UNIVERSITY OF JYVÄSKYLÄ

"LET THE GAMES BEGIN"
Second Language Strategies in a Business Game

A Licentiate Thesis

by

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ABSTRACT

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SECOND LANGUAGE STRATEGIES IN A BUSINESS GAME

The present study focussed on the use of second language strategies in a predominantly autonomous L2 learning environment in the context of a business simulation. Such a setting was expected to call for the use of L2 strategies. Thus, the question arose: What L2 strategies did learners use and how did they cope with the L2 of the game? Moreover, how successful were the L2 strategies from the point of view of the outcome in the game?

The theoretical framework of the study is based on the discussion of the role of second language strategies, ie. language learning and communication strategies, in the L2 learning process and on different concepts and groupings of L2 strategies, as presented in the light of earlier research. The groupings by O'Malley and Chamot (1990) and Oxford (1990) were relied on in this study.

An integrated business simulation in which the L2 was used as a medium of communication was built up as the research setting. The L2 strategies used by two teams of players were studied through qualitative data collection methods, such as a survey, introspective and retrospective verbal reporting, and semi-structured retrospective interviews. Relevant parts of the data were analyzed using the SILL 5.1 by Oxford (1990) as an inventory. To draw final conclusions, the O'Malley and Chamot (1990) division of strategies into metacognitive, cognitive and social/affective strategies was applied.

The results showed that learners coped well with the requirements of the L2 in the business simulation. Learners reported on having met with only a few L2 problems, which they solved by translation, elaboration, and resourcing, ie. using a dictionary (cognitive strategies). Implicitly, however, the data revealed that learners used a wide variety of L2 strategies, often combined to solve a single L2 problem. Thus, learners could be called effective L2 learners. They used cognitive strategies such as elaboration, inferencing, imagery, summarizing, deduction, translation, transfer, and note taking effectively. Their meta-cognitive strategies included advance organization, selective attention, self-monitoring, self-evaluation, and self-management. The nature of the learning environment seemed to promote the use of social and affective strategies, such as questioning for clarification, cooperation, and self-talk. Laughter and joking were used to cope with the anxiety of the game. A great number of communication strategies were used by both teams and one team developed their own jargon, or 'antilanguage', to cope with the L2 of the game. The role of the context emerged as significant in the use of L2 strategies.

Thus, a business game administered in the L2 seemed to be a suitable context for integrating the L2 with the content to promote the use of L2 strategies. However, the significance of L2 strategies to the outcome of the game could not be proved. Further studies should be made to look into this.

Keywords: second language strategies, learning strategies, communication strategies, learner autonomy, self-directed learning, business simulation

CONTENTS

LET THE GAMES BEGIN
I wonder where that was said??

(from an e-mail message from
a foreign partner to *Strategy!*)

SYMBOLS USED IN THE DATA TRANSCRIPT

...	a pause (length may vary)
[ ]	pronunciation of a word
( )	explanation of stress, pronunciation or similar
M	unidentified male learner
(inaudible)	incomprehensible or impossible to make out words
word (emphatic)	said emphatically

1 INTRODUCTION

The aim of this study is to find out what second language strategies two small teams of Finnish business polytechnic students used in the context of an integrated computer-mediated business simulation in which the L2 was required as a medium of communication. The study grew out of the present writer's interest in the role of strategies in second language acquisition and use, especially in an open and flexible learning environment, which represented a new kind of language learning environment.

An impetus for this study came from a recent development in Finnish vocational education, implying second language teaching/learning. In recent years, with the introduction of the polytechnic system in Finland since 1991, the influx of courses in which the subject matter is taught in a foreign language has increased considerably. Foreign languages, most often English, have been used more and more as the medium of instruction in non-language subjects at Finnish vocational institutions and polytechnics (Anttila 1996, *Tempus* 5:16-17). The business and administration sector has been the second keenest in the vocational sector, after the technical sector, to offer mainstream bilingual courses in vocational education (Oksman-Rinkinen and Yli-Erkkilä 1996:24). In Spring 1995, at least thirteen Finnish polytechnics offered subject-area courses taught in an L2 (Anttila et al. 1995, *Tempus* 6:24-25). As for the role of the L2 in Teaching Content through a Foreign Language (TCFL) in Finland, as opposed to traditional foreign or second language learning, according to Räsänen (*Tempus* 1993, 6, 8-11), the main aim is to learn the subject matter, and the foreign language has the role of being a vehicle of communication, similar to that of the mother tongue. According to Anttila et al. (1995, *Opettaja* 37:36-37), when implementing this kind of teaching/learning, the expertise of second language teachers should be made use of because in the vocational sector second language teaching/learning has traditionally been content-based. From the beginning, Helsinki Business Polytechnic (HelBP) has been very active in offering subject area courses in a foreign language, mainly in English as L2. Therefore, as a teacher of English at HelBP, the present writer became interested in what such courses would entail from the point of view of learners' L2 strategies.

Moreover, as regards the teaching/learning environment, with the introduction of the polytechnic system, the share of autonomous work outside the contact hours has increased as compared to the earlier, more teacher-centred second language learning, which mainly takes place in the classroom. Thus, today in higher education in Finland, more and more of foreign/second language learning is expected to take place outside the classroom environment, with students working autonomously either by themselves or in small groups. To give one example, in English as a foreign language at the Helsinki Business Polytechnic, the average share of autonomous work that learners are expected to do outside the contact hours is some fifty percent or more of the total number of hours allocated to language courses (*Helsinki Business Polytechnic, Student's Guide* 1997-1998:129-207). This new situation necessarily calls for attention to strategies in the second language learning process, for strategies are an essential element to promote learner autonomy (Wenden 1991:18). Tella (1992, *Tempus* 6:4-7) also mentions that the trend towards implementing

distance learning besides the more traditional educational deliveries during contact hours calls for new qualities and skills of the learners. These skills include knowing how to use various strategies to find out the relevant information, when solving upcoming problems.

According to Oxford (1990:1), strategies are tools for active, self-directed involvement, essential for developing communicative competence. This way, the learner is able to exert control over the learning process (Skehan 1989:73). When speaking about strategies, according to Skehan, we are concerned with choices that the learner makes, and with the possibility that the efficiency with which the learner's capacities are used can be changed. This case study looks at the choices that learners made in the course of a business game, as related to the L2, and to their implications.

The strategies required by the learner to become an autonomous learner are called learning strategies or learner strategies in cognitive literature (see Weinstein and Mayer 1986, Anderson 1980) and in second language research (see, for instance, Skehan 1989, O'Malley and Chamot 1990, Oxford 1990, Wenden 1991). As for using the L2, other strategies, mainly communication strategies, are needed to bridge the gaps between two linguistic or sociolinguistic systems (Tarone 1980:422; see also Faerch and Kasper 1983:36, Bialystok 1983:102, Ellis 1985:165). Learning strategies have learning as a goal and communication strategies are directed toward maintaining communication (Tarone 1981:285-295). However, since many of the above researchers have come to the conclusion that learning strategies and communication strategies can often be inseparable or difficult to distinguish from one another, the term second language strategies is used in this study as an overall concept to include both language learning and communication strategies.

Tarone and Yule (1989:103) point out that our knowledge of the strategic competence of second language learners is still incomplete, especially in two broad areas of strategic competence: (1) the overall skill of successfully transmitting information, or interpreting information transmitted, and (2) the use of communication strategies by a speaker or listener when problems arise in the process of transmitting information. According to Tarone and Yule (1989:114-115), research on strategies could help teachers and textbook writers alike recognize that strategic competence is an ability, which is distinct from both grammatical and sociolinguistic competence.

