than learners of Japanese.

A discussion of the results from the questionnaire study and the verbal report study are presented in the following chapter. A synthesis of the main findings from the current study is presented in Chapter 8.

6. DISCUSSION

The early part of this chapter examines findings concerning the identification and classification of strategies through the metacognitive, cognitive, social and affective model of strategy use (section 6.1). The remainder of the chapter is devoted to a discussion of the results of the study organised in six sections, each of which relates to one of the research questions presented in section 3.3.2. The final section of the chapter (section 6.8) draws together the various strands of the findings to form a coherent picture of factors which contribute to the kinds of strategies learners deploy to develop foreign language skills.

6.1 CLASSIFICATION OF STRATEGY USE

The strategy classification scheme used in the current study was based on a distinction between metacognitive, cognitive and socio-affective strategies and is similar to other learning strategy models in the fields of educational psychology and cognitive psychology. It proved to be an effective means through which to examine the strategies used by undergraduate foreign language learners. In particular, the model was valuable in serving to clarify how different categories of strategy use (e.g., metacognitive, social) are influenced by particular learner characteristics or aspects of the language learning context. One modification to the model, namely the separation of the socio-affective grouping into two distinct categories, was introduced to reflect the fact that SSU and ASU relate to quite different underlying constructs.

Through the verbal report study a number of new strategies were identified in each of the four main strategy groupings: metacognitive, cognitive, social and affective. The following discussion of these newly identified strategies begins with the two metacognitive strategies of time lapse and seeking practice opportunities.

The time lapse strategy involved the spacing of learning sessions in order to facilitate the comprehension, memorisation or production of the TL. The use of time lapse was related to three circumstances: when encountering difficulties, when learning TL forms, and as a form of mental drafting of material, particularly for extensive writing. The other new metacognitive strategy was seeking practice opportunities which was used by learners to make arrangements for using the TL beyond the opportunities provided by the course.

In terms of CSU, five subcategories of the note-taking strategy were distinguished: writing out, listing, noting down, highlighting and underlining. Note-taking was identified as a high-frequency strategy in this study, a finding consistent with previous studies of language learning strategy use. The five subcategories were important in that they permitted insights into the specific ways in which particular kinds of note-taking were deployed. Work in the TL was also added as a new cognitive strategy. This strategy can be viewed as the opposite of translation in that it consists of attempts to prepare for language tasks and to engage with language tasks with no recourse to English.

The analysis of the verbal reports also resulted in the inclusion of new instances of social and affective strategies in the taxonomy of strategy use. Other-reinforcement was identified as a social strategy and proved to be a characteristic of distance learners (see section 6.3.3). This strategy involved soliciting help from others, not specifically in relation to language tasks, but to gain the necessary encouragement to persevere in the face of difficulties. The ASU of distance learners was also characterised by a previously unidentified affective strategy, namely self-motivation, involving reminding oneself of the advantages of continuing to learn the foreign language (see section 6.3.4).

In attempting to classify instances of strategy use in this study, there were two main findings which warrant further discussion. These concern questions of the boundary between metacognitive and cognitive strategies, and the fact that strategies are used in particular combinations. The remainder of this section is

devoted to a consideration of these issues.

In Chapter 2, in a discussion of the research into metacognition, it was noted that attempts to delineate metacognitive strategies from cognitive strategies have met with some difficulties. O'Malley and Chamot (1990:99) point to the fact that there are 'differences in opinion about what constitutes a metacognitive or cognitive strategy' and Cohen (1991:134) notes that 'there is still confusion over where to draw the line between metacognitive and cognitive strategies'. While the diffuse boundaries between the two main strategy groupings are acknowledged in the literature, specific examples of classification difficulties rarely appear, and the nature of such difficulties tends not to be pursued. Two difficulties which arose in the current study in relation to the metacognitive/cognitive distinction will now be considered.

Revision was classified as a metacognitive strategy to be included in the questionnaire strategy use scale. It was argued in Chapter 3 that revision is a metacognitive strategy since it involves planning to learn by the systematic reviewing of material in order to aid the long-term retention of that material. It was also acknowledged that the actual process of revision takes place through the use of a range of cognitive strategies. In the verbal report data there were a number of reports of learners systematically reviewing material as a means of completing particular language tasks. In such instances it was difficult to decide whether the strategy was used metacognitively, involving planning to review, and as such should be classified as an instance of revision, or whether the strategy was being used more cognitively, involving going over the language needed for an upcoming task, and as such should be classified as rehearsal.

A second example of the diffuse boundaries between metacognitive and cognitive strategy use arose in relation to one of the newly identified strategies, namely work in the TL. This strategy was classified as a cognitive strategy since it was applied to specific tasks as a means of completing them to best effect. However, in the verbal report data this strategy appeared at times to be used as an

executive thinking skill rather than as an integral part of task performance, thus blurring the distinction between the functions of cognitive and metacognitive strategies.

These examples point to the fact that what is metacognitive cannot always be readily separated from what is cognitive. It is important for researchers using the metacognitive, cognitive, social and affective model of strategy use to understand that such difficulties may arise especially when attempting to classify particular instances of strategy use which appear in verbal report data. It would also be useful if there was more extended discussion in the literature of the kinds of problems which can arise when attempting to maintain a distinction between MSU and CSU.

The analysis of the verbal transcripts also revealed the ways in which learners used strategies in particular combinations, rather than as discrete techniques which operate in isolation from one another. In particular, it was evident that metacognitive strategies were frequently combined with one or more cognitive strategies. For example, problem identification was used with underlining. Comprehension monitoring was often linked with inferencing, and elaboration was used in conjunction with revision. The multiple strategies employed at any one time revealed the complex and ingenious techniques undergraduate foreign language learners used to develop TL competence.

In a recent review of studies attempting to detail the precise ways in which use is made of specific strategies O'Malley and Chamot (1990) emphasise the need to study further the co-occurrence of particular strategies. Furthermore, instruction in general learning strategies now attempts to incorporate the fact that learners use a series of strategies rather than a single one when engaged in a particular language task (Palincsar and Brown 1984; Graham, Harris and Sawyer 1987; Ogle 1987). The findings of this study point to the need to go beyond the tallying of the use of individual strategies, to consider in more detail how particular strategy combinations are used in the performance of different language tasks.

The remainder of the chapter is devoted to a discussion of the findings which are examined and interpreted according to the six research questions outlined in section 3.3.2.

6.2 FREQUENCY OF STRATEGY USE

Research Question 1

What use do undergraduate foreign language learners make of the metacognitive, cognitive, social and affective categories of strategy use?

The undergraduate foreign language learners in this study were characterised by the frequent use of metacognitive and cognitive strategies and the relatively infrequent use of social and affective strategies. This pattern was comparable to that of other learners whose strategy use has been investigated by means of the metacognitive, cognitive, socio-affective model (O'Malley et al. 1985a, 1985b; Chamot et al. 1987; Chamot et al. 1988a, 1988b).

6.2.1 Metacognitive Strategy Use

In the questionnaire study the most frequently used metacognitive strategies were advance organisation, self-monitoring and self-evaluation. These strategies together encompass the three dimensions of metacognitive control of learning namely, planning, monitoring and evaluation. The findings from the much smaller verbal report study carried out with 200-level learners of French and Japanese provided a similar picture of the most frequent metacognitive strategies with one exception. Self-management emerged as the most frequently used strategy ahead of the other three planning, monitoring and evaluation strategies. Two possible explanations for this can be proposed.

Firstly, the frequent use of self-management was found in both studies to be the main characteristic differentiating distance learners from classroom learners in terms of MSU. Thus the recurrent reporting of self-management can be partly attributed to the higher proportion of distance learners in the verbal report sample. Secondly, the nature of the yoked subject procedure in the verbal report

study may well have influenced learners to focus on the techniques by which they learn best, and the ways in which they manage their learning conditions - processes which are directly related to the self-management category of strategy use.

Planning was the most frequently used dimension of MSU in the questionnaire study and the verbal report study. This finding is also consistent with a number of other studies carried out with high school language students (e.g., Chamot and Küpper 1989). However, compared to patterns of strategy use in prior research, the monitoring and evaluating dimensions of strategy use were well-developed among the learners in the current study. This can probably be attributed to the age and level of ability of learners in this study as well as to the demands of the distance learning context.

6.2.2 Cognitive Strategy Use

In the questionnaire study and the verbal report study resourcing, repetition, translation and either elaboration or transfer were among the most frequently used cognitive strategies. At the same time a number of important differences between the patterns of CSU obtained through the two studies emerged.

The overall pattern of reporting in the questionnaire study involved the frequent use of key strategies such as inferencing and substitution. In the verbal report study, on the other hand, learners appeared to include more mechanical strategies such as note-taking and translation in their cognitive strategy repertoire. These different trends may be related to the influence of the data collection instruments on the reports of strategy use.

Since the questionnaire instrument required learners to respond to questions about particular instances of strategy use, it is possible that subjects were influenced to react in terms of what they thought they should do, rather than what

they actually did, to learn the TL. The yoked subject procedure, on the other hand, was a productive task with no specific prompts, and this task may have provided more accurate revelations of the strategies learners actually used.

In spite of these observed differences in the frequency of CSU reported in the questionnaire study as opposed to the verbal report study, there was overall consistency in the frequent use of resourcing, repetition, elaboration, translation and elaboration or transfer in the two studies.

6.2.3 Social Strategy Use

In terms of SSU, questioning was deployed much more frequently than co-operation. Presumably one explanation for this relates to the greater organisational demands of co-operation as opposed to questioning. Classroom learners have frequent opportunities to ask questions of teachers and fellow learners, and this can often be carried out spontaneously. However, making arrangements to work with other learners out of class would generally be more time-consuming and would require planning. Questioning and co-operation do not generally form part of the strategic repertoire of distance learners because of the inherent limitations of their learning context.

6.2.4 Affective Strategy Use

The most frequently used affective strategy was self-encouragement, which is used when learners make positive statements to themselves in order to feel competent to carry out particular tasks. Other means of affective control were used less frequently, and again, the organisational demands of other means of affective control (such as arranging rewards for oneself) may have prohibited their use.

6.3 THE INFLUENCE OF MODE OF STUDY

Research Question 2

What is the influence of mode of study on metacognitive, cognitive, social and affective strategy use by undergraduate foreign language learners?

The findings from this study revealed that mode of study strongly influenced the MSU and the SSU of undergraduate foreign language learners.

Distance learners made more frequent use of metacognitive strategies and deployed a wider range of metacognitive strategies than classroom learners. They exploited all dimensions of metacognition (planning, monitoring and evaluation) to control their learning processes, while the metacognitive strategies deployed by classroom learners were concerned mostly with planning.

The wider and increased use of metacognitive control by distance learners can be seen as a response to the demands placed on those learners by the distance learning context. Distance learners must develop the ability to manage their learning processes, since their learning context does not provide the kind of regular direction and guidance which are normally furnished by a classroom environment. Sussex (1991:181) observes that 'both distance learning and open-access learning involve high levels of student control and direction'. The distance learners in this study responded to the requirements of the distance learning environment by the frequent application of a wide range of metacognitive strategies to set up, oversee and evaluate their language learning endeavours.

The results from this study also suggest that once distance learners have developed ways of managing their learning, their interactions with the TL materials, as described in terms of their CSU, are not markedly different from those of their classroom counterparts. That is, in the context of private study, both groups of learners use comparatively similar processes in working with the TL materials to develop foreign language skills. Four exceptions to this comparable pattern are examined in section 6.3.2.

For the social categories of strategy use, mode of study was found to interact with the opportunities learners had to deploy such strategies. While distance learners had limited opportunities to use the more conventional social strategies of questioning and co-operation, they exhibited particular resourcefulness in their use of a further dimension of SSU, namely other-reinforcement (see section 6.3.3).

Finally, in terms of ASU, both classroom and distance learners made relatively infrequent use of these strategies. Classroom learners deployed social strategies more often than affective strategies. Distance learners, on the other hand, resorted more to affective means to manage their learning than to techniques involving social contact. Distance learners also reported using a wider range of affective strategies than classroom learners.

Given then that this is the general picture for the use of the four main strategy use categories by classroom and distance learners, we can now consider which individual strategies are influenced by mode of study. Furthermore, we can speculate as to the reasons why particular strategies are deployed differently by learners in classroom and non-classroom environments.

6.3.1 Mode of Study and Metacognitive Strategy Use

In both the questionnaire study and the verbal report study it was evident that the single most important strategy which served to differentiate classroom and distance learners was self-management. Distance learners are clearly set apart from classroom learners in the extent to which they make use of this strategy. An essential prerequisite for the use of self-management is for the individual learner to know how s/he learns best. The use of self-management also requires the learner to have the necessary procedural skills to set up these optimal learning conditions. We can now reflect on the reasons why variance in the use of self-management is so closely associated with mode of study.

