

THE RELEVANCE OF THINKING SKILLS AND LEARNING STRATEGIES TO LANGUAGE LEARNING AND TEACHING FOR ADULTS

Lois Bellingham

UNITECH Institute Technology

Teachers of languages and students of language learning are today aware, through intuition, reflection and experience, that language learning can be enhanced by the application of various strategies and techniques. We may be less aware of why this is so, what these skills and strategies might be, and how best their use by language learners can be fostered.

Great advances have been made by both linguistic theorists and cognitive psychologists in recent years, but a mutual flow of insights and applications has not been so forthcoming. O'Malley and Chamot (1990) have pointed out the divide between them that arose, to some degree, out of the rejection of behaviourism. However, by not incorporating recent thinking from cognitive psychology into our understanding of second language acquisition, we limit the conceptual and practical resources potentially available to the language learner. An understanding of language learning as a complex cognitive skill augments its conception as a unique separate mental faculty (e.g. Spolsky, 1985; Chomsky, 1980; cited O'Malley & Chamot, 1990) and immediately offers the learner a repertoire of cognitive and metacognitive skills to aid learning. As we shall see, this is especially significant for the adult learner for whom maturity brings generally greater cognitive facility.

This paper sets out to review the literature on metacognition in general, and language learning in particular, in order to illuminate the intersection of research and theory in cognition with research and current views on second language acquisition. As teachers are the prime mediators of this interface, and second language learning is occurring in New Zealand as never before, it is timely that the relevance of thinking skills and learning strategies to adult language learners is understood and appreciated so that effective and productive procedures can be implemented. An overview of recent accounts of interventions serves as a guide to the classroom practitioner. The focus is on adults as language learners, whether business people preparing to communicate with new trading partners, international students improving their English proficiency, recent immigrants in their twenties or beyond, or school leavers adding a foreign language to their work skills, but, of course, much of this material is equally applicable to younger learners.

This paper then aims to find sources which answer the following questions:

- What are thinking skills and learning strategies ?
- What makes language learning different for adults ?
- What is the relevance of thinking skills and learning strategies to learning a language as an adult ?
- How are these skills applied in language teaching and learning ?

WHAT ARE THINKING SKILLS AND LEARNING STRATEGIES?

Thinking skills and learning strategies are loose, and fairly general, everyday terms encompassing a wide range of mental operations activated to achieve a certain goal. Theorists have analysed, classified and defined them in various ways. Resnick (1987), for instance, writes of higher order thinking skills

as the hallmark of successful learning from young to advanced learners, describing such thinking as constructive, analytical, effortful, interpretive - a cluster of complex mental processes. Derry (1990) conceives of learning strategies as an aid to developing these thinking skills, a strategy being composed of several specific learning tactics or techniques. This has parallels with Lawrence's (1991) understanding of planning as the orchestration of complex tasks to achieve a specific goal or solve a problem.

In very simple terms, learning strategies are those ways we use to learn new facts, to practice using those facts, and to guide our learning. Thinking skills are the ways we think about what we know, about problems, about how we are learning, about how we are thinking. We use both learning strategies and thinking skills to make progress in what we know, and to monitor that progress, so trying to differentiate between the two is probably not all that helpful. However, differentiating between the two *levels* of thinking (learning something new, and monitoring it), can bring greater clarity.

Cognition and metacognition are two useful terms to apply here. Flavell (1979) suggested that "Cognitive strategies are invoked to make cognitive progress, metacognitive strategies to monitor it" (p.909). An example from language learning can illustrate this: rehearsal of a new sentence structure is a cognitive strategy aimed at making cognitive progress; evaluating whether rehearsal, or re-reading the rules on which the sentence structure is based, helps you more in your goal of being able to use the structure in a forthcoming visit to the doctor, is a metacognitive strategy, monitoring cognitive progress; both the rehearsal and the evaluating could be classified as learning strategies. Similarly, thinking skills can be both cognitive and metacognitive: comprehending the doctor's questions is making cognitive progress in that it requires recognising sounds, words, structures, calling on context clues and prior experience; realising that there were too many unknown words in the doctor's utterance for you to understand, and so you need to get help, is monitoring comprehension; both the comprehending (cognitive) and the realising (metacognitive) are thinking skills. An interesting example of the distinction between cognition and metacognition is cited by Garner (1990): a situation where a learner realises s/he has not understood a text can be described at the same time both as cognitive failure and metacognitive success (Brown, 1980).