Inspite of the extensive strategies research in second language learning for the past twenty years or so, relatively little seems to be known of the role and nature of second language strategies in the second language learning process in different kinds of settings, especially in autonomous learning environments. For instance, O'Malley and Chamot (1990:224) mention that descriptive work on strategy use in cooperative learning settings or in nonclassroom environments would need attention. Moreover, most of the L2 strategies research, which has gained momentum since the mid 1980s, has focussed on second language learning, not so much on second language use (Legutke and Thomas 1991:274). Thus there would seem to be scope for a study focussing on the use of L2 strategies in an autonomous learning environment.

Furthermore, Legutke and Thomas (1991:274) point out that the movement towards learner autonomy and the research in learner strategies

could mutually benefit from each other. As for practical implementations, Legutke and Thomas suggest that the meeting ground of the two for further research activities and implementations of classroom innovation towards the life-long and responsible learner could be the project-oriented classroom where learning to learn and learning to manage learning are inseparable parts of the learner's foreign language education. The present research context was such an attempt.

One more reason for undertaking this study was that the world is changing rapidly, and the concepts of learning as a result of it. Change is advocated as an inherent element of learning today. According to the Finnish Minister of Education (Heinonen 1997, *Helsingin Sanomat*, 17 July 1997, A2), in the next few decades education will change more thoroughly than ever before. Heinonen mentions that with the rapid renewal of knowledge, the transfer of individual task-specific skills will have to give way to to the general learning to learn and problem-solving skills, ie. strategic skills, which will become significant. This is reflected on second language learning too in a way that new kinds of learning environments need to be created and studied, bearing in mind the significance of strategic skills. According to Heinonen, these environments should portray real-life requirements and thus create a suitable context for the transfer of learning.

To meet the requirements of the rapidly changing and more complex working life, Kauppi (1995:10-13) suggests that in new pedagogical solutions the nature of the new working environments and their challenges should be taken into account. According to Kauppi, providing theme-based computer-aided learning contexts could be one way. The content of learning could be multi-disciplinary, comprising integrative entities in which the learner would be actively involved in the research and development process. Furthermore, Kauppi points out that one way to implement this is to build up learning networks, in which learners are simultaneously working in different kinds of learning environments with different kinds of challenges. Another way is to create various simulated learning environments, which provide opportunities for learners to learn in as authentic an environment as possible.

An attempt to create a computer-based simulated learning environment was thus the main incentive of this study, for it originated as the result of a practical teaching and learning experiment, whose aim was to try out new practices in teaching and learning in the education of business teachers, integrating both the subject area and the L2 content. Study of the role of the L2 was part of the experiment. The study made it possible to look more closely at some of the underlying processes and principles of teaching and learning that took place in the course of the experiment and that, in general, should be considered when planning similar projects. In the end, the study evolved into a tangible, fully-fledged form of educational delivery which could be drawn on further. Thus, what started as an experiment and as a study has caused some change - or learning - in real life. This study, which focuses on second language strategies in the learning context, is an extension of the original experiment.

As a result of the above incentives, to learn more about the use of second language strategies by Finnish business polytechnic students in an autonomous, problem-centred learning context, a suitable learning environment was created at the Helsinki Business Polytechnic in the autumn of 1995. It was built around

an American computer-mediated business simulation called *Strategy! A Business Unit Simulation* by H. Richard Priesmeyer (1992) calling for knowledge of Business Economics, Marketing, Accounting, Information Technology, and English, German, and Spanish as the L2. The research programme of second language strategies was built into it, and the present study is a report on that programme and its results.

The basic research question which this study attempts to answer is:

> How did Finnish business polytechnic students cope with the L2 of a business game played autonomously by teams of students? In other words, what second language strategies did they use during the game and how successfully?

It was also of interest to find out if there was any connection between the use of L2 strategies by the individual teams and their final outcome in the game.

To answer the basic research question, a case study approach was adopted. Two teams that had played the business game in Autumn 1995 were selected for the study. The data included background information about the learners, a survey on learners' general second language learning strategies using the SILL 5.1 strategy inventory by Oxford (1990:283-291), audio and video recorded negotiations in the L1 and L2 in the course of the game, retrospective interviews related to the business and L2 strategies that the players had used, a final evaluation feedback questionnaire, and any other data, such as log-books and e-mail and fax messages. Relevant parts of the data were analyzed mainly qualitatively using the SILL 5.1 by Oxford as a basic inventory and then summing up the findings in accordance with the broad classification of strategies into metacognitive, cognitive, and social/affective strategies, as developed by O'Malley and Chamot (1990).

As a result, it was hoped that the findings would reveal what kinds of L2 problems came up during the game, what L2 strategies learners used and how effectively from the point of view of both the L2 and the game. This again was expected to reveal something about the range and significance of L2 strategies in this or similar learning contexts in mainstream bilingual education. This knowledge could help L2 teachers and learners become more aware of the role of strategic competence in the second language learning process. Moreover, the knowledge might be useful for those planning similar integrated second language learning projects. It was also hoped that the research might shed some light on the understanding of the L2 teaching/learning process in an autonomous learning environment at the intermediate/advanced level.

2 SECOND LANGUAGE STRATEGIES

Strategy research related to foreign or second language learning dates back to the 1970s and is based on cognitive theories of learning (Skehan 1989:73, Wenden 1991:31). Parallel to, but separate from, the learning strategies research in the cognitive science, the interest in learner strategies in second language learning arose with the explosion of language teaching methodologies in the late 1970s and early 1980s when the focus of language classrooms moved

from teacher-centred approaches to learner-centred ones (Rubin 1987:15). There was a growing interest in how learners could take charge of their own learning and how teachers could help students become more autonomous learners. "Language learning like any other kinds of learning involves problem-solving, which requires that learners be active in order to internalize information" (Rubin 1987:18). As an example of problem-solving in the L2, Rubin quotes inferencing. Besides the new focus on 'language learning strategies', the concept of 'communication strategies' had emerged in second language research in the 1970s (see Selinker 1972).

Much of the literature on learning strategies in second language acquisition emerged from a concern for the establishment of the characteristics of effective learners (O'Malley and Chamot 1990:3; see Stern 1975, Rubin 1975, Naiman et al. 1978). The results showed that students do apply learning strategies while learning a second language and that these strategies can be described and classified. Accordingly, researchers came up with different kinds of classification schemes of learning strategies (see Rubin 1975, Naiman et al. 1978, O'Malley and Chamot 1990, Oxford 1990). Possible differences between 'communication strategies' and 'language learning strategies' were also discussed widely. As a result, for instance Cook (1993:113) came to the conclusion that second language strategy research is related to the production and comprehension of speech as a dynamic choice of strategies within a situation, and divided into two broad areas, learning and communication strategies. In a learning strategy the learner attempts to bring long-term competence into being, and in a communication strategy, to solve momentary communication difficulty. According to Cook, L2 strategies have largely been studied through schemes of analysis that list strategies at various levels.

Research has also shown that language learners can become more aware of their strategy use and thus more efficient in their use of appropriate strategies in different situations. To help L2 learners become more efficient language learners, some researchers have developed learner training programmes, in which special attention has been paid to the learning and use of learning strategies. Wenden (1991), for instance, developed a programme to help learners become more autonomous learners, ie. more fluent in their strategy use as well. O'Malley and Chamot (1990:190-204) developed several strategy training programmes, one of them called the Cognitive Academic Language Learning Approach (CALLA), based on cognitive theory and their own research with second language learning strategies. In CALLA, strategy instruction was embedded with L2 learning, with an aim of attaining the skills (eg. note taking, presentation, writing, etc.) needed for learning academic mainstream subjects in the foreign language.

To provide an understanding of what is meant by second language strategies and how they might be related to the L2 learning process, earlier research dealing with different aspects of second language strategies will be discussed in greater detail below. However, before that, the general educational concepts of 'learning strategy' and 'learning style' need to be clarified so as to show their nature and role in the learning process.