Self-management can be considered to be the definitive metacognitive strategy

in that it comprises the two dimensions of metacognition outlined in Chapter 2: knowledge of cognition and control of cognition. The other metacognitive strategies are concerned, for the most part, with control of cognition. As such, they exercise the executive dimension of metacognition rather than the self-knowledge dimension. Because self-management taps both aspects of metacognition, it is a powerful index of the metacognitive knowledge and skills of learners. Thus, when one considers the strong relationship between mode of study and metacognition, it is not surprising that self-management emerges as the principal strategy to set classroom learners apart from distance learners.

The use of advance organisation and organisational planning was also critical in differentiating between classroom and distance learners on MSU measures. These strategies are closely allied and in their recent taxonomy of strategy use O'Malley and Chamot (1990:137) group them together under the heading 'planning'.

The use of advance organisation involves previewing material to obtain a general idea of tasks, while organisational planning involves generating a plan for the execution of the tasks. In the verbal report study, the MSU of distance learners was found to be characterised by the frequent application of these strategies. Looking through material and planning how to work with it appears to be more important for distance learners than classroom learners.

The relatively infrequent application of advance organisation and organisational planning by classroom learners could be attributed to a reliance on the teacher for direction in what to learn and how to progress through the materials. Distance learners, on the other hand, must introduce units of work to themselves, they must work out what is required and how best to proceed. The verbal reports of distance learners frequently opened with reference to their use of advance organisation and organisational planning as in the following example:

8FD *I look through the whole dossier first because I'm keen to see what it is about and to get some idea of what I'll be expected to work with, what I'm expected to master. I like having an idea of what is coming up and also of where I am going. So then I decide what I am going to study first, what next and so on. I decide what I will leave until last too. That's usually the hardest part. Also any essays I leave until last.*

In the questionnaire study, the use of advance organisation was found to be second only to self-management in separating classroom and distance learners. There was no questionnaire item relating to the use of organisational planning, but, had such an item been included in the study, it is expected that distance learners would have been shown to exceed classroom learners in their use of this aspect of metacognition. In summary, as far as planning strategies were concerned, classroom and distance learners were differentiated in their use of self-management, advance organisation and organisational planning.

It was also found that distance learners made much greater use of the monitoring and evaluation dimensions of metacognition than classroom learners. In terms of monitoring, distance learners were particularly concerned with comprehension monitoring, that is, checking up on their understanding of the TL, and problem identification, which entails identifying the aspects of a task which are preventing its successful completion.

Monitoring has been shown to be critical in distinguishing effective from ineffective learners (Nisbet and Shucksmith 1986; Chamot and Küpper 1989; O'Malley et al. 1989) but the use of this strategy has not been explored in relation to effects from the learning context. The increased use of monitoring by distance learners in this study can be attributed to an absence in their learning environment of two functions normally performed by classroom teachers. These are now discussed.

Firstly, distance learners are not able to regulate the degree of complexity of the material presented to them. They are not necessarily provided with material at a

level appropriate to their own powers of understanding and so it is possible that they have to decide for themselves whether the material is within their comprehension abilities. Language teachers, on the other hand, in face-to-face classroom teaching, are generally sensitive to the level of understanding of their learners and make attempts to present material which is within the learners' grasp. Secondly, distance learners do not have a teacher to check up on their comprehension through the regular posing of questions. Distance learners must make efforts to monitor their understanding for themselves. Classroom learners, on the other hand, do not have the same need to ask themselves 'How am I going in all of this?' and 'Have I got the right idea?'

In the verbal report study one of the metacognitive strategies most frequently mentioned by classroom learners was revision, while in the questionnaire study the relatively infrequent use of revision by classroom learners was found to contribute significantly to the separation of learners according to mode of study. This discrepancy can be related to effects from the content of the instructions for the verbal report procedure (see Appendix D).

In order to ensure the ecological validity of the yoked subject procedure, participants were provided with a series of questions which approximated the sorts of things a prospective learner might ask about ways of working with the TL materials. Care was taken to ensure that the questions were sufficiently general not to prompt learners to mention particular strategies. However, one specific question was included relating to revision, and it seems this acted as a cue to many learners to talk about revision. That is, it is likely that the frequent mention of revision in the verbal report study was influenced by the specific mention of this strategy in the questions provided.

In the questionnaire study, classroom learners used revision significantly less often than distance learners. The reasons for this can be related to the fact that, in the course of regular language sessions, classroom learners are probably exposed to a wider range of previously learnt forms than distance learners.

Distance learners, on the other hand, have to arrange opportunities for themselves to review prior work in order to gain the repeated exposure necessary to retain language forms.

6.3.2 Mode of Study and Cognitive Strategy Use

Results from the questionnaire study and the verbal report study indicated that there were some differences between classroom and distance learners on CSU measures, though these were relatively minor compared with the very evident differences on MSU measures. Through the yoked subject procedure classroom and distance learners reported using similar cognitive strategies as they engaged with the TL irrespective of mode of study. However there were four exceptions to this comparable pattern relating to the use of elaboration, transfer, resourcing and repetition.

Distance learners reported making frequent use of elaboration while classroom learners did not report any instances of the use of this strategy. The use of elaboration involves making meaningful connections between parts of the learning materials, or relating new information to prior knowledge and to personal experience. Transfer strategies are similar to elaboration strategies in that learners use previously acquired knowledge of the language to facilitate the completion of a task. O'Malley, Chamot and Walker (1987) also note the close connections between elaboration and transfer, and consider that elaboration can be considered to be a superordinate category for transfer. Distance learners were characterised by a much greater use of elaboration and transfer than classroom learners.

It is clear that both elaboration and transfer require the learner to engage actively with the TL material and to process it at quite a deep level. Elaboration has long been considered to be a significant learning strategy because of the benefits for comprehension and retention which have been demonstrated to accompany its use (e.g. Reder 1980; Weinstein and Mayer 1986). One explanation for the greater use of elaboration and transfer by distance learners is that they must

integrate the course materials for themselves since there is no teacher to situate each learning task in wider contexts, or to relate the material to what they already know.

Resourcing and repetition are different in nature from elaboration and transfer. Resourcing involves using alternative sources of information about the TL while repetition involves repeating words or phrases in the course of performing a TL task. Distance learners would appear to make greater use of resourcing than classroom learners since they cannot readily approach a teacher when they strike difficulties, and so must rely on other sources for assistance. Repetition is also used more often by distance learners. The reasons for this are not entirely clear, but one explanation could be similar to that provided for the increased use of revision by distance learners, namely that distance learners are not exposed to the kinds of repetition of language items which occur in a classroom environment and which are useful for the retention of TL items.

6.3.3 Mode of Study and Social Strategy Use

Distance learners are very conscious of the fact that they are pursuing their studies in relative isolation compared to their on-campus counterparts. Attempts have been made to minimise this isolation, as outlined in section 3.1, and to provide distance learners with opportunities for contact with tutors and fellow learners. This background is important to understand the somewhat conflicting responses made by distance learners in the questionnaire study and the verbal report study about their SSU.

In the questionnaire study the most frequent response by distance learners when asked about their use of questioning and co-operation strategies was that they had 'no opportunity' to use these strategies. Classroom learners used them 'sometimes' or 'rarely'. However, insights from the verbal report study revealed that distance learners did make use of these social strategies and that they also contacted others to elicit encouragement to continue with the course. This strategy was termed 'other-reinforcement'. It was classified as a social strategy

in this study though it also has a strong affective component. No instances of the use of other-reinforcement were found in the verbal reports of classroom learners.

One reason for the lack of consistency between the two studies in reports of SSU could lie in the fact that distance learners are very aware of the isolated context in which they study, and therefore, in the closed response format of the questionnaire, readily opted for the 'no opportunity' category. However, when asked about the strategies they used in a more open-ended context, their resourcefulness and attempts at networking in order to overcome their isolated study context were very evident.

It appears then that distance learners do apply social strategies to support their learning endeavours but that their opportunities are more limited than those of classroom learners. However, distance learners are distinctive in their use of a further dimension of SSU, namely other-reinforcement.

6.3.4 Mode of Study and Affective Strategy Use

In the verbal report study distance learners used a wider range of affective strategies than classroom learners and also used them more frequently than their classroom counterparts. Distance learners used affective strategies to encourage themselves, to reduce anxiety, to reassure themselves they could tackle the work and to motivate themselves (see sections 5.4.4 and 5.5.4. for examples). The means classroom learners used for affective management of learning were all related to self-motivation.

One might expect distance learners to make wider and more frequent use of affective strategies since their isolated context could foster anxiety about their progress. Their relatively isolated context would also mean they have to provide themselves with motivation, reinforcement and encouragement. This reasoning is borne out by variance in the use of social and affective strategies according to mode of study. Distance learners used proportionately more affective strategies than social strategies while classroom learners reported using more social

strategies than affective strategies (see Figure 5.2).

In the questionnaire study both classroom and distance learners reported infrequent use of affective strategies. The three ASU items did not serve to reveal the kinds of differences which were evident in the verbal report study. It is possible that the questionnaire items did not tap appropriate aspects of ASU. It is also possible that more carefully worded questionnaire items drawn from the descriptions in the verbal report study would have elicited a different response.

6.4 FURTHER INFLUENCES ON MODE AND STRATEGY USE

Research Question 3

Is the impact of mode of study on strategy choice further influenced by particular learner characteristics (e.g. age, gender, proficiency, language learning experience) or by aspects of the learning context (e.g. level of study, TL, language use opportunities)?

The investigation of this research question was carried out through the questionnaire data and was limited to the metacognitive and cognitive dimensions of strategy use, due to the nature of the social and affective scales. The relationship between mode of study and MSU was found to be further influenced by four variables in the study which will be the subject of discussion in this section. The less apparent relationship between mode of study and CSU was not found to be subject to further influences.

Four sets of circumstances were identified in the questionnaire study in which the gap between classroom and distance learners on MSU measures became particularly pronounced. These circumstances were when learners had no prior TL experience, when the TL was Japanese, when the proficiency level of learners was 'B', and when learners were at the 200-level of study.

For learners who had no prior TL experience before enrolling in the university

language course, the self-management strategy was of prime importance in setting learners apart according to mode of study. It appears that classroom learners with no prior TL experience had not developed the same understanding of their learning processes, or of ways of establishing these processes, as their distance counterparts. One explanation for this is that classroom learners with no prior TL experience are able to remain dependent on the teacher to establish their learning conditions, while distance learners, with a similar background, must rely on their own endeavours if they are to proceed. In such circumstances distance learners develop self-management strategies to manage their language learning.

The use of advance organisation was found to be the major influence on the marked separation of classroom and distance learners in the other three contexts (when the TL was Japanese, at the 200-level and when the proficiency level of learners was 'B'). In each case distance learners made significantly greater use of advance organisation than their classroom counterparts. The reasons why the gap widens between classroom and distance learners in these circumstances is not entirely clear. Neither is it evident why the key strategy in these circumstances is the use of advance organisation. However, a number of possible explanations are now proposed.

Firstly, with regard to the influence of the TL, it is considered to be very difficult to study Japanese at a distance. This is acknowledged both by lecturers and by enrolled students. In order to keep up with the material it is necessary to spend at least two hours daily working with the TL, according to course guidelines. A large number of learners do not complete the course because of these demands. So, if distance learners are to succeed they must be very organised and must plan their progress carefully through the course. Advance organisation is a primary planning strategy.

At the 200-level of language study learners are often immediately exposed to a less controlled language environment and are expected to develop a much wider

range of skills in language forms and language use. The teacher is less likely to nominate exactly what has to be learnt, and more responsibility is placed on the learner to master aspects of the TL. For the distance learner, the more open-ended exposure to the TL, which begins at the 200-level, also requires careful planning of the learning process.

When the proficiency level of learners was 'B', classroom and distance learners were maximally differentiated on MSU measures. One explanation for this lies in what we already know about metacognitive control as one of the keys to successful language learning. One would expect that high-achieving learners, that is 'A' learners, would have highly developed metacognitive abilities irrespective of mode of study. It also seems that at the proficiency level of 'C' classroom and distance language learners are relatively similar in the use they make of metacognitive strategies. However, between the highly successful learners and the less successful learners there is a group who differ significantly on how they manage their learning, according to whether they are classroom learners or distance learners. It is possible that at this level of ability classroom learners still do not need to be self-directed to make progress, whereas their distance counterparts have to make a greater effort to direct their learning in order to succeed.