Another view of thinking skills and learning strategies is outlined by Wenden (1991). She identifies three groups of strategies: cognitive (e.g. comprehending, storing, and retrieving), self-management (planning, monitoring, and evaluating), and metacognitive (knowledge of self, tasks and strategies). But the more common classification now is to meld the latter two under metacognition which is made up of metacognitive knowledge and executive control processes (Paris and Winograd, 1990).

Theory and research in second language learning in this area focuses on strategies. Wenden (1986) points out two different types of strategies for the language learner:

"Learning strategies are defined as steps or mental operations used in learning or problem-solving that require direct analysis, transformation, or synthesis of learning materials in order to store, retrieve, and use knowledge. Communication strategies refer to techniques learners use when there is a gap between their knowledge of the language and their communicative intent' (footnote, p.10). Her definition implies the role of learning strategies is to make cognitive progress rather than to monitor it, and she refers to the metacognitive aspects as thinking about learning.

Wenden's isolating of communication strategies from learning strategies is an example of a group of strategies identified in the wider literature by O'Malley and Chamot (1990). They have added to cognitive, and metacognitive strategies a third category of social / affective strategies to cater for the effect of social and affective processes on learning. Thus, such strategies as asking for clarification, perceiving body language, and cooperative learning, which are fundamental in a domain such as language learning, are singled out and grouped together to give a higher profile to what would normally be subsumed under cognitive or metacognitive in other domains. O'Malley and Chamot (1990) in their prelude to their considerable exposition of learning strategies in second language acquisition, also review the contributions of Rubin (1981) and Naiman et al (1978) (p.4-5). They point out that research in this area has taken an empirical, rather than a theoretical, approach and derived classifications of learning strategies from the study of good language learners, and productive language learning situations, and that a clear explanation of the roles of strategy use and cognitive processing in second language learning was absent in the theories of second language proficiency. O'Malley and Chamot's comprehensive work has set out to begin to redress this.

Another theorist working on making linkages between cognitive theory and learning of language is Rebecca Oxford (1990; Ehrman & Oxford, 1988). With the needs of language teachers in mind, she proposes a simple two-tier classification of language learning strategies: direct - those that involve the target language directly, such as memory, comprehension and other cognitive strategies; and indirect - those that support and manage language learning without directly involving the target language, such as metacognitive strategies, social and affective strategies. We can see in this an amalgamation of the categories that have become accepted in cognitive theory and research with insights arising from a specific subject domain - foreign and second language - into an intuitively sensible classification based on the proximity of the strategy to the goal of learning. Its depth and simplicity give immediate appeal as a useable tool for language teaching and learning.

This overview of the theoretical base of learning strategies and thinking skills has attempted to clarify and differentiate between the most common terms used, but it is worth noting that the terminology is not consistently used in the literature. Complexity is inherent in the describing of processes and relationships that are only beginning to be understood. Thinking skills and learning strategies are terms quite adequate for the teaching - learning interface, as are Oxford's direct and indirect strategies, and so wherever adequate, these more accessible general labels can be used.

WHAT IS INVOLVED IN LANGUAGE LEARNING FOR ADULTS?

There are two aspects inherent in this question: what is involved in *language* learning? and what makes language learning different for *adults*? A few moments of reflection brings to mind some differences of degree, but also in the nature of learning a language as opposed to learning, for instance, biology, accounting or even philosophy. There is the change in the symbols you think with, the renaming and reforming of concepts for a completely new code. The profound nature of the schema being acquired involves a change in the individual's world view and self-concept to a level not demanded of the biologist or philosopher in daily interpersonal communication. More than in other disciplines, the learning can be carried on outside of a formal setting (where one is immersed in the target language context) surrounded by experts at all turns. So a greater level of confidence and autonomy is required of the learner. The length of time needed to become an expert - 7 to 8 years - has parallels in other domains, but the corresponding societal recognition is lacking. Furthermore, the expert native

language user is characterised by a strong knowledge base and automaticity so that domain-specific learning strategies and thinking skills are superfluous and unconscious (as is so for other experts), but the result is that s/he overlooks the cognitive nature of the learning and focuses on the behaviour or communication event when relating to a novice. Experts in other domains are likely to be much more aware of how they arrived at their level of competence.