2.1 Learning strategies

According to Weinstein and Mayer (1986:315-316), the general interest in learning strategies arose as the result of the development of the cognitive theories of learning in education, which seek to understand how incoming information is processed and structured in memory. In cognitive theories of learning, learning is viewed as an active process which occurs within the learner and which can be influenced by the learner. Thus, according to Weinstein and Mayer, learning strategies have learning facilitation as a goal and are intentional on the part of the learner.

To understand the significance of strategies in information processing, the process needs to be analyzed from the point of view of the kind of knowledge stored in the learner's long-term memory for the processing of information to take place. According to the cognitive view of learning, two different kinds of knowledge are required for this: declarative knowledge ('knowing what') and prodecural knowledge ('knowing how').[1] Strategies are procedural knowledge during the learning process, or the 'knowing how' (Anderson 1980:234-236, Ellis 1985:164, O'Malley and Chamot 1990:13, Rauste-von Wright and von Wright 1994:42). According to Anderson (1980:238), all procedural knowledge has its origin in problem-solving. Moreover, Anderson (1980:285, emphasis original) states that "learning how to organize one's problem solving is referred to as *strategic learning*". Anderson (1980:273) also uses the term 'cognitive skill' to refer to the ability to perform various mental procedures to develop expertise, while 'proceduralization' refers to the process by which people switch from explicit use of declarative knowledge to direct application of procedural knowledge.

Learning strategies are defined by Weinstein and Mayer (1986:315-316) as "techniques or behaviours and thoughts that a learner engages in during learning and that are intended to influence the learner's encoding process". Thus, they are closely related to information processing: to the selection, comprehension, retention, and recall of what is to be learned. Furthermore, according to Weinstein and Mayer, the use of particular learning strategies during learning can affect the encoding process, which in turn affects the learning outcome and performance. The outcome of learning is supposed to depend jointly on what information is presented and on how the learner processes that information.

Besides the cognitive processes used when dealing with information, metacognition and affective elements are also essential. According to Weinstein and Mayer (1986:323), metacognition refers to the students' knowledge about their own cognitive processes and their ability to control these processes by organizing, monitoring, and modifying them as a function of learning outcomes. Metacognitive strategies are essential as ways to control, guide, and evaluate learning. The role of metacognitive strategies in the learning process is that they are used for comprehension monitoring. According to Weinstein and Mayer, "it requires the student to establish learning goals for an instructional unit or

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[1] *Declarative knowledge* is explicit knowledge which we can report and of which we are consciously aware. *Procedural knowledge* is knowledge of how to do things, and it is often implicit ... (Anderson 1980:234-235, emphasis original.)

activity, to assess the degree to which these goals are being met, and if necessary, to modify the strategies being used to meet the goals". Furthermore, Weinstein and Mayer point out that research has shown that comparison of good and poor comprehenders shows that poor comprehenders appear to be relatively deficient in the use of active monitoring strategies. The role of affective strategies is to reduce or to cope effectively with performance anxiety in a learning situation (Weinstein and Mayer 1986:324). A typical example of such a situation is testing.

In addition to the three main learning strategy categories, cognitive, metacognitive and affective strategies, Weinstein and Mayer identified three groups of cognitive strategies: (1) rehearsal (for instance, oral repetition, underlining, copying, and making verbatim notes), (2) organization or the rearrangement of the information to be learnt so that it becomes meaningful (for instance, grouping, sorting, categorizing, development of hierarchies, and constructing networks), and (3) elaboration or creating linkages between the individual's existing knowledge and the new information (for instance, using mental images, paraphrasing, creating analogies, generative note taking, and self-questioning). All of these facilitate the learning of information, but especially elaboration strategies are useful because they demand the greatest learner activity and effort to help integrate old and new knowledge, and are therefore the most effective to promote meaningful learning. Weinstein and Mayer (1986:325) also point out that besides using appropriate learning strategies, "learning is also enhanced when the learner processes a great deal of domain-specific knowledge".

In view of what the use of a learning strategy might depend on, Entwistle (1988:105) states that an individual student's strategy may vary from task to task. The student's interests and earlier knowledge as well as the task demand become important then. This would seem to refer to motivation and the significance of the context in which strategies are used.

Similar views of learning strategies are expressed by constructivists, whose concepts are based on cognitive theory. With regard to the role of learning strategies in learning, the task or goal of learning is emphasized (Rauste-von Wright and von Wright 1994:22, emphasis original): "*What* is being learnt depends on the strategy used by the learner in each instance; thus, the qualitative aspects of learning are important." According to Rauste-von Wright and von Wright (1994:25), each learner approaches a learning task using his/her own systematic approaches or strategies. The goals, the practices, and the earlier schemata influence what is learnt by each individual. Thus, according to constructivists, the learner actively selects and interprets information and processes it into knowledge constructed by the learner in a context or in a situation. The context always leaves an imprint on how new incoming information is interpreted and made use of later. Therefore, successful learning would seem to require deep-level processing, or 'higher-order skills', as Resnick (1987) calls them, or learning to understand the interconnection of ideas and reality.

In view of the learning outcome, Rauste-von Wright and von Wright (1994:123; emphasis original) emphasize the significance and interrelatedness of learning goals and strategies in this knowledge construction process:

> From the point of learning, the means of the learning activity can be as significant as the goals of learning. The goal regulates what the learner aims at doing while learning is regulated by what the learner does: learning reflects the (cognitive) activity of the learner. For instance, the learning strategy used not only affects how much is learnt but also *what* is learnt.

Similarly to Weinstein and Mayer, Rauste-von Wright and von Wright (1994:25) also point out that the learner's emotions need to be considered, when looking at strategies: "Emotions are essential elements of the schemata the learner has stored in (long-term) memory, and therefore part of strategies." As a result, attention must be paid to the affective aspect of strategies too. Strategies are not just used for information processing but also for the control of affections. In the guidance of the learning process, emotional factors and the emotional connotations of the consequences of the actions also play an important role. Motivation is connected to these emotional factors.

Furthermore, according to Rauste-von Wright and von Wright (1994:37), another aspect of learning and strategies is that they are reflected in and through the social interaction between individual learners. Language plays a key role in this because it is the social medium. In the interaction, the individual's thinking processes are revealed, and it becomes possible for him/her to reflect on them by himself/herself and with others. When, for instance, within a group, the learner actively defends his/her understanding and approaches, it provides a basis to learn from others and also to question one's own pre-concepts. Thus, the social context requires interaction between individuals:

> Through interaction, ie. through conversation and joint activities, the individual's thinking processes become "visible", both for himself/herself and for others; thus, it becomes possible for the learner to reflect on them by himself/herself and with others. When, for instance, within the activities of a group or a team of learners, each person has to justify his or her concepts and solutions, it provides a good basis for learning from others but also for checking one's own preconceptions, and for problematizing seemingly self-evident matters.

Moreover, according to Rauste-von Wright and von Wright (1994:33), knowledge is not transferred automatically from one learning context to another in a meaningful way. Therefore, efforts should be made to create learning contexts - ie. learning environments and situations - in view of the possible future uses of the knowledge and skills to be learnt. Any attempts to improve possibilities of transfer would seem valuable (see Rauste-von Wright and von Wright 1994:45). Similarly, von Wright (1996:9-21) speaks about 'active transfer', or providing opportunities for learners to transfer new knowledge into future new situations even at the learning stage. In this process, paying attention to the applications of the new knowledge is essential. The student needs to be encouraged to experiment with the new knowledge, to look for analogies, to find new ideas, and to justify them. This way the student's abilities in learning to learn are fostered.