In these three sets of circumstances, the use of advance organisation was the main strategy associated with the separation of classroom and distance learners. In order to direct their learning, distance learners find it necessary to preview material to see how it is organised and to determine what is required of them before they can proceed. The advance organisation strategy appears to be critical for distance learners to enable them to enter into the appropriate mental frame to work on particular language tasks. Classroom learners do not appear to use this strategy to the same extent in the circumstances outlined, and one can assume that they rely on the direction given in the classroom for an overview of learning tasks and for an understanding of what is required.

6.5 THE TARGET LANGUAGE AND STRATEGY USE

Research Question 4

What role does the TL play in the strategies learners choose to use (metacognitive, cognitive, social, affective) to improve their TL competence?

In the previous section the contribution of one of the TLs in this study, namely Japanese, was discussed in relation to the variance of classroom and distance learners on MSU measures. In this section the relationship between particular TLs and the kinds of strategies reported by learners will be considered.

The TL was not found to influence the frequency with which learners of different TLs used the generic categories of strategy use: metacognitive, cognitive, social and affective. However, the TL did exert an influence on the kinds of cognitive strategies learners used. Relatively minor differences in metacognitive, social and affective strategy use were also detected between learners of different TLs. The discussion of results will be limited to the main area where the TL was found to impact on strategy use, that is through the cognitive strategies learners use as they interact with the TL materials. The clearest findings in this regard emerged through the verbal report study, and the examination of the relationship between the TL and CSU will make reference to these results.

The three main categories of CSU for learners of French and Japanese were note-taking, resourcing and repetition. However the two TL groups differed in the extent to which repetition was used and in the kinds of note-taking strategies which were deployed. An analysis of the sub-categories of the note-taking strategies revealed that learners of Japanese relied heavily on the writing-out strategy, that is, mechanical copying (see section 5.5.2 for examples). Deployment of the writing-out strategy was clearly linked to attempts to learn kanji, and as such was directly attributable to a structural feature of the TL.

Learners of French were characterised by the use of elaboration and attempts to carry out tasks in the TL without recourse to English. Learners of Japanese, on the other hand, relied heavily on translation as a means of developing

competence in the TL. Thus, learners of French made active, meaningful associations with and within the TL materials while learners of Japanese attempted to relate Japanese forms to English forms and vice-versa. Learners of Japanese reported twice as many instances of repetition as learners of French. It is important to consider whether these differences in strategy use are also attributable to the demands placed on learners by the particular structure of the TL, or whether there are other intervening factors such as course methodology and the level of advancement in the TL of learners of Japanese compared to learners of French.

It is a particularly complex task to attempt to characterise the language teaching approach of a course in terms of a particular language teaching methodology. One must consider a range of factors such as course materials, textbooks, the nature of classroom interactions and the beliefs of the lecturer or teacher. Such a detailed analysis is beyond the scope of the current study. However, an informal comparison of the methodology of the French and Japanese courses at the 200-level was undertaken.

The Japanese language course materials are based, for the most part, on a mixture of grammar-translation, audio-lingual and structural teaching methods. Japanese words and structures are presented in a series of decontextualised sentences, and much of the language practice involves translation. These conclusions were confirmed through discussions with Japanese language teaching staff. The French language course on the other hand is more communicative, and attempts to recycle vocabulary and functions throughout the course. Comparisons between English and French are minimal. Thus, learners of French and Japanese are encouraged to engage with the TL in quite different ways. Compare the following extracts from the verbal report study. The first is from a learner of Japanese, the second from a learner of French:

11JD *I used to learn the lists of key sentences off by heart as a way of internalising the structures. But then I found that quite surreal because they were not related to a wider context and I also found it very difficult to*

remember them. Now I just practice translating the key sentences to learn the structures and kanji.

8FD *I do a lot of cross-referencing when I work through the dossier. We have been encouraged to do this because the later units build on earlier work and I can use a lot of the earlier vocabulary and structures in later units. So when I am working through a new unit I always think in terms of what I already know and I frequently refer back to my earlier work. This way I understand the earlier work better and it also helps me to work further into the new unit.*

One can conclude that the differences in CSU between learners of French and Japanese were only partly attributable to the influence of the TL. The language teaching methodologies implicit in the materials also appeared to affect the kinds of strategies learners used as they interacted with the TL in attempts to develop their language skills.

A similar interpretation of the perceived differences in strategy use between different TL groups was made in an early study by Politzer (1983). He suggested a complex interaction between language teaching methods and the different learning behaviours of students of French, German and Spanish. Similarly in a recent longitudinal study of strategy use, carried out by Chamot and Küpper (1989), the influence of course objectives on strategy use was noted, even though their study was confined to learners on one TL, Spanish. Chamot and Küpper (1989:17) observed that 'students in classrooms emphasising grammar apparently preferred strategies such as deduction and translation, whereas students in classrooms focusing on proficiency tended towards strategies such as inferencing and substitution'.

It is also important to consider the amount of prior TL experience of learners of French and Japanese. As indicated in section 3.2.2 the length of prior TL experience was very different for learners of Japanese (mostly less than one year) compared to learners of French (mostly five years). At the 200-level of

French study, learners are relatively fluent in the extensive use of language skills. Lecturers in Japanese observed that such fluency could not be expected at the 200-level of study. Furthermore, learners majoring in both French and Japanese indicated that their skills in Japanese were at a very much less advanced level than the level at which they could perform in French.

There is also the question of the rate at which learners can be expected to progress in the learning of different TLs. For example, the US Foreign Services Institute charts suggest that learners of Chinese and of Japanese require twice as much time as learners of French and German to reach the same level of mastery of language skills. This, it is expected, would impact on the strategies learners of French and Japanese were able to use after an equal number of hours of learning the TL. However, it should also be noted that the ostensibly slower rate of progress for the learning of Japanese remains open to question and cannot be separated from the effects of teaching approaches or course methodology (see, for example, Marriott and Yamada (1991)).

To conclude, in interpreting the differences in CSU between learners of French and learners of Japanese in this study, it was important to consider not only the influence of the TL, but also the influence of 'language teaching methods, as well as unspoken expectations permeating the instructional environment' (Oxford 1990:243). Furthermore, the fact that learners of French had a more fully developed mastery of the TL at the 200-level compared to learners of Japanese, could be expected to play a role in the cognitive strategies learners were able to deploy.

6.6 THE INFLUENCE OF THE LEARNING CONTEXT

Research Question 5

Do aspects of the language learning context (namely level of study and language use opportunities) affect the metacognitive and cognitive strategies employed by undergraduate foreign language learners?

6.6.1 Level of Study and Strategy Use

No clear pattern was found in the study for a relationship between level of study and strategy choice. The reasons for this probably relate to the fact that each level of study does not represent a similar level of advancement across different TL groups. This point was illustrated with regard to learners of French and Japanese at the 200-level in section 6.5. Both level of study and TL experience are ways of measuring duration of study and a better indicator of the effects of the duration of study on strategy choice proved to be prior contact with the TL rather than course level. Prior experience in learning the TL before enrolling in the university courses was found to have a greater impact on cognitive strategy choice than the level of study. Results relating to the effect of prior TL experience on strategy choice are discussed in section 6.7.2.

6.6.2 Language Use Opportunities and Strategy Use

An investigation of the interaction of language use opportunities with strategy choice was included in this study to determine whether functional practice opportunities, beyond those provided by the course, had an effect on the strategies learners chose to use within the course. In the questionnaire sample 13.7% of learners reported that they had some opportunities to practise with native speakers, though the frequency with which they took advantage of these opportunities was not determined. Language use opportunities were not found to influence the strategies learners used either in planning their learning or when engaging with the TL materials. A recent model of second-language acquisition proposed by Gardner and MacIntyre (1992) emphasises the influence of formal and informal contexts on the student's level of achievement, which in turn is seen to influence strategy use. Findings from this study revealed that learners who

have access to informal learning contexts used strategies in formal contexts which were similar to those used by learners whose learning opportunities were limited to more formal environments. More research on strategy use in formal and informal learning environments is required.

6.7 THE INFLUENCE OF LEARNER CHARACTERISTICS

Research Question 6

What is the influence of learner characteristics (age, gender, language learning experience, prior experience in learning the TL, motivation and proficiency) on metacognitive and cognitive strategy use?

Findings from this study provide evidence for the influence of age and prior TL experience on strategy choice by foreign language learners. The relationship between age and MSU is discussed in section 6.7.1. The influence of prior TL experience on CSU is examined in section 6.7.2. Proficiency was found to have some effect on MSU, but this was not very marked. A discussion of these results appears in section 6.7.3. Metacognitive and cognitive strategy choice were examined in relation to gender, motivation and language learning experience of learners, but no relationship was found between these variables. A comparison of these results with findings from previous studies is presented in section 6.7.4.

6.7.1 Age and Metacognitive Strategy Use

An ordered comparison of the strategy use of language learners whose age range covered a period of five decades revealed that there was a progressive increase in MSU from younger to older age groups irrespective of mode of study. In particular learners over thirty were found to differ significantly from learners under thirty in their frequency of use of particular metacognitive strategies.

The increase in the use of metacognition with age and experience has been demonstrated in studies of the acquisition of first language reading skills by

school-age children (e.g. Myers and Paris 1978; Canney and Winograd 1979; Kobasigawa, Ransom and Holland, 1980; Forrest-Pressley and Waller 1984). The pattern of greater metacognitive control in learning among mature-age students was also well established a decade ago (Entwistle and Ramsden 1982; Watkins 1983; Watkins and Hattie 1985), and the findings have been consistent over several studies but have not been verified specifically in relation to second language learning.

A number of observations have been made about the use of language learning strategies in relation to the age of learners. For example, O'Malley et al. (1985a:35) noted that high-school ESL students were able to make 'extensive use of metacognitive strategies' and they concluded that 'considerable reflection on the acquisition and function of language was occurring'. However their study did not include a direct comparison of high-school students with younger learners. In reviewing Ehrman and Oxford's (1989) study, Oxford (1989:238) notes that the adult language learners in their study 'seemed to use somewhat more sophisticated language learning strategies than did younger learners in other studies'. Again, these observations are impressionistic and are drawn from loose comparisons made across different studies. In the current study the investigation of variance in language learning strategy use due to age is based on an ordered comparison of the reported behaviours of learners whose age range covers a span of almost five decades.

Findings revealed that five metacognitive strategies were closely associated with the increased use of metacognition according to maturity of learners: self-management, advance organisation, delayed production, revision and self-monitoring. These strategies together encompassed the planning and monitoring dimensions of metacognition. The metacognitive strategy most closely related to the age of learners was self-management.

Self-management takes place when learners understand how they learn best, and when they arrange their learning in such a way that these preferred conditions

are available. Self-management thus requires of the learner a good deal of self-knowledge and also particular organisational skills to provide such optimal learning conditions. It is apparent then that older learners have a deeper understanding of their learning processes and requirements.

A number of older learners wrote comments next to the self-management questionnaire item expressing the conflict they experienced between their desire to study under what would be for them advantageous conditions, and the constraints they faced while studying. For example, the following extract comes from a female learner of Japanese aged 43:

9JD *I have found that I learn best in the mornings and that I retain words more easily if I study a little at a time, but family and work commitments mean that I have to study when I can find the time. However, when I do get to work with the language I know how to proceed, so I don't waste time. I would really like to have more contact with native speakers, that's really helpful, especially since I have got over my feelings of inhibition. I could make good use of such opportunities, but this only happens a few times a year.*

Although the self-management strategy was included in the studies carried out by O'Malley, Chamot and others, the role of this strategy was not explored in relation to age.

Older learners were found not only to use more self-management to control their language learning but also showed an increased use of advance organisation, delayed production, revision and self-monitoring. That is, older learners showed a greater preference for gaining an overview of the learning material before beginning particular tasks, for postponing speaking, for reviewing material regularly and for monitoring their performance in the TL. A number of explanations can be put forward for the development of these four strategies among more mature learners.

The increase in the use of delayed production with age, which was found in this

study, has often also been observed by language teachers. They note that the older students feel less comfortable with the oral aspects of language use and are not so ready as younger learners to engage in tasks requiring speaking in the TL. This may be due to earlier exposure among older learners to more traditional forms of language teaching with little emphasis on speaking skills. It is also possible that older learners display a greater concern for accuracy in their language use, which can work against the development of oral fluency.

It is not immediately obvious why self-monitoring should increase with age. Self-monitoring has been identified as a core learning strategy (Chamot and Küpper 1989) and is considered critical for progress in language learning. It may be that older learners have a greater awareness of the importance of monitoring performance in the TL as an ingredient in the development of TL competence, and so deploy this strategy frequently.