Such claims as these, though undoubtedly arguable, nevertheless support O'Malley and Chamot's description of language learning as a complex cognitive skill. Their contribution to the understanding of the relationship between language and cognition is comprehensive and unique in the literature.

"We suggest second language acquisition cannot be understood without addressing the interaction between language and cognition, and . . . at present this interaction is only poorly understood. Second language theorists have not capitalised on the available body of research and theory that has already been worked out in cognitive psychology." (1990, p.16)

By drawing primarily on Anderson's information processing theory of cognition and memory, O'Malley and Chamot demonstrate that second languages are learned, as are other complex cognitive skills, through the "gradual integration of subskills, as controlled processes initially predominate and then become automatic" (McLaughlin 1987a, cited in O'Malley & Chamot, 1990, p. 63). Language comprehension, language production, and learning strategies are all understood as cognitive processes and Anderson's (1980) three stages of skill acquisition - cognitive, associative, and autonomous - provide a significant base for both understanding and facilitating the process of second language acquisition. They also show how isolated phenomena such as interlanguage, communicative competence, metacognitive awareness, and retention and attrition, already identified in second language acquisition literature, can be integrated into a broader theoretical context.

Further insight into language learning as a complex cognitive skill is gained from familiarity with Biggs and Collis' (1982) five levels of structural complexity (the SOLO taxonomy) at which learners operate. (cited Biggs, 1991). They suggest that the first three stages (prestructural, unistructural, multistructural) are concerned with growth in quantity of knowledge, while in the last two (relational and extended abstract), the learner moves to organisation and deployment of skills and knowledge. It would seem difficult for the second language learner to remain for long at the earlier stages. For instance, a novice uttering isolated words or formulaic sentences, even combined with appropriate gestures and intonation, can be perceived to be operating at a multistructural level, but when the learner generates their own sentences, recognising the underlying syntax and semantics, they must be operating at the relational level. It could be argued that the greatest proportion of learning in the language domain occurs then at this more advanced stage in the development from incompetence to expertise; which is further evidence for the complexity of the cognitive processes in language learning.

To turn to the second part of our question, frequent references to adult language learners are embedded in the literature, but only a few can be highlighted here. Let's start off with Lewis and Brown's (1993) perspective on the debate over whether there is a 'best' age for learning a second language: "The fact is that in a world where more and more² people are on the move, willingly or unwillingly, it is often not possible to choose the age at which language learning starts" (p. 8). So, given that it is a fact of late twentieth century life, what makes language learning as an adult different?

Three aspects are considered here: the preference of the adult for goal-directed learning, the significant vulnerability of the adult language learner, and the advantages in experience, world view and metacognition that accompany maturity.

In a study of age differences in intentional learning, Bereiter and Scardamalia (1989) found a highly significant relationship between age and a problem-solving orientation. They conclude that children see learning as an activity with learning as an outcome, whereas adults approach learning with a problem-solving framework so as to adjust, revise and resources plans according to a clear goal. Adults were able to identify what they did not know and proceed with a planned course of action; children typically merely set out to learn more about a topic. Adult language learners then are likely to have a long-term goal which motivates their learning, but they are also likely to frame learning as problems to be solved. Classroom-based language instruction that engages such cognitive capacities, is more congruent with adult learning than instruction where the teacher sets the goals and provides activities where the goal-related learning is incidental.