Ehlers (1992:479) also emphasizes that "strategies are learnt in the context of specific contents, and are therefore bound to specific context schemes ... the pedagogical consequence of this problem is that the transfer must be learned". One way of facilitating the "learning of transfer" could be to

provide contexts which would resemble real life contexts as much as possible even at the learning phase. In Ropo's (1996) view, the new, open and complex learning environments provided by the new media could offer one way of meeting the challenges of constructing a learning environment of the above kind. However, didactically this would also mean new approaches to teaching, as it might be difficult to plan and implement the more traditional kinds of approaches to teaching in the open, media-based learning environments. In Ropo's view, this could provide a real challenge for new kind of "teaching".

Wolff (1996) speaks about computers being used as 'cognitive tools' in language learning. They could help the human learner use his/her cognition more effectively and aid the learner in his/her information processing and learning. Advocating for constructivism, Wolff sees learning as an independent construction process based on individual learner knowledge and leading to different learning results for each learner. Thus, learning is subjective in nature. Learning necessitates the use of specific strategies so that the learner can control the construction process. Learning also implies the restructuring of already acquired knowledge and is always embedded in social contexts; the interaction with others being of great importance.

Wolff (1994) lists four speficic learning principles, developed by constructivists, as being relevant to the context of foreign language learning:

(1) Learning in general, and language learning in particular must be embedded in an authentic and complex learning environment. Only within a rich learning environment can the learner adequately use his/her personal constructs and thus test and verify his/her hypotheses about a learning item.

(2) It is not only the learning environments that should be rich and complex; the learning content itself should be represented in all its complexity.

(3) The learner must be made responsible for his/her own learning, which is a key concept of constructivism. A learner can only feel responsible when he is made to recognize the importance of what he is learning for his own life ("getting the learner involved").

(4) The construction of knowledge as a process for which the learner is responsible must be undertaken autonomously; learning is not a process of instruction but rather of construction (see Mercer 1995). A learner must learn how to adequately use his/her knowledge in the learning process, he must learn to restructure his/her knowledge base after each learning process, and he must learn to automatize his/her knowledge so that he/she can access it at any time.

According to Wolff (1996), the computer could (1) help learners improve their own abstraction and generalization process, construct and test hypotheses, and solve learning problems, and (2) represent strategies of knowledge construction in an operationalized and transparent form and thus externalize human cognition. Wolff mentions that constructivist theoreticians have argued that computers possess the strength of representing processes as processes and making them really transparent. Thus he would seem to be referring especially to metacognitive strategies.

Furthermore, as for the role of metacognition in learning, McCrindle and Christensen (1995:167-185) point out that a student who sees learning as the process of building understanding will engage in strategies designed to build meaningful relationships and will consequently build complex interrelated bodies of knowledge. This was discovered through research on the use of learning journals by learners in connection with learning biology. McCrindle and Christensen (1995:181) found that journals helped students develop more sophisticated conceptions of learning, showing that they understood the purpose and the processes of learning. Thus, McCrindle and Christensen concluded that the process of reflecting on the nature of learning within a specific content domain had the effect of transforming learners' underlying views and beliefs about the nature of learning. These learners saw learning less as a process of acquisition of knowledge and facts and more as a process of comprehension, analysis and interpretation than the control group. Thus, it seems that the way in which a student sees learning guides his or her learning. It also helps frame approaches, ie. strategies, to learning tasks and thus has a direct impact on the results of learning. This points at the significance of metacognition or cognitive control in learning, which helps the learner focus on relevant aspects of what is to be learned and on making learning meaningful to himself or herself. For this, McCrindle and Christensen used the term 'executive control processes', which determine, direct, and monitor cognition or thinking.[1]

To sum up what is meant by learning strategies from the cognitive and constructive theoretical points of view, it would seem that in any learning process, declarative and procedural knowledge could be seen as intertwined in the learner's mind, to make up the learning process. The learner has to operate (know *how*) with declarative knowledge (know *what*) during the process. Strategies are the means or choices needed by the learner to carry out the process. They can be of different kinds, not just cognitive strategies, but also metacognitive and social or affective strategies. The following diagram could be used to illustrate these elements of a learning process (see Figure 1):

[1] The difference between 'cognitive' and 'metacognitive' strategies is explained as follows: Cognitive strategy knowledge is comprised of knowledge necessary to do the task, so that a cognitive strategy is an activity designed to assist the individual to reach a cognitive goal. Metacognitive strategies help in the selection, execution, monitoring and control of these cognitive strategies. (Flavell 1987:21.)

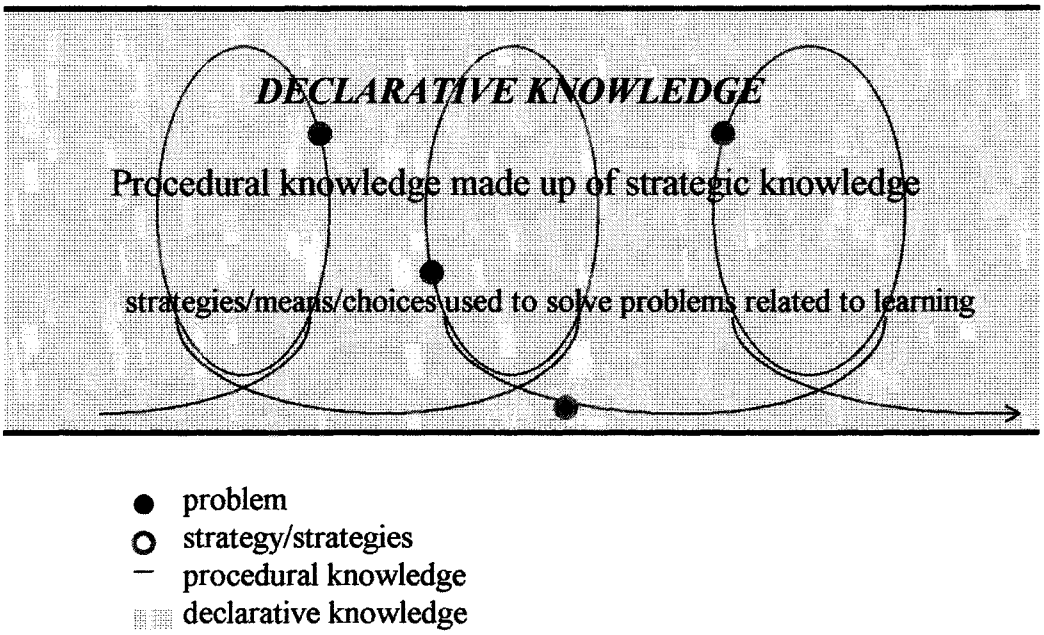

Figure 1. The learning process (Source: Original).

In view of second language learning, O'Malley and Chamot (1990:191) would seem to support a similar concept of the learning process:

> ... language is a complex cognitive skill, developing through a series of stages, which requires extensive practice and feedback in order to operate at an autonomous level ... language proficiency can best be described as procedural knowledge (though constantly fed by declarative knowledge) and the use of learning strategies is also a part of procedural knowledge ...

Thus, if the aim is to learn to use a second language in a domain-specific context, learning requires the transfer of both declarative and procedural knowledge from the first language and culture and elaboration of prior nonlinguistic knowledge (O'Malley and Chamot 1990:192). According to O'Malley and Chamot, in this process, learning strategies play an important role in activating the existing schemata and in helping make direct comparisons of similarities and differences between new information and previous cultural and/or domain-specific knowledge and experience.