Revision was used 'rarely' by learners under 20 and 'often' by learners over 60. One reason for the increased use of revision among older learners could be due to a decline in powers of memory with age. Skehan (1986) in a study which attempted to establish learner types empirically found that older learners had less impressive memory functions than a younger group who were more readily able to assimilate large amounts of TL material. The comments from older learners in the current study indicate an awareness of the importance of revision for them in order to retain TL forms. Older learners also found it helpful to gain an overview of the topic and organisation of materials before actually beginning to work with them.

A number of suggestions have been put forward to explain the greater use of metacognitive control of learning by older students. Garner (1988b:28) notes that 'much evidence supports that 'knowing' and 'knowing about knowing' and 'knowing how to know' all improve with age and experience'. Biggs (1987:57) in a study of the learning approaches of university students aged 18 to 40+ suggests that 'the strategies of ... organizing one's activities, are more readily

acquired in real-life than in the classroom'. He goes on to argue that the further the learner is away from the classroom in time, the more likely s/he is to use metacognitive approaches to studying.

One powerful indicator of the increase in use of metacognition with age and experience in this study was found to be the use of self-management. Self-management develops with experience and with confidence in one's own experience as the measure of how best to proceed. The increased control of the language learning process exhibited by more mature learners appears to be the result of self-knowledge obtained through trial-and-error and also of an ongoing concern to discover the most appropriate language learning strategies for themselves.

6.7.2 Prior TL Experience and Cognitive Strategy Use

In Chapter 3 it was noted that almost 70% of the sample had had some experience with the TL before enrolling in the course. Furthermore, it was evident that among the learners who progressed to higher levels of language study, an increasing proportion of them had had prior TL learning experience before embarking on university language study. Such prior TL experience was found to be the main influence on the CSU of learners. That is, the means learners used to interact with the TL were dependent on the presence or absence of prior learning experiences in the TL.

Out of the list of 16 cognitive strategies, resourcing, substitution and translation both to and from English were identified as the key strategies in distinguishing between learners on the basis of prior TL experience. The use of these strategies formed an interesting pattern. Learners with prior TL experience made significantly greater use of substitution and resourcing, strategies which require a certain facility with the TL and an ability to seek alternatives. Substitution involves selecting alternative approaches, words or phrases to accomplish tasks, and resourcing involves using alternative sources of information about the TL. Both these strategies require resourcefulness on the part of the language learner

and the ability to use alternatives. It is not surprising that these strategies are more readily used by learners who have already had contact with the TL since their prior experience would not only have enabled them to develop a reserve of TL forms, but in all probability would also have exposed them to a number of sources (textbooks, dictionaries, tapes, workbooks) from which to learn the TL.

Learners without TL experience before enrolling at university made greater use of translation both to and from English than other learners. This was true irrespective of level of study. The following comments added to the questionnaire show that learners do not like relying on translation, but they find it necessary to do this. The learners who made these additional comments had no prior experience of the TL, though they had both learnt other languages:

2JD *At the moment I often translate - I am a first year student and I have never learnt Japanese before - in my experience, when you learn a new language it takes 3 to 5 years until you actually think in the new language.*

3FD *I know teachers say think in French, but I can only do this for conversational routines. Sometimes, if I have been practising French for a long time, I find I am translating less.*

Translation requires less active transformation of the TL than substitution and is generally accepted as a highly inefficient strategy for language learning (O'Malley et al. 1985a:39). Research conducted by McGroarty (1988) into university learners of Japanese and Spanish found that 'conscious comparison of the new language with the native language' was consistently negative with respect to learning outcomes (McGroarty and Oxford 1990:72). However, in the current study learners with little experience of the TL felt that translation was an imperative, and a necessary stage through which they must pass before a more automatic control of the TL could be developed.

Cohen and Aphek (1981) found that certain strategies (e.g. contextualization) were difficult for beginning level students to use because they presume some level of proficiency. This explanation would apply equally well to the distinctive

use of substitution by more experienced learners in this study. Furthermore, many sources about the TL such as text books and grammar books can probably only be accessed with ease when the learner has a particular level of skill in the TL.

6.7.3 Proficiency and Strategy Use

In the questionnaire study some effects were found for the influence of proficiency on MSU, though these effects were much less pronounced than those for mode of study and the age of learners. Certainly, the use of metacognitive control in learning has been linked with success in a number of studies (O'Malley et al. 1985a, 1985b; Wenden 1986a, 1986b, 1987a, 1987b; Duran 1987; Carrell 1989; Carrell et al. 1989). However, pronounced differences in MSU between effective and less effective learners did not emerge in this study. The reasons for this could be related to the high level of educational expertise of the tertiary-level learners, compared to the high-school learners in other studies. As Skehan (1989) notes, caution is required when attempting to link proficiency to strategy use in studies conducted with learners who are already, in terms of the general population, a select group.

6.7.4 The Influence of Further Learner Characteristics on Strategy Choice

Gender

Results from the questionnaire study did not reveal significant differences in either MSU or CSU between men and women undergraduate learners. The research of Oxford and co-workers using the SILL questionnaire (Ehrman and Oxford 1989; Oxford and Nyikos 1989) revealed that women use strategies more often than men and also deploy a wider range of strategies than men. The opposite findings emerged from a study carried out by Tran (1988) who found that Vietnamese men used more strategies than a comparable sample of Vietnamese women. This study did not investigate gender differences in strategy use through the verbal report procedure nor in relation to social and affective strategy use. Further investigation of gender differences in strategy use through these means is required.

Language Learning Experience

The expectation that the learning of foreign languages is made easier once the learner has already had experience of foreign language learning is based on the assumption that the learner will already have developed a repertoire of learning strategies which can be applied to the new task. However, the results of this study reveal that the learning of other languages is not a predominant influence on the metacognitive and cognitive strategies learners deploy in learning a new foreign language. Of far greater importance is the extent of experience in learning the TL, and this influences the kinds of cognitive strategies which are used (see section 6.7.2). Thus, while learners may have developed a particular strategic repertoire for foreign language learning, it appears that these strategies cannot be automatically applied to a new foreign language. It is only when learners have reached a particular level of proficiency in the TL that certain cognitive strategies can be deployed.

Motivation

Measures of the motivational intensity of learners and of their motivational orientation were not found to influence the metacognitive and cognitive strategies used by language learners. This finding is somewhat surprising given the recent importance ascribed to motivation in strategy use, as reflected in the following comment by Gardner and MacIntyre (1993:9):

The model shows causal links from ... motivation to language-learning strategies. The research by Oxford and Nyikos (1989) and by Rost and Ross (1991) points to the motivational foundation for the use of language learning strategies... Obviously more research is required, but at the present time, it seems meaningful to postulate such causal connections.

An important criticism of the Oxford and Nyikos (1989) study, put forward in Chapter 2 (section 2.5.9) was that operational definitions of motivation were not given, neither were the precise means for measuring this complex construct.

The Rost and Ross (1991) study on *Learner use of strategies in interaction*:

typology and teachability does not measure the motivation of language learners neither does motivation figure in the discussion of the findings. The findings do suggest, however, that the teaching of particular questioning strategies can influence their subsequent use. These findings relate to the results of studies carried out into the relationship between motivation and strategy training (e.g O'Malley et al. 1985b; McCombs 1988; Paris 1988). However, they do not address directly the question of the relationship between motivation and strategy use independent of strategy instruction.

The negative findings of this study with respect to the influence of motivation on strategy use are consistent with those of an earlier study carried out by Politzer (undated) reported by Oxford (1990). Politzer studied the language learning strategies of Oriental and Hispanic graduate students learning English and found that they were instrumentally rather than integratively motivated to learn the language. Instrumental motivation accounted for course gains but little evidence existed for a link between the strategies used and motivational orientation.

What is clear from the findings of these studies is that more careful research is required before either the level of motivational intensity, or the motivational orientation of language learners can be related to strategy choice.

6.8 SUMMARY

From this study it is evident that the absence of face-to-face classroom instruction has particular effects on the metacognitive and social strategies used by distance language learners. We have an image of distance learners who use all dimensions of metacognitive control (planning, monitoring and evaluation) to manage their learning processes. In contrast, the use of metacognitive strategies by classroom learners is concerned mostly with planning. It is also apparent that distance learners have thought about the ways they learn best, and have devised ways of providing for themselves the particular learning conditions which they consider to be optimal. Classroom learners and distance learners are relatively similar in their use of cognitive strategies, except for the markedly greater use of

elaboration strategies by distance learners.

Findings from the current study also revealed that the extent to which learners use social as opposed to affective strategies is related to their mode of study. Distance learners use affective means to support their learning more than social means, while the reverse pattern is the case for classroom learners. In the face of more limited opportunities for SSU distance learners have found ways to solicit from others the encouragement necessary for the continuation of their learning endeavours.

We also have a picture of the way learners appear to develop increasing metacognitive control of their learning as they mature in age. These findings are consistent with previous studies into the strategies deployed in learning other content areas and skills. The increased use of executive processes by older learners can be associated with their greater self-knowledge and insights into how best to manage their learning endeavours.

The cognitive strategies learners used were found to be strongly influenced by the presence or absence of prior experience with the TL. Novice learners were not able to deploy higher-order strategies such as substitution to the same extent as learners who had already learnt something of the TL. Novice learners were also more reliant on translation.

Learners of Japanese in the study were characterised by a greater reliance on mechanical strategies such as writing out and translation. Learners of French, on the other hand, typically used elaboration strategies which involve making meaningful connections between different parts of language materials, and also between those materials and their own knowledge. They were also distinctive in their attempts to work in the TL. These differences between learners of different TLs are not always directly attributable to the structure of the TL. It is also possible that language teaching methodologies, and level of mastery of the TL, contribute to the kinds of strategies learners used to engage with language tasks.

7. CONCLUSION

The conclusions drawn in this chapter are differentiated firstly with regard to the theoretical and methodological implications of the study (section 7.1 and section 7.2). Then a number of practical applications of the study are proposed (section 7.3), and in the final section the implications for further research directions in the field of language learning strategies are discussed.

7.1 THEORETICAL IMPLICATIONS

In this section the theoretical implications of the findings from the current study are presented, firstly in relation to the metacognitive, cognitive, social and affective model of strategy use, and then, briefly, in relation to more general models of second language acquisition.

1. The separation of the social and affective dimensions of strategy use proved to be an important modification to the classification system first applied to language learning strategy research by O'Malley and Chamot (1985a) and should be maintained in future studies.
2. A number of new social and affective strategies were identified in the course of this study including other-reinforcement and self-motivation. Further refinement of the social and affective categories of strategy use should be undertaken in the future.
3. The metacognitive, cognitive, social and affective strategy use model is a commonly used framework for research into learning processes in educational psychology and cognitive psychology. Users of this model in applied linguistics research can expect to benefit from developments in these related disciplines.

4. Current models of second language acquisition need to be refined to incorporate findings from recent studies into the role played by language learning strategies in the process of second language learning.

This last point is now expanded. Early attempts to provide a theoretical structure which would represent how various characteristics of individuals influence second language learning (e.g. Gardner and Lambert 1972; McLaughlin 1978; McLaughlin, Rossman and McLeod 1983; Gardner 1985) did not include language learning strategies. More recently Skehan (1989) and Gardner and MacIntyre (1992, 1993) have represented strategy use through two models. Skehan's (1989) model of influences on language learning is rudimentary in explanatory terms but is an attempt to provide a framework through which to investigate the role played by a range of individual differences in the language learning process. A more recent model by Gardner and MacIntyre (1992, 1993) is a revision of Gardner's (1985) socio-educational model of second language acquisition. Here language learning strategies are represented as cognitive variables in the acquisition process along with intelligence and language aptitude. While there are some difficulties with this theoretical formulation, particularly in terms of the relationship between motivation and strategy use as discussed in Chapter 6, the model represents a timely attempt at providing a conceptual integration of individual characteristics in second language learning. It is hoped that the refinement of current models of second language acquisition will continue and that further attempts will be made to incorporate learning strategies and the influences on learning strategy use into such models.

7.2 METHODOLOGICAL IMPLICATIONS

This study constituted a convergent assessment of the influence of mode of study and the TL on metacognitive, cognitive, social and affective strategy use. Through the questionnaire data, variance in strategy use was related to a number of learner characteristics and to aspects of the language learning context. The methodological implications of the study are presented below.