Affective factors and emotional vulnerability are important, and well-documented influences on adult language learners. "On the positive side, the learner who admires not only the language being learned, but also the people who speak it and their way of life, brings a high level of motivation to learning." (Lewis and Brown, p.8) For the adult learning a language because of diplomatic or UN service, or as a political refugee, or for financial gain from trade, affective factors are likely to hinder. However, even for the voluntary settler in a new language environment, feelings of powerlessness and confused sense of identity can make the adult very vulnerable. Wajnryb (1988) describes layers of vulnerability from the least - any learner of anything - through the adult learner of anything, who may often feel foolish at taking what is presumed to be a childlike role, - to the adult learner of a foreign language, who needs to take on a different identity as the user of a new cultural code, to the most vulnerable - the adult second language learner, who, in addition, must cope with feelings of dependence and powerlessness. An example to illustrate is buried deep in Brown et al's landmark article *Learning, Remembering and Understanding* (1983). They cite a study of elderly women (French, 1979) to compare with findings from research on the zone-of-proximal-development and children's response to explicit cues to help toward a solution. "Threatened by the testlike problems and deeply unsure of their own cognitive competence, the women interpreted the hints as an indication of their failure. Help often had to be terminated after two or three hints as the situation became intolerable." (p. 148) This contrasted with children, who were not vulnerable in their roles as learners and capitalised on the hints and even claimed ownership of the solution. People who daily experience failure and incompetence may suffer lowering of self-esteem, and resist help because it confirms their poor performance.

From cognitive science comes a third feature of the adult learner in the words of Pressley et al (1987):

In contrast [to young children], mature learners are facile at appropriate deployment of higher-order, goal specific, and monitoring strategies. . . . [They] also thoroughly understand a wide range of strategies, recognise which aspects of the world they are knowledgeable about, and sense how their personal world knowledge interacts with their use of strategies." (p.118)

Even adolescents are not spontaneous or organised in their planning compared to adults. Lawrence (1991) gathers considerable evidence to show that mature learners tend to bring greater effort to bear in choosing, controlling, and evaluating the steps taken in solving a problem. That adults generally have more cognitive and metacognitive resources at their disposal seems inescapable. Furthermore, the adult language learner almost inevitably has thought about words, their meanings and communication in general, and their reflections feed into the second language learning process.

WHAT IS THE RELEVANCE OF LEARNING STRATEGIES AND THINKING SKILLS TO LEARNING A LANGUAGE AS AN ADULT ?

Up to this point we have explored the literature to clarify our understanding of the terms learning strategies and thinking skills, and of language learning as a cognitive skill, especially for adults. Now bringing these two facets together, why is there this upsurge in interest in language learning strategies? and how can they assist adults to learn languages ?

Firstly, to take a very general view, higher order thinking skills have traditionally been the preserve of an elite (Resnick, 1987). Only a select few have been educated to be the leaders, the bearers of knowledge, and the decision-makers in our society, while the masses needed only the skills and basic knowledge to work and sustain life. In recent centuries, this has been changing, as higher levels of skills and knowledge have been needed for production, and as democratic principles based on responsible citizenship have been incorporated into society. Now, the aim is to provide education for, and develop higher order skills in, the entire population.

This type of shift has occurred in New Zealand in the learning of languages. Previously only a few learnt another language as an adult and these were the "academic" students who already used higher order thinking and some study skills. Now, however, second and foreign languages are learned by anyone: tourists, the tangata whenua, immigrants, business people, descendants of earlier settlers, sales assistants and receptionists (see also The New Zealand Curriculum Framework, 1993). People of many diverse abilities need or want to learn another language.

Furthermore, it is apparent that today people need to know how to learn new skills and information, not just what to learn. Some of the current challenges in language learning have arisen because there has been no "culture" of learning languages in New Zealand; youth, and a special language aptitude, have been seen as a prerequisite to success; and more profoundly, traditional learning / teaching methods have not enhanced learning and thinking (Andrews et al 1991).

The following overview of research over the last decade demonstrates the relevance of learning strategies and thinking skills for adult learners of another language.

Awareness and development of metacognition can enhance learning in two ways: it transfers responsibility to the learner, and promotes positive self-confidence, attitudes and motivation among learners (Paris and Winograd, 1990). This answers directly the conclusion Wajnryb came to, reflecting on her experience and observations, that the vulnerability of adult language learners requires specific attention to self-esteem and autonomy training - understanding and valuing of their own (first) language, diagnosing their own strengths and weaknesses and exploiting their target language context.

Wenden (1986) discusses the tendency adult students have to be conditioned by their previous educational experience, causing them to expect the teacher to make their learning happen. She advocates an 'unfreezing' experience, such as thinking about and evaluating their beliefs about language learning as a necessary step toward effective learning - a type of metacognition identified earlier.