2.2 The concept of 'learning style'

As compared to learning strategies, 'learning style', or sometimes also called 'cognitive style' (see Dickinson 1987:20, Richards et al. 1992:209), is more connected to the personality traits of a learner than a strategy. There are several definitions of a learning style in literature. Based on his educational concept of experiential learning, Kolb (1984:64) says that "the complex structure of learning allows for the emergence of individual, unique possibility-processing structures or styles of learning". Ropo (1984:59) defines a learning style as "an individual's permanent inclination, way, or preference to acquire and process new information in a certain way". According to Entwistle (1988:93, emphasis

original), "the *general tendency* to adopt a particular strategy is referred to as a *learning style*". Learning style includes cognitive, affective, and physiological behaviours that indicate learners' characteristic and consistent ways of perceiving, interacting with, and responding to the learning environment (Willing 1988 as quoted by Wenden 1991:36). Leino and Leino (1990:38) define a learning style as a characteristic way that a learner uses when he/she approaches and processes the target of learning. In other words, it is the individual's generalized strategy or strategies (Leino and Leino 1990:36). Dunn and Dunn (1993:2; emphasis original) define learning style as "the way in which *each* learner begins to concentrate on, process, and retain new and difficult information". Related to the learner's behaviour in the learning environment, Oxford et al. (1992:440) point out that "learning style relates to a tendency to seek situations compatible with one's own learning patterns". Thus, the cultural and crosscultural influences help shape learning styles (Oxford and Anderson 1995:201). Accordingly, the learner may choose particular strategies because they are compatible with the student's culturally-influenced learning style (Oxford and Anderson 1995:203). According to Oxford et al. (1992:440-441; emphasis original), "*learning styles* are thus the general approaches to learning or problem-solving, while *learning strategies* are the specific behaviours or actions - often conscious - used by students to improve or enhance their learning process". In the light of the above definitions, a learning style would seem to be a more 'inborn' set of characteristics than a learning strategy and therefore less prone to change. Therefore, in view of learning problems, the learner could choose between different strategies to solve problems, but would tend to act in accordance with his/her basic learning style.

To help assess people's individual learning styles, different kinds of learning style inventories based on different concepts of learning and learning style have been developed by researchers (see, for instance, Kolb 1976, Entwistle 1988, Dunn and Dunn 1993). However, since the concept of learning style is very wide and could well form a research topic of its own, learning styles are not specifically looked at in this study. Still, when looking at strategies, it must be kept in mind that each learner has his/her own learning style, which might well account for the use of certain strategies.

2.3 Self-directed learning and learner autonomy

Two concepts, self-direction and autonomy, are closely related to the discussion about strategies. In second language learning, in view of the learning process, autonomy and self-directed learning (SDL) are often used as synonyms to describe the student's varying autonomous approaches to learning. However, Holec (1979:4) points out that they are not synonymous concepts. According to him, autonomy is the end goal in learning, while self-direction is related to the process of learning, ie. to the learner guiding the process himself/herself. Strategies are essential in this process.

A somewhat different approach is presented by Dickinson (1987:11-15), who argues that self-direction refers to the attitudes rather than techniques or modes of instruction. According to Dickinson (1987:9), autonomy involves the management of learning by the learner: "An autonomous learner is one who is totally responsible for making and implementing all of the decisions concerned

with his own learning" while self-direction, according to Dickinson (1987:10), "is concerned with the learner's responsibility for making the decisions about his learning, but does not entail the learner undertaking the implementation (or management) of the decisions". In Dickinson's opinion, in full autonomy there is no involvement of a 'teacher' or an institution, and the learner is independent of specially prepared materials. As opposed to autonomy and self-direction, the concept of self-instruction is defined by Dickinson (1987:11) as "situations in which a learner, with others or alone, is working without the direct control of a teacher".

Huttunen (1990:45) points out that learners are not autonomous, they are somewhere between the state of semi-autonomy and autonomy. According to Huttunen (1986:95), a learner is fully autonomous when he is working individually or in a group, taking responsibility for the planning, monitoring, and evaluation of his studies. This means that the learner would know how to use metacognitive strategies, or how to guide his/her learning process. Huttunen (1990:54) advocates a gradual move towards learner autonomy through the teaching of strategies: "Teaching the learners gradually to use strategies and also giving them opportunities to use them in a class context means giving them tools for self-instruction, for increased autonomy. A learner would seem to be fully autonomous when he is capable of implementing the learning process independently or in a social context." In other words, the learner would have acquired the skills for 'learning to learn' or 'lifelong learning' as a long-term goal of education.

In FL learning, the diagram in Figure 2, as developed by Huttunen (1990:51), is one way to illustrate the role of learner strategies in the learning context, as placed on Kolb's (1984) circle of experiential learning:

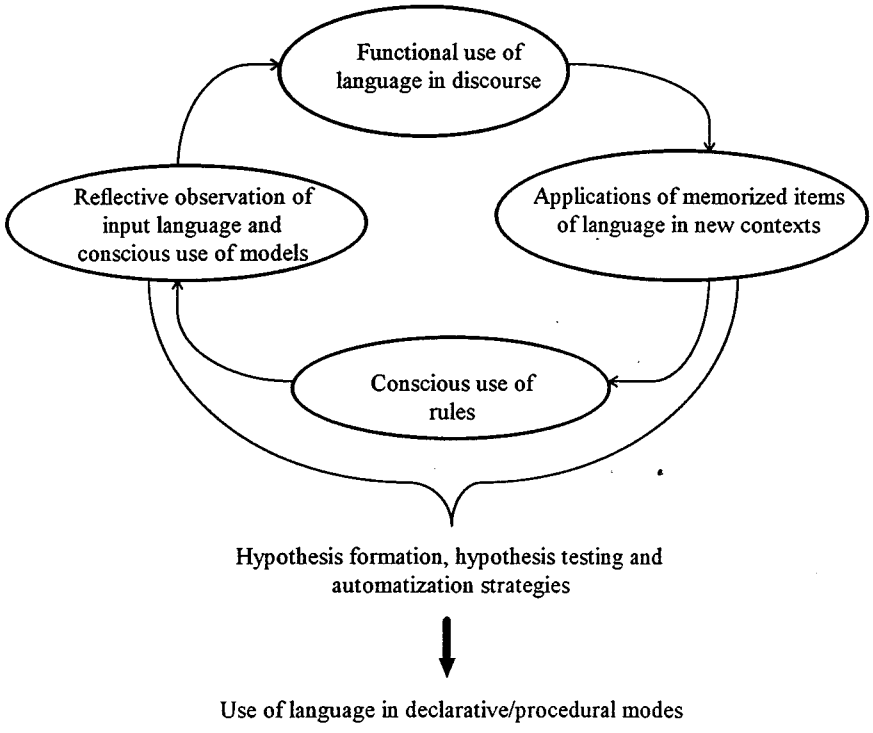

Figure 2. Learner Strategies in FL learning (from Huttunen 1990:51).

In the figure, the conscious use of rules and applications of memorized items of language refer to all situations where learners use the target language, either orally or in written form. The cycle shows different aspects of internal processing of input data through learner personality from the point of view of establishing interlanguage rules. To do this, learners use different strategies. As for the significance of strategies in the learning process, Huttunen (1990:52) says that teachers should know much more than they nowadays do about different strategies and their usefulness. They should also teach their pupils and students to use them consciously and effectively. One reason for this is that it would help learners attain greater degrees of learner autonomy during their studies and be more successful in their learning, as the results from studies in the school context seem to indicate. Success in learning could be measured in terms of transfer, ie. how well the learner is able to transfer his/her learning into new situations in real life. Moreover, Huttunen (1990:42) states that metacognitive strategies also play a role in fostering motivation among learners. They teach learners how to learn or how to proceed in their studies, thus being essential from the point of view of both self-direction and autonomy.

Wenden (1991:15) seems to share the above views of autonomy when she states that "successful autonomous learners have learnt how to learn, ie. acquired learning strategies, knowledge about learning, and attitudes that enable them to use these skills and knowledge confidently, flexibly, appropriately and independently of a teacher".

Mueller-Verweyen (1996) also calls for learners being given the opportunity to practise the management of their own learning gradually in autonomous settings when he says: "If the intention is to further learning autonomy, the task to be carried out is to move the manager function, which is of course initially vested in the teacher (supported by teaching materials), to the student step by step."