1. In order for further progress to be made in strategy research it is essential that research techniques are both public and replicable. More specifically, as Skehan (1989) suggests, more examples of questionnaire methods are needed in the field of learning strategy research. In the case of the publication of results from questionnaire studies samples of questionnaire items should, at the very least, be published.
2. In language learning strategy research it is also critical that the means for collecting data on strategy use are carefully described because of the apparent influence of data collection procedures on reports of strategy use (section 3.4.1). In order to be able to interpret accurately the results of particular studies, and in order to be able to assess their generalisability, it is imperative that careful descriptions of research designs are available. Future research will benefit from the inclusion of more precise descriptions of methodological approaches to the investigation of influences on strategy use.
3. The development of multimethod techniques for the investigation of strategy use has been largely confined to case studies (Vann and Abraham 1990) or small-sample studies (e.g. Cohen 1991). There is a need to develop further ways of investigating the language learning behaviours of large groups of learners using a multimethod approach. At the present time the use of questionnaires is the main method available when working with large samples, and small group interviews have also been used. With these interviews comes the attendant problem that one

cannot accurately attribute reports of strategy use to individual learners. Thus this procedure excludes the possibility of investigating the relationship between particular strategies and individual characteristics. It is simply unmanageable for most researchers to conduct individual interviews with a large sample of learners.

4. The yoked subject procedure was found to be a useful means for obtaining convergent data on strategy use from a large number of individuals. It is easy to administer, has ecological validity, and can provide more fine-grained reports of strategy use in relation to particular tasks. The yoked subject procedure is a promising tool for multimethod research designs which aim to investigate strategy use (including particular strategy combinations) in relation to specific tasks. In addition, since the reports are produced individually and can be recorded simultaneously, the procedure can also be used to investigate the role of individual differences in the strategy use of larger groups.
5. While we know that different data collection methods influence strategy use reports, we have not as yet clarified exactly how such methods impact on strategy use reports. Careful comparisons need to be made between results obtained from a single sample using different data collection procedures, and more precise conclusions need to be drawn concerning the ways in which particular procedures are likely to impact on the reports which are obtained. This is necessary if we are to obtain more focused and more reliable insights into the strategy use of learners. Such comparisons between data collection procedures will, of course, only be possible if more multiple measurements of strategy use are obtained in studies of learning strategies.

To conclude, Cohen's (1991:151) comment that 'for the field of research in foreign language learning to advance, it is necessary to maintain a critical stance with regard to research methods' is highly applicable to the field of learning

strategy research. In particular, the methodological implications of this study underline the importance of multimethod assessment of strategy use and point to the need for the continued exploration of different kinds of verbal report techniques. Furthermore, attention needs to be given to the development of ways of collecting convergent data on strategy use with large groups of learners, in order to provide more valid measures of influences on language learning strategies.

7.3 PRACTICAL APPLICATIONS OF THE STUDY

The following practical recommendations are put forward based on the findings of the current study. They are tentative recommendations since the study did not encompass the dimension of strategy training, neither did it seek to develop specific guidelines for language learners and teachers. However, the study did demonstrate the importance of metacognitive skills both in language learning, and in the development of learners' self-knowledge of how to learn. A primary goal for language instruction is to avoid the creation of what Bruner (1966:53) described as 'a form of mastery that is contingent upon the perpetual presence of the teacher' and to enable the learner to become self-sufficient. The suggestions outlined below are proposed as important considerations if language learners are to be self-directed and if they are to learn 'how to do for themselves what teachers typically do for them in the classroom' (Wenden 1985:7).

1. Language learners should be given opportunities to develop more independence through the provision of strategy training within the context of their current language programmes.
2. Language learners should be informed of the role of metacognitive strategies such as self-management in the establishment of more autonomous language learning endeavours.

3. Language learners should be provided with experiences which allow them to assess their strategy use. In addition they should be encouraged to expand their strategic repertoires.
4. Language learning strategy training must be geared to the needs of learners. It is important to take into account the impact of variables such as the age of learners and prior TL experience on the strategic repertoires which learners may have developed or may be capable of developing.
5. Teachers need to be aware of the influence of language teaching methodologies, which are either used in their classrooms or implicit in TL tasks, on the kinds of strategies learners develop to acquire foreign language skills. Teachers should be encouraged to analyse and evaluate their own activities with a view to developing the strategic repertoires of their learners.
6. Recognition should be given to the fact that language learning strategies are used in particular sequences or combinations, not as isolates. Strategy handbooks should attempt to equip learners with the means not only to expand their strategic repertoires, but also to apply particular strategy combinations to a single task as appropriate.
7. Distance education language learning materials should incorporate elements of learner training which are appropriate to learners who do not have access to regular face-to-face interactions to support their learning endeavours.
8. Until such time as distance language courses incorporate strategy training within their materials, distance language learners should be encouraged use strategy training courses (e.g. Rubin and Thompson 1982; Brown-Azarowicz, Stannard and Goldin 1986; Ellis and Sinclair 1989; Willing

1989; White 1992) as part of the process of developing their language learning skills.

9. Language learning materials should incorporate elements of learner training which are appropriate for learners of the particular TL and which are consistent with the course objectives and task demands.

7.4 ADDITIONAL RESEARCH

The insights from this study raise a number of further questions including: Are there similarities between the strategy use of distance learners and the strategy use of learners in other autonomous language learning environments? Do learners of Chinese also rely on more mechanical cognitive strategies to master the TL writing system? How are strategies such as elaboration actually used by distance learners in relation to particular language tasks? Is it possible to identify further kinds of social and affective strategies? Is social and affective strategy use related to further aspects of the language learning context, or to learner characteristics?

Numerous unanswered questions remain, and the final part of this chapter suggests specific avenues for further research into language learning strategies. But firstly, the more general implications of the results of this study are presented below.

1. A number of important parallels between research areas in the fields of cognitive psychology and applied linguistics have emerged in recent years. Many of the language learning strategies which have been identified are not unique to a particular field. It may be particularly fruitful for researchers to draw on the theoretical and practical findings from other disciplines concerning information processing, skill acquisition and strategy use in order to establish future research directions in the area of language learning strategies.

2. There is a need for some consensus on a typology of learning strategies and for agreement on ways of identifying and defining individual strategies. The establishment of a strategy use framework within which future studies could be conducted would not only facilitate comparisons between different studies but would also mean that the results of such studies would have greater generalisability.
3. In language learning strategy research the social and affective dimensions of strategy use should not be conflated since they relate to quite different underlying constructs.
4. There is a need in strategy use studies for the development of more valid measures of individual learner variables, in particular for measures of motivation.
5. Multimethod assessment of strategy use is necessary to investigate the influence of particular variables on strategy choice. This is particularly important when investigating the effects of variables such as gender and motivation on strategy choice. Then, any discrepancies between findings could be identified, and possible effects from the data collection methodology could be considered.
6. Studies of influences on strategy choice should be expanded to include the investigation of several variables in a single study. This study revealed the importance of two relatively unexplored variables, namely mode of study and prior TL experience in relation to strategy choice. Studies investigating the influence of multiple variables on strategy use would also be able to reveal when particular combinations of circumstances, such as mode and duration of study, exert a strong effect on strategy choice.
7. There is also a need to adopt more complex research designs to explore influences on strategy choice. Language learning is a complex process

and learner variables inevitably overlap and interact with others (d'Anglejan and Renaud 1985). As Larsen-Freeman and Long (1991) point out, this suggests that we are not getting a true measure of a factor if we isolate it from other factors. Thus more complex multivariate statistical techniques should be used to examine the relationships between strategy choice and individual variables.

The findings from the study also suggest a number of specific avenues for further research into language learning strategies and these form the concluding section of this chapter.

1. Strategy research should be conducted in a wider range of contexts (private study, informal learning environments, self-access centres) than has been the case hitherto. Most studies have been confined to classroom situations, and this has meant that our understanding of the process of language learning has been artificially limited. Additional studies which explore the connections between strategy use in different instructional contexts will broaden our understanding of different avenues to the mastery of foreign languages.
2. More detailed study is required of the social and affective dimensions of strategy use. The existing categories of social strategy use (e.g. questioning) and of affective strategy use (e.g. self-talk) need to be refined. Influences on the use of social and affective strategies need to be further explored. In particular, the role played by gender and motivation in the use of social and affective strategies is worthy of attention.
3. The findings from this study are based on learners' self-descriptions of performance. These self-descriptions need to be ultimately validated against the learners' actual performance on language tasks in naturalistic settings. Thus, for distance learners their distinctive use of self-management, advance organisation and monitoring should be further

investigated, possibly through introspective techniques, as the learners work on TL tasks in their habitual learning context.

4. More research is needed to identify how key strategies such as self-monitoring or elaboration are used in relation to particular tasks e.g. writing, listening, reading. A strong precedent has emerged for this type of analysis in cognitive psychology (e.g. Alexander and Judy 1989; Perkins and Salomon 1989).
5. Future research into language learning strategies should be directed at more detailed investigations of the relationship between different TLs, different language teaching methodologies, and strategy choice by language learners.
6. The influence of a new TL writing system (syllabic or logographic) on the strategies learners use requires further study. We have little understanding of how a new kind of writing system impacts on the way learners attempt to engage with the TL materials. The relationship between particular TL writing systems and cognitive strategy use should be explored.
7. The role of different kinds of prior TL experience (e.g. formal school-based instruction, informal learning in the TL country, informal learning with family members or friends) in the choice of cognitive learning strategies is a promising area for further research.
8. The relationship between prior TL experience and strategy use needs to be investigated using longitudinal comparisons of strategy use. Through such research it would be possible to compare the findings from this study, concerning the effects of prior TL experience on strategy choice, with those based on the changes in the strategy use of individuals over time.

The final chapter provides a summary of the key aspects, and limitations, of this study.

8. SUMMARY

The primary intent of this study was to examine the relationship between mode of study and the use of language learning strategies by foreign language learners. In addition, a comparison was made of the significance of mode of study relative to other influences from the language learning context and from learner characteristics. The opening section of the study situated the investigation of language learning strategies in the more general context of the development of research into language acquisition processes. The defining characteristics of the distance mode of study, as one of the language learning contexts in the current study, were then introduced. Recent commentaries on the growth of language learning at a distance and on our limited understanding of the processes of learning in this context were presented. Furthermore, the context of distance language learning was established as an autonomous setting for language learning and the importance for the distance learner of acquiring the means for learning in the absence of teacher direction was emphasised. The impetus for the current project was seen to be derived from the field of language learning strategy research together with the evident need for research into the language learning behaviours of learners in non-classroom settings.

The early studies of language learning strategies were examined and the importance of insights from the fields of educational psychology and cognitive psychology into the metacognitive aspects of learning processes was acknowledged. The range of criteria used to classify strategy use in the early studies was considered and issues relating to the identification, definition and classification of instances of strategy use were raised. Specific studies of influences on strategy use were then discussed to establish the current state of knowledge in the field, to reveal gaps in our understanding, and as yet unexplored avenues for research. The research problem to be investigated in this study was then outlined as an examination of the contribution of the language

learning context and learner characteristics to the strategy choice of undergraduate foreign language learners.

The setting for the study was a dual-mode tertiary institution offering undergraduate foreign language courses (French, German, Japanese, Chinese) through a classroom programme and a distance programme. The study took place with an intact group of learners, and participation was voluntary. Subjects for the verbal report study (N=37) were a subsample of the learners who participated in the questionnaire study (N=417). A description was made of the characteristics of the questionnaire sample and of their distribution according to age, gender, TL (French, German, Japanese, Chinese), level of study and prior TL experience.

Operational definitions for the four variables relating to the learning context (mode, TL, level of study, language use opportunities) were given. In addition, operational definitions for the six variables relating to learner characteristics (age, gender, language learning experience, prior experience learning the TL, motivation proficiency) were presented. Reasons for the choice of a model of strategy use which was derived originally from work in cognitive psychology, namely the metacognitive, cognitive, socio-affective model, were presented. From this model the strategy use variables to be investigated in the study were obtained.

The six research questions for the study were described. It was emphasised that the most in-depth parts of the study concerned the relationship between strategy choice and both mode of study and the TL. It was also emphasised that the investigation of the relationship between other variables and strategy choice was to be limited to the metacognitive and cognitive dimensions of strategy use.

The research design used to examine influences on strategy choice was derived from previous studies in which the advantages and limitations of various data collection techniques had been trialled. Two instruments were used to gather the

data for the study, namely a self-report questionnaire and a verbal report procedure known as the yoked subject technique. The advantages and limitations of these instruments were described. For the questionnaire procedure attempts to limit the social desirability influence on subjects were outlined. A detailed consideration of the limitations of verbal report procedures was made, and specific guidelines were followed in an attempt to counteract some of the potential weaknesses of the procedure. These steps included the use of a warm-up phase, the provision of learning materials in relation to which learners reported on strategy use, and the collection of convergent data on strategy use.