Garner (1990) noticed that when a learner knows a great deal in a particular domain, s/he is less likely to invoke learning strategies. Conversely, this means that learning and thinking skills are useful to compensate a low knowledge base. Shuell (1986), discussing the transfer of learning generally, illustrates his point with reference to driving a different car when one has already driven a variety. In this quote "car" and "drive" has been replaced with "language" and "learn" to tie this concept to our present discussion. "The transfer involved in *learning* a new *language* will be greater if the *learner* has already previously *learnt* several different *languages* rather than only a single *language*." (p. 424) So, this applies in the field of languages where learners are predominantly monolingual, which is the case in New Zealand (Polynesian, Korean and Chinese immigrants, Japanese and Chinese international students, New Zealand - born English speakers). Lacking the knowledge base that learners of third, fourth and fifth languages have, use of strategies and thinking skills will enhance learning.

In a study of adult language learning styles and strategies, Ehrman and Oxford (1990) found that there is clear evidence that an increase in the repertoire of strategies can help language learning. This is consistent with several studies of good language learners. Chamot (1987) found that "students identified as good language learners by teachers do use conscious learning strategies not only in ESL classrooms but also out of classroom acquisition environments" (Wenden and Rubin, p.81). Wenden (1991) comes to the same conclusion after presenting a series of experts' views on why some learners are more successful than others. "They have acquired the learning strategies, knowledge about learning, and the attitudes that enable them to use these skills and knowledge confidently, flexible, appropriately and independently of a teacher." (p.15). O'Malley and Chamot (1990) report on a series of four studies they carried out to elicit information about strategies used by students of English as a second language, and by native English-speakers learning foreign language. The results of these studies form the basis of their classification of learning strategies into three categories: metacognitive strategies, cognitive strategies and social/affective strategies. They also noted that expert learners drew on a range of thinking skills and learning strategies to solve the problems they met: recognition of recurring patterns, reorganisation of approach according to the type of task demanded, accessing of related information to assist with inferencing strategies (p.149).

To recapitulate, then: awareness and use of learning strategies and thinking skills are of benefit to adult language learners because they 1) promote autonomy and self-regulation, 2) compensate for a limited knowledge base, 3) contribute to greater flexibility in the expectations of learners, 4) help language learning out of class, 5) enhance capability in the problem-solving facets of language learning 6) generally improve student learning. It is hard to escape the conclusion that learning strategies and thinking skills are a resource of compelling relevance to effective language learning.

HOW ARE THINKING SKILLS AND LEARNING STRATEGIES APPLIED IN LANGUAGE TEACHING AND LEARNING ?

Having established that learning strategies are of critical importance to learning another language as an adult, there remains the questions of: is training in these skills possible ? and if so, how ? Again,

O'Malley and Chamot (1990) can give considerable guidance. They point out that there has been little research done on strategies for oral language production, but much done in other areas of the curriculum, such as reading comprehension and memory training, are transferable to the second language field. Their discussion examines some unresolved issues: should instruction be separate or integrated?, should it be direct or implicit?, do teachers need special training?, the lack of instructional materials, at what level is training most productive?, and the impact of individual student characteristics, especially motivation. They recommend four instructional techniques originating with Paris (1988a), which integrate motivational and cognitive strategy instruction: modelling, scaffolding, direct explanation, and co-operative learning. After reviewing learner strategy instruction in first language contexts, and their own studies of second and foreign language learners, they conclude that strategy training can be effective in normal classroom environments, but "the success of such training is dependent of a number of factors, including teacher interest, development of techniques for instructing students in the effective use of learning strategies, and the ability to provide a motivational framework that can convince students of the value of learning strategies." (p.184) O'Malley and Chamot outline two instructional models - strategic teaching (Jones et al 1987) and Cognitive Academic Language Learning Approach CALLA (Chamot and O'Malley 1987) - as a base both for intervention and further research. They see training of teachers in strategy instruction as a key, requiring considerable investment from researchers, staff developers, teachers and their institutions.

Wenden's Learner Strategies for Learner Autonomy (1991) is a text that goes a long way towards resourcing such teacher training. Subtitled "Planning and implementing learner training for language learners", it has a task-based, self-access approach and addresses topics from the significance of learner training through changing learner attitudes and beliefs to syllabus, materials and task development and program models.