Finally, in view of the social context of learning and autonomy, according to Dickinson (1987:13), being self-directed or autonomous does not imply that the learner is working alone; he/she can be working with others too. Huttunen (1990:41) also defines the social aspect of learner autonomy through responsibility in different modes of social organization of work in the classroom. Similarly, Aoki and Smith (1996) point out that group orientedness can be an asset in fostering autonomy. Thus, autonomy does not mean the same as learning alone; learning in a group without direct teacher involvement can also be a form of exercising different degrees of autonomous learning.

To conclude, autonomy would thus seem to mean that the learner is fully in charge of his/her own learning, either individually or as part of a group. Self-direction, on the other hand, would seem to refer to the process of the learner working towards autonomy. Learning to use appropriate strategies is an essential part of this process. An autonomous learner already knows how to use these strategies.

2.4 Strategy vs. process

To understand the actual role of strategies in second language learning and communication, the terms 'strategy' and 'process' need to be clarified. Ellis (1985:166) points out that the two terms are often used inconsistently in

literature. According to Ellis, they are frequently used as synonyms for general mental operations, but sometimes they are used to distinguish operations involved in language processing.

Faerch and Kasper (1980:47-118) make a clear distinction between 'strategy' and 'process'. They speak about the planning process and the realization or execution process. According to them, "strategies are plans for controlling the order in which a sequence of operations (as, for instance in 'the production/reception process') is to be performed. The 'process' is the operations involved either in the development of a plan (the planning process) or in the realization of a plan (realization process)". Strategies are thus the means or choices needed to carry out the process (see Figure 3).

Cohen (1990:5; emphasis original) discusses the concepts of 'learning strategy' and 'process' emphasising the elements of choice and consciousness in the case of a strategy, as follows:

> *Learning strategies* are viewed as learning processes which are consciously selected by the learner. The element of *choice* is important here because this is what gives a strategy its special character. These are also moves which the learner is at least partially aware of, even if full attention is not being given to them. For example, a learner may use the strategy of skimming a portion of text in order to avoid a lengthy illustration. If a learner's move is totally unconscious, then it would simply be referred to as a "process," and not as a "strategy".

The unconsciousness of strategy use seems to denote 'a process', in Cohen's opinion. This would seem to refer to a 'process' consisting of automatized strategies, in which case the learner would not need to pay any special attention to his/her strategies since they would be fully integrated into the learning process.

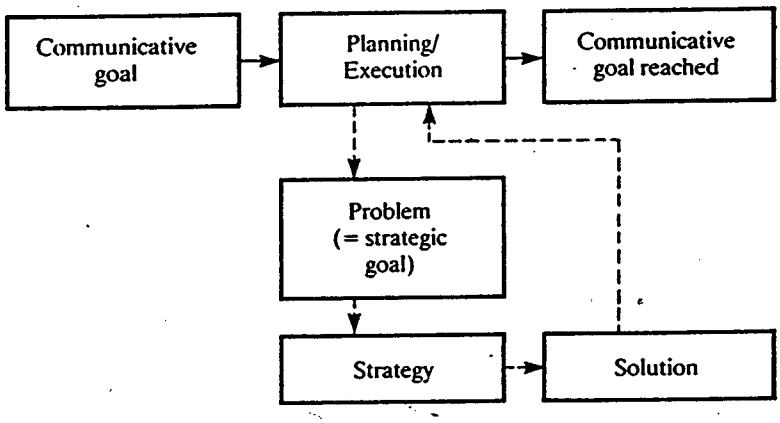

Figure 3. Communicative and strategic goals (from Faerch and Kasper 1983:33).

According to Wenden (1987:7-8; see also Wenden 1991:18; emphasis original), "some strategies *can be observed*, others cannot. Cognitive strategies may be *deployed consciously* in response to a problem that a learner has clearly perceived and analyzed, and they can be *automatized.* They are *amenable to change* and part of our cognitive software, acquired in the same way as we acquire language". Likewise, Sharwood Smith (1994:12; emphasis original) argues that "the learner may or may not be consciously *aware of* using a strategy in a given context. A strategy can be applied on an ad-hoc basis, or it may be part of a *stable* repertoire of problem-solving techniques". For this reason it may be difficult to tell the difference between a strategy and a process. One aspect that could help define what might be a strategy, and not a process, would be that strategies are *problem-oriented*: learners use them in response to different kinds of learning problems or needs (Wenden 1987:7-8; see also Wenden 1991:18; emphasis original). Thus, strategies would seem to be parts or means of a process needed whenever problems in the learning process arise, as shown in Figure 1 on p.16.

2.5 Concepts of second language strategies

Examination of second language strategies research indicates that a myriad of concepts and definitions of strategies have been produced by researchers. No single, generally accepted definition or classification of second language strategies seems to exist. Different researchers have come up with their own definitions and classifications supported by earlier research and their own research. As for terminology, both of the general terms, 'learning strategies' or 'learner strategies', are used in second language literature to mean the means used by the learner to acquire and process new information (Ellis 1985:164). However, also other strategies besides learning strategies are used in the second language learning or interlanguage process. To have an understanding of the different concepts of strategies developed by second language researchers and to help narrow down what is meant by second language strategies, a brief overview of earlier strategies research with related concepts will be attempted below.

Tarone (1980:417-431; emphasis original) uses the term 'learner strategies' as an overall concept, which is divided into three categories:

(1) *Learning strategies*, which are the means by which the learner processes the L2 input to develop linguistic knowledge. They can be conscious and behavioural (for instance, memorization or repetitions with the purpose of remembering), or they can be subconscious or psycholinguistic (for instance, inferencing or overgeneralization).

(2) *Production strategies*, which involve learners' attempts to use the L2 knowledge that they have already acquired efficiently, clearly, and with miminum effort.

(3) *Communication strategies*, which are strategies of use rather than of learning, although they can contribute indirectly to learning by helping the learner obtain more input. These consist of learners' attempts to communicate

meanings for which they lack the requisite linguistic knowledge when, for instance, expressing ideas beyond their linguistic resources. Examples of communication strategies are a request for assistance and paraphrase. They involve improvising with existing L2 knowledge in incorrect and inappropriate ways.

Moreover, Tarone (1981:285-295) defines a learning strategy as "an attempt to develop linguistic and sociolinguistic competence in the target language - to incorporate these into one's interlanguage competence". According to Tarone (1983:67, 72-73), the distinction between learning and other strategies is that the basic motivating force behind learning strategies is not the desire to communicate meaning but the desire to learn the target language.

Later, Tarone et al. (1983:5) proposed that instead of production strategy, they refer to communication strategy, which they defined as "a systematic attempt by the learner to express or decode meaning in the target language, in situations where the appropriate systematic target language rules have not been formed".

As compared to Tarone's sociolinguistic approach to strategies, Faerch and Kasper (1983:31-32) focus on a psycholinguistic approach and regard strategies as "plans or devices that could be used to solve problems in FL communication". Their view of strategies in general is that they are problem-oriented and conscious: "Within a cognitive framework of FL learning and teaching, it seems desirable that learners should be made aware of the communicative problems they might encounter, and of the devices they can use in order to solve them" (Faerch and Kasper 1983:32). Thus, Faerch and Kasper would mainly seem to refer to communication strategies.

Ellis (1985:164-165; emphasis original) uses the term 'learner strategies' as an overall term to relate to "the learner's procedural or strategic knowledge in the process of learning or using the L2". In accordance with the cognitive theory of learning. In line with cognitive and constructive scientists, Ellis points out that the learner has two types of L2 knowledge: *declarative* knowledge ('knowing that'), consisting of internalized L2 rules and memorized chunks of language, and *procedural* knowledge ('knowing how'), consisting of the strategies and procedures employed by the learner to process L2 data for acquisition and for use. Ellis divides procedural knowledge further into *social* and *cognitive* strategies, which again are divided further into learning strategies, used for *learning* the L2, and production/reception and communication strategies, employed for *using* the L2 (see Figure 4 on p.23).