Pilot studies were carried out to test both the practical aspects of administering the instruments and the clarity of instructions and questions. In the case of the questionnaire procedure the pilot study was used to determine the internal consistency reliability of the strategy use scales. A more general aim of the pilot study was to trial the viability of the procedures. On the basis of the findings from the pilot study a number of modifications were introduced to the wording of some of the questions and to the frequency response scale. In addition, the socio-affective scale was separated into two scales, thus yielding high internal consistency reliability scores. The verbal transcripts obtained through the yoked subject pilot study were used to develop procedures for the coding of instances of strategy use and for the training of an assistant rater.

The procedures used to administer the questionnaire instrument and the verbal report instrument in the main study were carefully described. In particular, care was taken to ensure that the procedures were as similar as possible for classroom and distance learners. The methods for processing the questionnaire data and the verbal report data were detailed. In the concluding sections of the methodology chapter the criteria of reliability and validity were applied to the research design, and limitations of the study were conceded.

In order to analyse the relationship between the strategy use variables and the learning context or learner characteristic variables, canonical variate analysis was

applied to the questionnaire data. The use of this type of multivariate analysis was explained. In addition, Duncan's multiple range test was used to locate the significant differences between different age groups in terms of their MSU.

The analysis of the verbal report transcripts was carried out by two raters, working independently, who identified and classified instances of strategy use, using the guidelines established through the pilot study. Procedures were used to ensure intrarater and interrater reliability, and any discrepancies in classification were identified and resolved through discussion. The analysis of the verbal report data resulted in the identification of a number of new strategies, or new subcategories of strategies: time lapse, seeking practice opportunities (metacognitive strategies), writing out, listing, noting down, highlighting, underlining (subcategories of the note-taking strategy), work in the TL (cognitive strategies), other-reinforcement (social strategy) and self-motivation (affective strategy). Descriptive statistics were obtained for the frequency of use of strategies identified in the verbal report data.

The principal findings from the study are summarised below:

1. The predominant influence on MSU is the mode of study of language learners. Classroom learners make significantly less use of self-management and advance organisation than distance learners.
2. Distance learners make frequent use of all three dimensions of metacognition to control their learning processes, while the metacognitive control used by classroom learners is concerned for the most part with planning.
3. The gap between classroom and distance learners in terms of their MSU is widest in four circumstances: when the TL is Japanese, when learners have no prior TL experience, when they are studying at the 200-level, or when the proficiency level of learners is 'B'.

4. The variance in MSU between classroom and distance learners can be primarily attributed to the greater use of advance organisation by distance learners in particular circumstances (when the TL is Japanese, when learners are at the 200-level of study and when they achieve a proficiency level of 'B').
5. When learners have no prior experience of the TL, distance learners make significantly greater use of self-management than classroom learners.
6. MSU increases with the age of subjects irrespective of their mode of study.
7. Learners under thirty are significantly different from learners over thirty in terms of their frequency of MSU.
8. MSU increases with age particularly with respect to the following strategies: self-management, delayed production, advance organisation and revision.
9. The frequent use of elaboration, a cognitive strategy, by distance learners serves to differentiate them from classroom learners. Distance learners also make increased use of resourcing, repetition and transfer (cognitive strategies). The impact of mode of study on CSU is less than the impact of mode of study on MSU.
10. Social and affective strategies are used infrequently by undergraduate foreign language learners.
11. Distance learners make use of a particular kind of social strategy, namely other-reinforcement, to elicit support for the continuation of their learning endeavours. This strategy is classified primarily as a social strategy but contains both social and affective components.

12. The extent to which learners use social as opposed to affective strategies is associated with their mode of study. Distance learners make greater use of affective strategies than of strategies which involve social mediation. Classroom learners, on the other hand, make greater use of social strategies than of affective strategies.
13. The predominant influence on CSU is prior experience with the TL. Learners who have had such experience before enrolling in a university language course make greater use of resourcing and substitution, and less use of translation, than do learners who have not had such prior experience.
14. The need to master a new writing system influences the kinds of cognitive strategies learners of Japanese use, in particular the marked application of the writing out strategy.
15. Further differences in CSU between learners of different TLs, which involved the increased use of translation by learners of Japanese and the frequent use of elaboration by learners of French, cannot be automatically attributed to the influence of the TL per se. Language teaching methodologies and the hours taken to attain a particular level of mastery in different TLs also appear to contribute to the kinds of cognitive strategies learners use.
16. Gender, motivation, language learning experience and language use opportunities were not found to influence metacognitive or cognitive strategy use.

The limitations of this research have been acknowledged at appropriate points throughout the thesis. These limitations are summarised below and should be borne in mind in any interpretation of the findings from the study.

1. The convergent assessment of influences on strategy use was limited to mode of study and the TL. Ideally a multimethod approach would have been used to investigate all of the research questions in the study.
2. The placing of the nine items used to measure motivation at the end of the questionnaire, after requests for general background information, may have meant that learners gave less consideration to these items. Certainly, a small number of learners omitted to complete the motivation section. The validity of the data-gathering procedure relating to motivation measures may have been improved had the relevant items been included in earlier sections of the questionnaire.
3. There was no accurate measure of duration of study in the research. Level of study did not reflect the degree of mastery of the TL in a consistent way across different TL groups. Prior TL experience proved to be a better indicator of the duration of TL study than the level of study variable.
4. A relatively small number of classroom learners compared to distance learners participated in the yoked subject procedure. Thus greater individual variability effects for the classroom sample were introduced.
5. The effect of social desirability on subjects' responses in both the questionnaire study and the verbal report study cannot be entirely ruled out.
6. Findings from the verbal report study cannot be seen as providing a comprehensive account of the strategic repertoire of each learner since learners probably reported on a particular subset of strategies they were conscious of at the time of the procedure. In addition, subjects may have varied in their ability to talk about their strategy use, and thus it is possible that their reports were relatively incomplete compared to their actual strategy use.

7. The study did not include a check of self-reports against learners' performance on particular language tasks. This remains a highly desirable source of confirmation about the reliability of self-report data.

The theoretical and methodological implications of the study have been outlined in Chapter 7. The practical recommendations from the study were orientated towards the need for learner training to be embedded in language learning programmes for both classroom and distance learners. Several avenues for further research were also put forward.

Finally, the findings from this study have permitted numerous insights into variance in language learning strategy use due to mode of study, the age of learners, prior TL experience and, to a lesser extent, the TL. Such findings provide a stronger foundation for theory construction concerning influences on different dimensions of strategy use, and, more generally, concerning the contribution of language learning strategies to the process of second language acquisition.

**APPENDIX A
SAMPLE PILOT QUESTIONNAIRE (GERMAN)**

LANGUAGE LEARNING STRATEGIES

The following questionnaire is part of a study looking into how internal and extramural students go about learning a language in private study. So, you will be asked about your own strategies for learning German out of class - that is, the techniques you use when you are studying at free points during the day, in the evening or whenever.

You are asked to respond to a series of questions in terms of how often (if at all) you engage in particular learning behaviours. There are no right or wrong answers, no good or bad strategies. You should simply choose the response that best describes your own out-of-class language learning experience.

The questions relate to how often you do something. For example

Before you start a task how often do you look through it to get a general idea of how it is organised and what it is about?

usually	5
often	4
sometimes	3
rarely	2
never	1

Some of the questions in Part 3 also ask whether you have the opportunity to use certain strategies. For example

How often do you work together with your fellow learners to solve a problem, practise conversations, check over a task ... ?

usually	5
often	4
sometimes	3
rarely	2
never	1
no opportunity	0

Remember to answer in terms of what you actually do, not in terms of what you think you should do.

These questions are not a part of the assessment of the course, and all the data collected will be kept completely confidential.

Please add any comments to the questionnaire concerning items or instructions which are not clear, or about your use of some of the strategies.

Part 1

These questions refer to things you actually do or do not do when you are working with the language and interacting directly with the learning materials. Remember, there are no right answers.

1. How often do you repeat German words, phrases or sentences - out loud or to yourself?

usually	5
often	4
sometimes	3
rarely	2
never	1

2. Do you use sources of information about German such as dictionaries, other textbooks?

usually	5
often	4
sometimes	3
rarely	2
never	1

3. Do you put words into groups as a way of remembering them?

usually	5
often	4
sometimes	3
rarely	2
never	1

4. How often do you write down key words or concepts as they occur when you are studying?

usually	5
often	4
sometimes	3
rarely	2
never	1

5. Do you consciously apply the rules of German when using the language in new situations?

usually	5
often	4
sometimes	3
rarely	2
never	1

6. If you cannot recall or do not know a word do you try to find a different way to communicate meaning, such as using a similar word, a paraphrase, a gesture ...?
- | | |
|-----------|---|
| usually | 5 |
| often | 4 |
| sometimes | 3 |
| rarely | 2 |
| never | 1 |
7. How often do you make a mental picture of the spelling of a word you want to remember, or of the object itself?
- | | |
|-----------|---|
| usually | 5 |
| often | 4 |
| sometimes | 3 |
| rarely | 2 |
| never | 1 |
8. When you are listening or reading how often do you try to see in your mind what is happening to clarify the meaning?
- | | |
|-----------|---|
| usually | 5 |
| often | 4 |
| sometimes | 3 |
| rarely | 2 |
| never | 1 |
9. When you are reading or listening do you try to link the material where possible to your own knowledge or experience?
- | | |
|-----------|---|
| usually | 5 |
| often | 4 |
| sometimes | 3 |
| rarely | 2 |
| never | 1 |
10. Do you relate parts of a language task to each other to help you to complete the task - for example, when writing by going back to check on vocabulary used in an earlier related reading task?
- | | |
|-----------|---|
| usually | 5 |
| often | 4 |
| sometimes | 3 |
| rarely | 2 |
| never | 1 |

11. How often do you put a new word into a phrase or a sentence as part of remembering it?
- | | |
|-----------|---|
| usually | 5 |
| often | 4 |
| sometimes | 3 |
| rarely | 2 |
| never | 1 |
12. How often do you make a mental or written summary of key language items or information contained in language tasks?
- | | |
|-----------|---|
| usually | 5 |
| often | 4 |
| sometimes | 3 |
| rarely | 2 |
| never | 1 |
13. When you work with German how often do you translate into English or find yourself relating the German words to English words?
- | | |
|-----------|---|
| usually | 5 |
| often | 4 |
| sometimes | 3 |
| rarely | 2 |
| never | 1 |
14. When you wish to speak or write German how often do you use English as a basis for producing German?
- | | |
|-----------|---|
| usually | 5 |
| often | 4 |
| sometimes | 3 |
| rarely | 2 |
| never | 1 |
15. Do you use other parts of the sentence or passage to figure out the meaning of unfamiliar language items?
- | | |
|-----------|---|
| usually | 5 |
| often | 4 |
| sometimes | 3 |
| rarely | 2 |
| never | 1 |

16. Do you apply your knowledge of the rules of German when you need to work out the part of speech of a new word?

usually	5
often	4
sometimes	3
rarely	2
never	1

17. Before you tackle a task do you prepare for it by reviewing your knowledge of the topic or by going over the language items which may relate to that topic?

usually	5
often	4
sometimes	3
rarely	2
never	1

Part 2

These questions refer to things you actually do or do not do in planning, monitoring and evaluating your own language learning. None of these questions relate to good or to bad learning behaviours.

1. Before you start a task how often do you look through it to get a general idea of how it is organised and what it is about?

usually	5
often	4
sometimes	3
rarely	2
never	1

2. How often do you decide in advance to focus on specific aspects of a task, for example you may read for the main idea or listen for specific items?

usually	5
often	4
sometimes	3
rarely	2
never	1

3. When you study do you decide in advance to focus on specific tasks and to ignore irrelevant distractions?

usually	5
often	4
sometimes	3
rarely	2
never	1

4. Do you prefer to listen to an item several times before you use it in speaking?

usually	5
often	4
sometimes	3
rarely	2
never	1

5. Do you consciously arrange your learning to provide the conditions in which you know you learn best, for example, quiet environment or using a particular language notebook?

usually	5
often	4
sometimes	3
rarely	2
never	1

6. When you have difficulties in completing a language task how often do you identify aspects of the task which are hindering your progress - for example, difficult structures, unfamiliar accent, advanced vocabulary?

usually	5
often	4
sometimes	3
rarely	2
never	1

7. While you are doing a language task do you monitor your use of language, correcting if necessary your pronunciation, grammar, style, etc.?

usually	5
often	4
sometimes	3
rarely	2
never	1

8. Do you check through your work when you have finished a task?

usually	5
often	4
sometimes	3
rarely	2
never	1

9. Do you set priorities in your learning of German according to your own language needs?

usually	5
often	4
sometimes	3
rarely	2
never	1

10. Do you systematically revise what you have previously learnt?

usually	5
often	4
sometimes	3
rarely	2
never	1

Part 3

These questions ask you about the extent to which you interact with others in learning German - and also about how often you work with your own emotions and attitudes towards language learning. Remember there is no sense in which you should be doing any of these things.