A third text aiming to bridge theory and practice in this domain is Wenden and Rubin's Learner Strategies in Language Learning (1987). It is an edited volume drawing on theory and research on language learning strategies, concluding with three chapters on implementation in teaching practice. The thrust towards autonomous learners is seen to be largely facilitated by training in thinking skills and learning strategies. Wenden concludes by proposing four tentative guidelines for incorporating learner training in the language classroom, based on her review of the literature: make the value of strategies explicit; train in both cognitive and metacognitive strategies; consider the range and specificity of strategies, the degree of autonomy needed for practice, and learners' needs in integrating learner with language training; and evaluate learner training according to learner attitudes, learning skill acquisition, language task improvement durability, and transfer (p.166). This has parallels with the questions Brown et al (1983) raised in a general learning context: to improve learner performance, should we focus on teaching the strategies, changing the materials, or changing the total learning situation by doing both, and informing the learner of the rationale.

In an earlier article Wenden (1986) outlines a set of eight units designed to help adult language learners start to think about learning. Through a series integrated with use of the language, learners are encouraged to move from considering their beliefs about language learning, to compare it with other types of learning, and finally to decide on actions to take that will help them to be better language learners. As a preliminary stage of 'unfreezing', these lesson notes are useful but they do not embark on training in strategies.

A different approach is taken by Waters and Waters (1992) in addressing the needs of more advanced students. They propose a way to incorporate cognitive and affective strategies in study skills components of courses, and offer a sample unit for perusal to demonstrate that tasks that require thinking in the target language improve underlying study competence.

A particularly interesting intervention, based on reciprocal teaching (Palinscar and Brown, 1984) as an instructional strategy, is described by Wendy Assinder (1991). It was a student-directed project in which intermediate level English learners prepared materials from a news video to present to peers: learners teaching learners. Cognitive and metacognitive benefits included: more questions, more checking and clarifying, negotiation of group organisation, negotiation of what was worth teaching, analyses of information and political situations, discussion of merits of dictionaries, taking responsibility for what and how much was learned, a range of language skills and communications strategies practised, debates on grammar points, higher levels of accuracy from collaborative work, deeper understanding of the content and linguistic demands, and a diversity of individual styles, knowledge and abilities catered for. Assinder observes: "thinking about teaching seemed to bring about a greater awareness of learning".

Unique in the literature is a text for student use by Ellis and Sinclair (1989) which encourages intermediate level language learners to identify their own preferred cognitive style and explore new possibilities to improve their learning. It outlines a systematic curriculum for language learning strategies but does not integrate them with a language syllabus, and so the teacher still has the problem: do I teach strategies or language? which Brown et al have raised (1983, p.127).

A final example of learner training in practice comes in a self-access context. Barnett and Jordan (1991) identify training in learner strategies as one key area to address when structuring self-access facilities. They explain how cognitive strategies are fostered by the tasks that raise awareness as well as give opportunity to practise. Metacognitive strategies are developed by the way materials are organised, use of study plans, student journal writing, evaluation forms, and tutorials. They envisage a carefully planned self-access facility as a significant catalyst for enhancing learner independence.

To conclude, the literature on learning strategies in language is considerable, and throughout, links can be made back to metacognitive, cognitive, and social/affective strategies in the general field of learning. The writers, researchers and teachers referred to here are unanimous in their conviction that learning strategies and thinking skills are relevant to the adult language learner and several examples of strategy implementation in teaching practice have been highlighted. Current and future research and theory are even more likely to incorporate insights from both applied linguistics and cognitive psychology and this is particularly so in the area of thinking skills and learning strategies.

REFERENCES

- Andrews, J., Short, R. H. & Mulcahy, R. F. (1991) Enhancing learning and thinking. In Mulcahy, R. F., Short, R. H., & Andrews, J. (eds.) Enhancing Learning and Thinking. New York: Praeger.
- Assinder, W. (1991) Peer teaching, peer learning: one model. ELT Journal, 43/3.

Bacon, S. M. (1992) The relationship between gender, comprehension, processing strategies, and cognitive and affective response in foreign language listening. The Modern Language Journal, 76, ii.