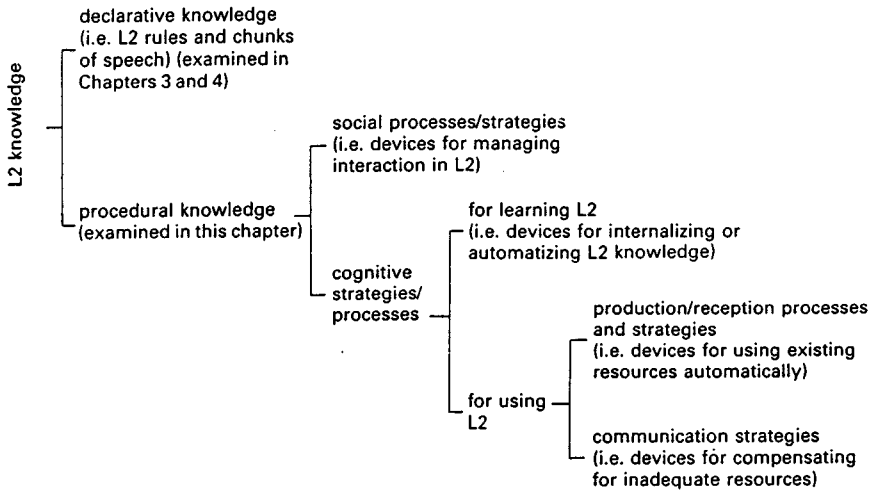

Figure 4. Types of L2 knowledge (from Ellis 1985:165).

Thus, according to Ellis (1985:164), in L2 learning, procedural knowledge consists of the strategies and procedures employed by the learner to process the L2 data for acquisition and for use. The social components comprise the behavioural strategies used by the learner to manage interactional opportunities (ie. the use of the L2 in face-to-face contact or in contact with L2 texts). As an example of the social component, Ellis quotes Fillmore's study (1979) of Spanish-speaking children learning English with native-speaking children. The children sought opportunities for interaction with native speakers and acted as if they had understood what was going on even if they had not really known the L2. Later they gave the impression that they could speak the language by using a few carefully chosen words in interaction. They also relied on their friends for help when having communicative difficulties. As for the cognitive component, it consists of various mental processes involved in internalizing and automatizing new L2 knowledge and in using the L2 knowledge in conjunction with other knowledge sources to communicate in the L2. Both learning and using the L2 are involved in the processes.

Ellis' division seems similar to that presented by Tarone et al. (1983:5). According to Ellis (1985:165), the cognitive process of language use is characterized by both production and reception strategies, which operate when the learner utilizes available resources easily and subconsciously. It is also characterized by communication strategies, which operate when the learner needs to compensate for inadequate means and which, as a result, are likely to involve greater effort and be closer to consciousness. However, Ellis (1985:188) points out that the division of learner strategies into learning, production/reception, and communication strategies may leave room for doubt, for sometimes it is difficult to draw clearcut lines between them. The reason for this is that discovering learner strategies is problematic because they cannot necessarily be observed directly. They can only be inferred from language learning behaviour (Ellis 1985:14).

Another interesting point related to the use and discernibility of strategies is made by Ellis (1985:165; emphasis original) when he says that the learner strategy *types* shown in Figure 4 are common to native speakers as well, not just L2 learners. "What distinguishes learners and native speakers is the frequency with which the same strategies are called upon. Learners will manifest more strategy *tokens*." This could be taken to mean that since learners' strategies are not yet automatized to the same extent as native speakers' strategies, it might be easier to discern them during the learning process. Kellerman (1991:142-161), however, points out that native speakers also show a similar variety of strategy use (in terms of communication strategies), depending on the speakers' linguistic level and especially on the task.

When discussing the individual differences between learners, Dickinson, (1987:20) comes up with the concepts 'cognitive styles', 'cognitive 'strategies', and 'learning strategies'. According to Dickinson, 'cognitive style' describes an individual's overall approach to learning, irrespective of the task, and would thus seem to mean the same as 'learning style'. The term 'cognitive strategy' describes the approach to specific types of task, and 'learning strategy' is concerned with actual acitivities and techniques which lead to learning. Dickinson states that "all learners manifest certain preferred learning strategies, which are particular forms of observable behaviour, more or less consciously employed by the learner" (see Stern 1983:409). In second language learning, also cognitive strategies are needed in connection with specific tasks.

Rubin (1987:19; emphasis original) speaks about 'learner strategies', which she defines as "the behaviors and thought processes that learners use in the *process* of learning ... they include any set of operations, steps, plans, routines used by the learner to facilitate the obtaining, storage, retrieval and use of information, that is, what learners *do* to learn and *do to regulate* their learning". She divides strategies into two main categories, direct and indirect strategies, depending on how they contribute to language learning, and further into three different groups: (1) learning strategies, (2) communication strategies, and (3) social strategies (Rubin 1987:23).

According to Rubin (1987:23-25), learning strategies are strategies which contribute to the development of the language system which the learner constructs and affect learning directly. She divides learning strategies further into metacognitive and cognitive strategies. In an attempt to clarify their meanings, Rubin relied on O'Malley et al. (1983), whose concepts were based on the cognitive theory. Thus, metacognition refers to knowledge about cognitive processes, and regulation of cognition or executive control or self-management through such processes as planning, monitoring and evaluating. Cognitive strategies refer to the steps or operations used in learning or problem-solving that require direct analysis, transformation, or synthesis of learning materials. Cognition consists of those processes or strategies through which an individual obtains knowledge or conceptual understanding. Furthermore, under cognitive learning strategies Rubin identifies six general strategies which may contribute directly to language learning: clarification/verification, guessing/inductive inferencing, deductive reasoning, practice, memorization, and monitoring. The monitoring process appears to be a combination of cognitive and metacognitive strategies (Rubin 1987:25). Rubin illustrates each strategy by giving examples of what the strategies refer to in language learning.

Furthermore, Rubin (1987:26) defines communication strategies as "less directly related to language learning since their main focus is on the process of participating in a conversation (i.e. functional practicing) and getting meaning across or clarifying what the speaker intended". As for social strategies, Rubin (1987:27) regards them as "those activities learners engage in which afford them opportunities to be exposed to and practice their knowledge ... they do not contribute to learning since they merely put the student in an environment where practice is possible". Thus, Rubin concluded that social strategies contribute only indirectly to learning. She also lists a number of other indirect strategies under "creates opportunity for practice". These include: "creates situation with natives in order to verify/test/practice; initiatiates conversation with fellow student/teacher/native speaker; answers to self, questions to other students; spends extra time in language lab; listens to television/radio, attends movies or parties or uses advertisements, reads extra books often first in native language, then in target language; and identifies learning preferences and selects learning situations accordingly" (see Naiman et al. 1978).

Abraham and Vann (1987:97) developed a model of second language learning as a result of their research on the strategy use of two adult language learners, one successful, the other unsuccessful, as related to the background factors, the learners' philosophy of language learning, and the learning environment (Figure 5).