1. How often do you go to ask a teacher or a native speaker for explanations, further examples, paraphrasing ...?

usually	5
often	4
sometimes	3
rarely	2
never	1
no opportunity	0

2. How often do you work together with your fellow learners to solve a problem, practise conversations, check over a task ...?

usually	5
often	4
sometimes	3
rarely	2
never	1
no opportunity	0

3. Do you use any special techniques (e.g. deep breathing) in order to reduce anxiety about a particular language task?

usually	5
often	4
sometimes	3
rarely	2
never	1

4. Do you motivate yourself by giving yourself some kind of reward when you have successfully completed a language learning activity?
- | | |
|-----------|---|
| usually | 5 |
| often | 4 |
| sometimes | 3 |
| rarely | 2 |
| never | 1 |
5. How often do you encourage yourself in language learning - for example, by saying positive things to yourself to give yourself more confidence?
- | | |
|-----------|---|
| usually | 5 |
| often | 4 |
| sometimes | 3 |
| rarely | 2 |
| never | 1 |

Background Information

Finally, please answer the following questions including details about your previous language learning experience. This information is requested to help us to analyse and interpret the data we collect.

In order to ensure confidentiality all information will be coded - at that point your name will disappear and be replaced by a number!

1. Name _____
(Surname and initials)
2. Age _____
3. Sex _____
4. Mother Tongue(s)

5. Had you already learnt German before enrolling in this course? _____
(Yes/No)

Where? _____

For how many years? _____
6. Do you have other opportunities at the moment to learn German, outside this course, e.g. with a native speaker, with family members or friends, evening classes? _____ (Yes/No)

Please specify

7. Have you learnt any other languages apart from English and German?
_____ (Yes/No)

Which? _____

Where? _____

For how many years? _____

8. How important to you are the following reasons for learning German?
Please respond to each possible reason.

I am studying German

- (a) because I am interested in the German language.
- | | |
|----------------------|---|
| extremely important | 5 |
| very important | 4 |
| important | 3 |
| not so important | 2 |
| not important at all | 1 |
- (b) because I am interested in German culture.
- | | |
|----------------------|---|
| extremely important | 5 |
| very important | 4 |
| important | 3 |
| not so important | 2 |
| not important at all | 1 |
- (c) because I have friends who speak German.
- | | |
|----------------------|---|
| extremely important | 5 |
| very important | 4 |
| important | 3 |
| not so important | 2 |
| not important at all | 1 |
- (d) in order to complete my degree.
- | | |
|----------------------|---|
| extremely important | 5 |
| very important | 4 |
| important | 3 |
| not so important | 2 |
| not important at all | 1 |
- (e) because I would like to get to know German people.
- | | |
|----------------------|---|
| extremely important | 5 |
| very important | 4 |
| important | 3 |
| not so important | 2 |
| not important at all | 1 |

- (f) because it will be useful for my present (or future) employment.
- | | |
|----------------------|---|
| extremely important | 5 |
| very important | 4 |
| important | 3 |
| not so important | 2 |
| not important at all | 1 |
- (g) because I want to travel to Germany.
- | | |
|----------------------|---|
| extremely important | 5 |
| very important | 4 |
| important | 3 |
| not so important | 2 |
| not important at all | 1 |
9. (a) How important is it for you to become proficient in German?
- | | |
|----------------------|---|
| extremely important | 5 |
| very important | 4 |
| important | 3 |
| not so important | 2 |
| not important at all | 1 |
- (b) How important is it for you to continue to study German once you have finished this language paper?
- | | |
|----------------------|---|
| extremely important | 5 |
| very important | 4 |
| important | 3 |
| not so important | 2 |
| not important at all | 1 |

Many thanks for completing this questionnaire.

APPENDIX B
SAMPLE QUESTIONNAIRE (CHINESE): MAIN STUDY

LANGUAGE LEARNING STRATEGIES

Introduction

The following questionnaire is part of a study looking into how internal and extramural students go about learning a language in private study. Research shows that in general individuals learn in different ways and the techniques that work for some people do not necessarily work for others. We are interested in the range of strategies that you, as a language learner, use. So, you will be asked about your own strategies for learning Chinese out of class - that is, the techniques you use when you are studying at free points during the day, in the evening or whenever.

A number of strategies are presented, some of which you may have tried, or which you may have abandoned because they are not effective for you. please respond to each question in terms of how often (if at all) you engage in particular learning behaviours. For each question you should circle the response that best describes your own out-of-class language learning experience. For example:

Do you put words into groups as a way of remembering them?

very often	5
often	4
sometimes	3
rarely	②
never	1

Remember to answer in terms of what you actually do, not in terms of what you think you should do. Feel free to add any further comments you like.

These questions are not a part of the assessment of the course, and all the data collected will be kept completely confidential.

Part 1

These questions refer to things you actually do or do not do when you are working with the language and interacting directly with the learning materials. Remember, there are no right answers.

1. How often do you repeat Chinese words, phrases or sentences - out loud or to yourself?

very often	5
often	4
sometimes	3
rarely	2
never	1

2. Do you use sources of information about Chinese such as dictionaries, other textbooks?

very often	5
often	4
sometimes	3
rarely	2
never	1

3. Do you put words into groups as a way of remembering them?

very often	5
often	4
sometimes	3
rarely	2
never	1

4. How often do you write down key words or concepts as they occur when you are studying?

very often	5
often	4
sometimes	3
rarely	2
never	1

5. Do you consciously apply the rules of Chinese when using the language in new situations?
- | | |
|------------|---|
| very often | 5 |
| often | 4 |
| sometimes | 3 |
| rarely | 2 |
| never | 1 |
6. If you cannot recall or do not know a word do you try to find a different way to communicate meaning, such as using a similar word, a paraphrase, a gesture ...?
- | | |
|------------|---|
| very often | 5 |
| often | 4 |
| sometimes | 3 |
| rarely | 2 |
| never | 1 |
7. How often do you make a mental picture of the form of a word you want to remember (i.e. of the character), or of the object itself?
- | | |
|------------|---|
| very often | 5 |
| often | 4 |
| sometimes | 3 |
| rarely | 2 |
| never | 1 |
8. When you are listening or reading how often do you try to see in your mind what is happening to clarify the meaning?
- | | |
|------------|---|
| very often | 5 |
| often | 4 |
| sometimes | 3 |
| rarely | 2 |
| never | 1 |
9. When you are reading or listening do you try to link the material where possible to your own knowledge or experience?
- | | |
|------------|---|
| very often | 5 |
| often | 4 |
| sometimes | 3 |
| rarely | 2 |
| never | 1 |

10. Do you relate parts of a language task to each other to help you to complete the task - for example, when writing by going back to check on vocabulary used in an earlier related reading task?
- | | |
|------------|---|
| very often | 5 |
| often | 4 |
| sometimes | 3 |
| rarely | 2 |
| never | 1 |
11. How often do you put a new word into a phrase or a sentence as part of remembering it?
- | | |
|------------|---|
| very often | 5 |
| often | 4 |
| sometimes | 3 |
| rarely | 2 |
| never | 1 |
12. How often do you make a mental or written summary of key language items or information contained in language tasks?
- | | |
|------------|---|
| very often | 5 |
| often | 4 |
| sometimes | 3 |
| rarely | 2 |
| never | 1 |
13. When you work with Chinese how often do you translate into English or find yourself relating the Chinese words to English words?
- | | |
|------------|---|
| very often | 5 |
| often | 4 |
| sometimes | 3 |
| rarely | 2 |
| never | 1 |
14. When you wish to speak or write Chinese how often do you use English as a basis for producing Chinese?
- | | |
|------------|---|
| very often | 5 |
| often | 4 |
| sometimes | 3 |
| rarely | 2 |
| never | 1 |

15. Do you use other parts of the sentence or passage to figure out the meaning of unfamiliar language items?
- | | |
|------------|---|
| very often | 5 |
| often | 4 |
| sometimes | 3 |
| rarely | 2 |
| never | 1 |
16. Do you apply your knowledge of the rules of Chinese when you need to work out the part of speech of a new word?
- | | |
|------------|---|
| very often | 5 |
| often | 4 |
| sometimes | 3 |
| rarely | 2 |
| never | 1 |
17. Before you tackle a task do you prepare for it by reviewing your knowledge of the topic or by going over the language items which may relate to that topic?
- | | |
|------------|---|
| very often | 5 |
| often | 4 |
| sometimes | 3 |
| rarely | 2 |
| never | 1 |

Part 2

These questions refer to things you actually do or do not do in planning, monitoring and evaluating your own language learning. None of these questions relate to good or to bad learning behaviours.

1. Before you start a task how often do you look through it to get a general idea of how it is organised and what it is about?

very often	5
often	4
sometimes	3
rarely	2
never	1

2. How often do you decide in advance to focus on specific aspects of a task, for example you may read for the main idea or listen for specific items?

very often	5
often	4
sometimes	3
rarely	2
never	1

3. When you study do you decide in advance to focus on specific tasks and to ignore irrelevant distractions?

very often	5
often	4
sometimes	3
rarely	2
never	1

4. Do you prefer to listen to an item several times before you use it in speaking?

very often	5
often	4
sometimes	3
rarely	2
never	1

5. Do you consciously arrange your learning to provide the conditions in which you know you learn best, for example, quiet environment or using a particular language notebook?
- | | |
|------------|---|
| very often | 5 |
| often | 4 |
| sometimes | 3 |
| rarely | 2 |
| never | 1 |
6. When you have difficulties in completing a language task how often do you identify aspects of the task which are hindering your progress - for example, difficult structures, unfamiliar accent, advanced vocabulary?
- | | |
|------------|---|
| very often | 5 |
| often | 4 |
| sometimes | 3 |
| rarely | 2 |
| never | 1 |
7. While you are doing a language task do you check on your use of language, correcting if necessary your pronunciation, grammar, style, etc.?
- | | |
|------------|---|
| very often | 5 |
| often | 4 |
| sometimes | 3 |
| rarely | 2 |
| never | 1 |
8. Do you check through your work when you have finished a task?
- | | |
|------------|---|
| very often | 5 |
| often | 4 |
| sometimes | 3 |
| rarely | 2 |
| never | 1 |
9. Do you set priorities in your learning of Chinese according to your own language needs?
- | | |
|------------|---|
| very often | 5 |
| often | 4 |
| sometimes | 3 |
| rarely | 2 |
| never | 1 |

10. Do you systematically revise what you have previously learnt?

very often	5
often	4
sometimes	3
rarely	2
never	1

Part 3

These questions ask you about the extent to which you interact with others in learning Chinese - and also about how often you work with your own emotions and attitudes towards language learning.

Some of the questions in this section relate both to how often you do something and also whether you have the opportunity or not. So if you could work with your peers but do not do so, you would respond to the question as follows:

How often do you work together with your fellow learners to solve a problem, practise conversations, check over a task ...?

very often	5
often	4
sometimes	3
rarely	2
never	①
no opportunity	0

If you do not have the opportunity to work with other learners you should respond:

How often do you work together with your fellow learners to solve a problem, practise conversations, check over a task ...?

very often	5
often	4
sometimes	3
rarely	2
never	1
no opportunity	①

Remember we are not suggesting that you should or should not be doing any of these things, so please answer in terms of your own learning habits.

1. How often do you go to ask a teacher or a native speaker for explanations, further examples, paraphrasing ...?

very often	5
often	4
sometimes	3
rarely	2
never	1
no opportunity	0

2. How often do you work together with your fellow learners to solve a problem, practise conversations, check over a task ...?

very often	5
often	4
sometimes	3
rarely	2
never	1
no opportunity	0

3. Do you use any special techniques (e.g. deep breathing) in order to reduce anxiety about a particular language task?

very often	5
often	4
sometimes	3
rarely	2
never	1

4. Do you motivate yourself by giving yourself some kind of reward when you have successfully completed a language learning activity?

very often	5
often	4
sometimes	3
rarely	2
never	1

5. How often do you encourage yourself in language learning - for example, by saying positive things to yourself to give yourself more confidence?

very often	5
often	4
sometimes	3
rarely	2
never	1

Part 4

Finally, please answer the following questions including details about your previous language learning experience. This information is requested to help us to analyse and interpret the data we collect.

In order to ensure confidentiality all information will be coded - at that point your name will disappear and be replaced by a number!

1. Name _____
(Surname and initials)

2. Age

under 21	1
21-30	2
31-40	3
41-50	4
51-69	5
over 60	6

3. Sex

Male	1
Female	2

4. Mother Tongue(s)

English	1
Other	2

 Please specify _____

5. Had you already learnt Chinese before enrolling at university?

Yes	1
No	2

- Where?