Barnett, L. & Jordan, G. (1991) Self-access facilities: what are they for ? ELT Journal 45/4.

Bereiter, C. & Scardmalia, M. (1989). Intentional learning as a goal of instruction. In Resnick, L.B. (ed.), Knowledge, Learning and Instruction : Essays in honour of Robert Glaser. Hillsdale, NJ.: Erlbaum.

Bertoldi, E., Kollar, J., & Ricard, E. (1988) Learning how to learn English: from awareness to action. ELT Journal 42/3.

Biggs, J. B. (ed.) (1991) Teaching for Learning. Hawthorn, Vic.: ACER.

Brown, A., Bransford, J., Ferrara, R. & Campione, J. (1983) Learning, remembering and understanding. In Mussen, P. H. (ed.) Handbook of Child Psychology. 4th ed. Vol.3. John Wiley & Sons.

Chamot, A. U. (1987) The learning strategies of ESL students. In Wenden, A. & Rubin, J. Learner Strategies in Language Learning. Hemel Hempstead: Prentice Hall.

Derry, S. J. (1990). Learning strategies for acquiring useful knowledge. In Jones, B.F. & Idol, L. (eds.) Dimensions of thinking and cognitive instruction. Hillsdale, NJ: Erlbaum.

Ehrman, M & Oxford, R. (1990) Adult language learning styles and strategies in an intensive training setting. The Modern Language Journal, 74, iii.

Ellis, G., and Sinclair, B. (1989) Learning to Learn English: A course in learner training. Cambridge: Cambridge University Press.

Flavell, J. H. (1979) Metacognition and cognitive monitoring: A new area of cognitive developmental inquiry. American Psychologist, 34, 906-911.

Garner, R. (1990) Children's use of strategies in reading. In Bjorklund, D.F. (ed.). Children's Strategies: Contemporary views of cognitive development. Hillsdale, NJ: Erlbaum.

Lawrence, J. (1991) The importance of planning for education. In Biggs, J.B. (ed.) Teaching for Learning. Hawthorn, Vic.: ACER.

Lewis, M., and Brown, T. P. (1993) Learners Talk: First Hand Accounts of Language Learning. Auckland: Carrington Polytechnic.

Mulcahy, R. F., Short, R. H. & Andrews, J. (1991) Enhancing Learning and Thinking. New York: Praeger .

O'Malley, J. M., and Chamot, A. U. (1990). Learning Strategies in Second Language Acquisition. Cambridge: Cambridge University Press.

Oxford, R. L. (1990) Language Learning Strategies: What every teacher should know. Boston: Heinle & Heinle.

Palinscar, A.S. & Brown, A.L. (1984) Reciprocal teaching of comprehension - fostering and monitoring activities. Cognition and Instruction, 1, 117-175.

Paris, S.G. & Winograd, P. (1990) How metacognition can promote academic learning and instruction. In Jones, B.F. & Idol, L. (eds.) Dimensions of thinking and cognitive instruction. Hillsdale, NJ: Erlbaum.

Pressley, M., Borkowski, J.G. & Schneider, W. (1987). Cognitive strategies: good strategy users coordinate metacognition and knowledge. In Vasts, R. & Whitehurst, G. (eds.) , Annals of child development. New York: JAI.

Resnick, L.B. (1987). Education and Learning to Think. Washington, D.C. : National Academy Press.

Shuell, T.J. (1986) Cognitive conceptions of learning. Review of Educational Research, 56, 411-436.

Wajnryb, R. (1988). V is for vulnerability : some reflections on learning and the learner. Prospect. Vol.3, No. 3. 339 -351.

Waters, M., & Waters, A. (1992) Study skills and study competence: getting the priorities right. ELT Journal 46/3.

Wenden, A. (1986) Helping language learners think about learning. ELT Journal 40/1.

Wenden, A. (1987) Incorporating learner training in the classroom. In Wenden, A. & Rubin, J. (1987) Learner Strategies in Language Learning. Hemel Hempstead: Prentice Hall.

Wenden, A. (1991) Learner Strategies for Learner Autonomy. New York: Prentice Hall.

Wenden, A. & Rubin, J. (1987) Learner Strategies in Language Learning. Hemel Hempstead: Prentice Hall.