School	1
In a Chinese-speaking country	2
Other	3

 Please specify _____

- How long?

< one year	0
one year	1
two years	2
three years	3
four years	4
five years	5
> five years	6

6. Do you have other opportunities at the moment to learn Chinese, outside this course, e.g. with a native speaker, with family members or friends, evening classes?

Yes	1
No	2

Under which circumstances?

With a native speaker	1
Evening classes	2
With family members	3
With friends	4
Other	5

Please specify _____

7. Have you learnt any other languages apart from your mother tongue and Chinese?

Yes	1
No	2

If so, which?

French	1
German	2
Japanese	3
Maori	4
Italian	5
Latin	6
Other	8

Please specify _____

8. How important to you are the following reasons for learning Chinese?
Please respond to each possible reason.

I am studying Chinese

- (a) because I am interested in the Chinese language.
- | | |
|----------------------|---|
| extremely important | 5 |
| very important | 4 |
| important | 3 |
| not so important | 2 |
| not important at all | 1 |
- (b) because I am interested in Chinese culture.
- | | |
|----------------------|---|
| extremely important | 5 |
| very important | 4 |
| important | 3 |
| not so important | 2 |
| not important at all | 1 |
- (c) because I have friends who speak Chinese.
- | | |
|----------------------|---|
| extremely important | 5 |
| very important | 4 |
| important | 3 |
| not so important | 2 |
| not important at all | 1 |
- (d) in order to complete my degree.
- | | |
|----------------------|---|
| extremely important | 5 |
| very important | 4 |
| important | 3 |
| not so important | 2 |
| not important at all | 1 |
- (e) because I would like to get to know Chinese people.
- | | |
|----------------------|---|
| extremely important | 5 |
| very important | 4 |
| important | 3 |
| not so important | 2 |
| not important at all | 1 |

- (f) because it will be useful for my present (or future) employment.
- | | |
|----------------------|---|
| extremely important | 5 |
| very important | 4 |
| important | 3 |
| not so important | 2 |
| not important at all | 1 |
- (g) because I want to travel to China.
- | | |
|----------------------|---|
| extremely important | 5 |
| very important | 4 |
| important | 3 |
| not so important | 2 |
| not important at all | 1 |
9. (a) How important is it for you to become proficient in Chinese?
- | | |
|----------------------|---|
| extremely important | 5 |
| very important | 4 |
| important | 3 |
| not so important | 2 |
| not important at all | 1 |
- (b) How important is it for you to continue to study Chinese once you have finished this language paper?
- | | |
|----------------------|---|
| extremely important | 5 |
| very important | 4 |
| important | 3 |
| not so important | 2 |
| not important at all | 1 |

Many thanks for completing this questionnaire.



**MASSEY
UNIVERSITY**

Private Bag
Palmerston North
New Zealand
Telephone 0-6-356 9099

**APPENDIX C
LETTER TO QUESTIONNAIRE SUBJECTS**

Dear Language Student,

As a member of the Department of Modern Languages (Linguistics and Second Language Teaching Section), I am carrying out some research into how people go about learning languages - in other words into the particular techniques people use to learn say, Japanese, French, German or Chinese. Very little is known about what people do when they study languages outside of the classroom - that is, in the context of private study. This area of enquiry is of particular relevance to distance education since extramural students must, to a large extent, organise, direct and take responsibility for many aspects of their own learning. The strategies you as an extramural student employ under such circumstances to develop your foreign language skills remain largely unexplored. I am asking for your help in completing the attached questionnaire. I understand that extramural students are busy people, particularly at this time of year, but if you could spare a few minutes to complete the material and to return it in the envelope provided, this would be very much appreciated. please feel free to write extra comments on the questionnaire and to point out any questions which you have found difficult to understand or to answer.

I wish to emphasise that the information you provide forms no part of the assessment procedures of the language course for which you are enrolled. The information you provide will be kept completely confidential.

Many thanks for your co-operation. I look forward to hearing from you.

Yours sincerely,

A handwritten signature in cursive script that reads "Cynthia J. White".

Cynthia J. White

Lecturer

Linguistics and Second Language Teaching Section
Department of Modern Languages

APPENDIX D
SAMPLE YOKED SUBJECT INSTRUCTIONS: DISTANCE LEARNERS

LEARNING JAPANESE

**How do you go about learning Japanese
as an extramural student?**

Imagine that you have been asked this question by someone who is planning to take a 200-level Japanese course. They're interested in what you do when you study Japanese extramurally. They understand about study guides, assignments and so on - they want to know about your particular strategies for learning. Imagine that they are with you, so you can refer to the section of the workbook to give them actual examples of how you go about things. Remember they aren't asking you to actually do the exercises - they want you to give them ideas about your ways of learning Japanese.

The sorts of questions they ask to prompt you are:

How do you learn from these study guides?

Do you plan to do certain sections before others or do you just start from the beginning and work right through?

What do you do when you're actually working with the materials?

Do you go back and revise regularly?

What do you do if you get stuck?

Do you encourage yourself to keep going? How?

SAMPLE YOKED SUBJECT INSTRUCTIONS: CLASSROOM LEARNERS**LEARNING FRENCH****How do you go about learning French?**

Imagine that you have been asked this question by someone who is planning to take French 201. They're interested in what you do when you are studying French yourself, that is what you do to master the 201 material apart from what you do in class. They want to know about your particular strategies for learning. Imagine that they are with you, so you can refer to the section of the dossier to give them actual examples of how you go about things. Remember they aren't asking you to actually do the exercises - they want you to give them ideas about your ways of learning French.

The sorts of questions they ask to prompt you are:

How do you learn from these dossiers?

Do you plan to do certain sections before others or do you just start from the beginning and work right through?

What do you do when you're actually working with the materials?

Do you go back and revise regularly?

What do you do if you get stuck?

Do you encourage yourself to keep going? How?

APPENDIX E
SAMPLE TRANSCRIPT OF YOKED SUBJECT VERBAL REPORT
DISTANCE LEARNER OF JAPANESE

With each workbook, which is laid out in a similar pattern to all the others, the first thing I do is to learn the kanji for the lesson. I might not at that stage learn them perfectly, but I go through each of the 28 kanji. I read each one, I draw it in my mind, I draw it without a pen in my hand but using my fingers and then I actually draw it on paper. When I feel that I am more familiar with its shape I draw the kanji with all its different meanings and once I have done that several times, when I am confident that I can read any of those kanji at random and know at least one of its meanings, its basic meaning, I turn to the vocabulary list of that lesson and I learn the vocabulary. Once again, I might not have the time to learn the vocabulary absolutely perfectly so that if I look to the English words I could not say what all of them meant in Japanese but I do spend enough time on the vocabulary list to be almost at that stage, one or two words might slip. So far that is, learn the kanji first, learn the vocabulary second and at that point I feel I am ready to turn to the workbook key examples and I read them and listen to them on the tape at the same time. I use my walkman, I find that is essential, and with the key examples that are given with each unit I check what they mean. If it is not immediately obvious to me what they mean then I go over them until I can see as far as possible how each word of the Japanese sentence relates to the English sentence and while I am doing that I listen to the sentence as well, I play it back several times and once I have worked out what the sentence means, sometimes I might understand immediately what it means and sometimes it might take a while, I listen to the sentence and I repeat it and I repeat it until I can say it without looking at it. That means that I can develop a Japanese intonation and a degree of fluency. It's not real fluency because obviously I can't produce any sentence that I want to, but it certainly helps. It forms a very solid basis for producing sentences that I personally want to produce. While I am

in the margin. It is either a question mark to say I don't understand this or I specify what it is I don't understand and I don't let it bother me too much unless it affects my understanding of the whole passage. If I found that it did then I would have to write to Massey University and say what does this mean. I find that sooner or later the problem that I have got in that place is cleared up because I see many other structures that are similar. So, I think that there is a tendency amongst first time learners of a foreign language to be very discouraged because they don't understand everything that is presented to them and I think that if you have been through something several times and there is just a little tiny bit that you don't understand then it is quite alright to just leave it alone and you will probably understand it three workbooks later because it will become a lot clearer. If I were a really good student, and last year I was, I would go through the vocabulary list at the end of a unit and I would also look at my key examples in English and I would try to put them into Japanese. I did a lot of that last year for the 100-level stage and I haven't had time for that this year but I know it would be a good idea if I did have the time. So to sum up really I think the key things are first of all to prepare yourself for lesson by learning the kanji and learning the vocabulary for that lesson, then by seeing the vocabulary in sentences you become more familiar with each word so you learn its application better. By repeating as many times as possible sentences and phrases in Japanese you do develop fluency. You develop a feeling for the way a sentence is structured and that in turn helps your reading.

APPENDIX E
SAMPLE TRANSCRIPT OF YOKED SUBJECT VERBAL REPORT
DISTANCE LEARNER OF FRENCH

I work systematically through the study guide from the beginning right to the end. The first thing I do is read each section carefully. I spend a long time working with the dictionary looking up all the words that I don't know, and there's a lot of them. I find that if I do that first it frees me up mentally to concentrate on the actual comprehension of the material and to think about answering the questions. If I have to stop and look up a lot of words I forget what it is that I am supposed to be doing. So that's the first step. By doing that it also gives me an idea of the range of the whole unit. It also shows me any phrases or ideas that I can use in one section, or which I can transfer to another one. If I don't do that then I don't have the full picture and it means that I don't have the vocabulary and the background to answer the questions as fully as I feel I should be able to. So the first thing to do is to read the whole lot through with a dictionary without actually doing any of the tasks. Then sometimes I use different methods. Sometimes I start back at the beginning again, working through each section, reading the background information and completing the section of the assignment that relates to that unit, for example grammar. Sometimes if I'm pushed for time I do the section that appeals to me first because it gives me a psychological boost. I find the grammar section the easiest. Because I'm trained in other languages in the old fashioned method I feel most comfortable learning grammar and applying the rules. It gives me a sense of safety. If you do it carefully you've got a fair chance of winning. So I do the grammar section to give me a boost sometimes. I leave the hardest sections till last. I find the essay writing the most problematic, so I wait. I let those sections stew and I do them almost subconsciously. I have them ticking over gently for most of the four weeks that I have to complete the assignment. When I do the individual sections I do them from the beginning to the end. I don't jump around and do the bits that look easiest first. As far as revision is concerned I don't go back systematically and revise each single unit

that we've done half a dozen times during the course of the year. I go back and revise those sections of previous units which are relevant to what I'm doing at the moment - for example grammar, linking words, certain sections of vocabulary which prove useful, but I don't go back and learn the vocab off by heart. I try and remember it each time. When I'm actually working with the material I don't make too many extra notes other than looking up the vocabulary. Sometimes if there's a cross reference which can be useful in other sections I go back and find it again and underline it in handouts but I don't actually write out notes. I do make notes for grammar. I try to compile an exercise book of grammar rules because I find it's helpful to write those down in my own way, to add to the notes in the grammar books, sometimes to rearrange the order, to give other examples, to underline those things in my own writing to reinforce them in my mind visually. I learn visually better than I learn orally. If I read a sentence I can remember it, if I hear it I forget it. I have a colleague who is doing stage three French. We practice speaking French but I don't read French sentences aloud to myself. I have bits of paper all over the house labelling the objects that I'm supposed to know the vocabulary for. I write out key phrases and grammatical sentences and idiomatic phrases which I want to use or include in essays and I have them dotted all over the place where I can find them unexpectedly. The element of surprise helps me to remember. I have found it most effective. Another way of learning vocab which I've always found good is to put the words together in a series of pictures. I don't translate French sentences into English because it interrupts the thought process. One of the things I like about this particular French course is that it doesn't deal in direct translation which is the method I've always used previously, in previous courses. When I was at school we learnt French that way and consequently I didn't know very much French at the end of it. This year I've found I've retained a lot more because I've found we've actually had to use the words in contexts to complete certain tasks and that is much more effective. I tend not to repeat words to remember them. As I said I have a visual memory and I write them down and stick them all over the place rather than saying them over to myself. What do I do if I get stuck? Try to do the easy things first to build up confidence. I don't really get stuck very often. Sometimes it's

difficult to imagine what a lecturer's interpretation of a question might be and you worry whether your interpretation is the same. For example it's difficult to pick out exactly what the key ideas are sometimes. Do I encourage myself to keep going? I find the longer I carry on the less liable I am to stop because all the previous work that I've done will count for nothing. Sheer panic and terror keeps me going probably - I've got a limited time to do something. From a positive point of view, sheer escapism. The vain hope that one day all this will mean getting out of Invercargill and going to see the big wide world.

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