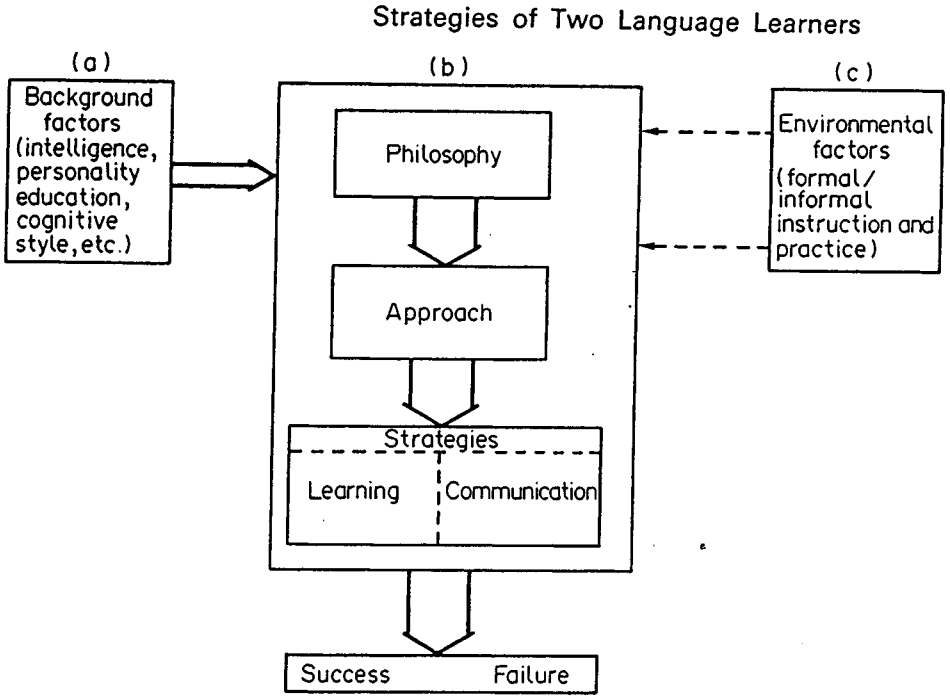

Figure 5. Model of second language learning (from Abraham and Vann 1987:97).

The Abraham and Vann's model would seem to be a good illustration of the two main elements of second language strategies, learning strategies and communication strategies. Abraham and Vann also argue for the importance of background and other variables in combination for the understanding of the strategies used by a particular learner. They used more than one method and context (observed interview and think-aloud tasks) for eliciting strategy use (Abraham and Vann 1987:86). The cognitive and communication strategies were analyzed with the help of a general scheme proposed by Rubin (Rubin 1981 as quoted by Wenden and Rubin 1987:23-25). Based on their experiences, Abraham and Vann (1987:97) suggest that future strategy researchers need to resolve at least the following problems: (1) Tools for systematically assessing background variables are lacking. (2) New tools need to be developed to elicit data on background variables. (3) Classification systems of strategies need further development and stardardization because it is difficult to compare results from studies using different bases for categorizing strategies.

Skehan (1989:73, 83, 94, 98) uses the terms 'language learning strategies' and 'learner strategies' to mean the choices that the learner makes to exert control over the learning process. Skehan (1989:94) reviews earlier strategy research rather critically saying that "it is in its infancy" because it has mainly produced only lists of strategies, and he therefore calls for more longitudinal studies. Similarly to Abraham and Vann, Skehan also calls for looking at different variables, such as age, motivation, or the proficiency level of the learner as possible causal factors for the learner using certain strategies. As for the proficiency level of the learner possibly affecting the choice of strategy, Skehan (1989:97; emphasis original) comes up with an interesting point: "... one of the benefits of higher proficiency may be the capacity to use a wider range of strategies ... learner strategies do not determine proficiency, *but are permitted by it* ".

O'Malley and Chamot (1990) discuss second language strategies in view of a cognitive theory developed by Anderson (1980). Accordingly, O'Malley and Chamot (1990:1) define learning strategies as follows: "Learning strategies are special ways of processing information that enhance comprehension, learning, or retention of the information". As a result of their findings of various strategies elicited through their research, O'Malley and Chamot produced different kinds of lists of learning strategies related to the use of the second language at different tasks. These lists were based on basic classification schemes proposed by earlier researchers, for instance, on the one consisting of cognitive and metacognitive strategies, as presented by Brown and Palincsar (1982), but later O'Malley and Chamot added a third classification consisting of strategies requiring social mediation, which they called social-affective strategies (O'Malley and Chamot 1990:118-120).

Thus, O'Malley and Chamot (1990:44-45; see Cook 1993:113-119) divide learning strategies into three main groups, according to their functions. O'Malley and Chamot state that learning strategies are the means needed by the learner (1) to process the information in the L2 (cognitive strategies), (2) to guide the learning process in view of any difficulties related to the learning and use of the L2 (metacognitive strategies), and (3) to maintain social interaction (social mediation or social/affective strategies). To be more exact, cognitive strategies operate directly on incoming information, manipulating it in ways that

enhance learning while metacognitive strategies are higher order executive skills that may entail planning for, monitoring, or evaluating the success of a learning activity. Social mediation strategies, or social/affective strategies, on the other hand, represent a broad grouping that involves either interaction with another person or ideational control over affect. In language learning, strategies are important for the acquisition and processing of new information, and solution of communication problems.

Furthermore, in broader terms, learning strategies are described by O'Malley and Chamot (1990:43) as follows:

> The broad description of learning strategies may include any of the following: focusing on selected aspects of new information, analyzing and monitoring information during acquisition, organizing or elaborating new information during the encoding process, evaluating the learning when it is completed, or assuring oneself that the learning will be successful as a way to allay anxiety. Thus strategies may have an affective or conceptual basis, and may influence the learning of simple tasks, such as learning vocabulary, or items in a list, or complex tasks, such as language comprehension or language production.

The 'complex tasks' mentioned in the quotation are defined by McLaughlin (1987:135-136) "as characterized by a hierarchical structure consisting of sub-tasks and their components ... some tasks require more attention, others that have been well practised require less.

Oxford (1990:1) defines learning strategies as "steps taken by students to enhance their own learning". She elaborates further by saying that "learning strategies are specific actions taken by the learner to make learning easier, faster, more enjoyable, more self-directed, more effective, and more transferrable to new situations" (Oxford 1990:8). She says that strategies are especially important for language learning because they are tools for active, self-directed involvement, which is essential for developing communicative competence. She points out the relation between communicative competence and strategies:

> All appropriate language learning strategies are oriented toward the broad goal of communicative competence. · Development of communicative competence requires realistic interaction among learners using meaningful, contextualized language. Learning strategies help learners participate actively in such authentic communication. Such strategies operate in both general and specific ways to encourage the development of communicative competence.

Oxford (1990:10-11) states further that "language learning strategies encourage greater self-direction of learners ... students gradually gain greater confidence, involvement, and proficiency in their language learning". Moreover, Oxford says that language learning strategies are used as tools because "there is a problem to solve, a task to accomplish, an objective to meet, or a goal to attain". Many factors affect the choice of strategies: degree of awareness, stage of learning, task requirements, teacher expectations, age, sex, nationality/ethnicity, general learning style, personality traits, motivation level, and purpose for learning the language (Oxford 1990:13).

Oxford (1990:14) came up with a new system for the classification of strategies, which she claimed to be more comprehensive and detailed and more

systematic than earlier systems in linking individual strategies and strategy groups with each of the four language skills (listening, reading, speaking, and writing). As such, Oxford advocates her system to be a good help for language teachers and learners. Moreover, Oxford (1990:16-17; emphasis original), like Skehan above, discusses the difficulties related to learning strategies:

> It is important to remember that *any* current understanding of learning strategies is necessarily in its infancy, and *any* existing system of strategies is only a proposal to be tested through practical classroom use and through research. At this stage in the short history of language learning strategy research, there is no complete agreement on exatly what strategies are; how many strategies exist; how they should be defined, demarcated, and categorized; and whether it is - or ever will be - possible to create a real, scientifically validated hierarchy of strategies.

In Oxford's (1990:14; emphasis added) system, strategies are divided into two major classes, direct and indirect, similarly to Rubin (Rubin 1981 as quoted by O'Malley and Chamot 1990:4). These in turn are subdivided into a total of six groups: memory, cognitive, and compensation strategies under the direct class; and metacognitive, affective, and social strategies under the indirect class (see Figure 6).

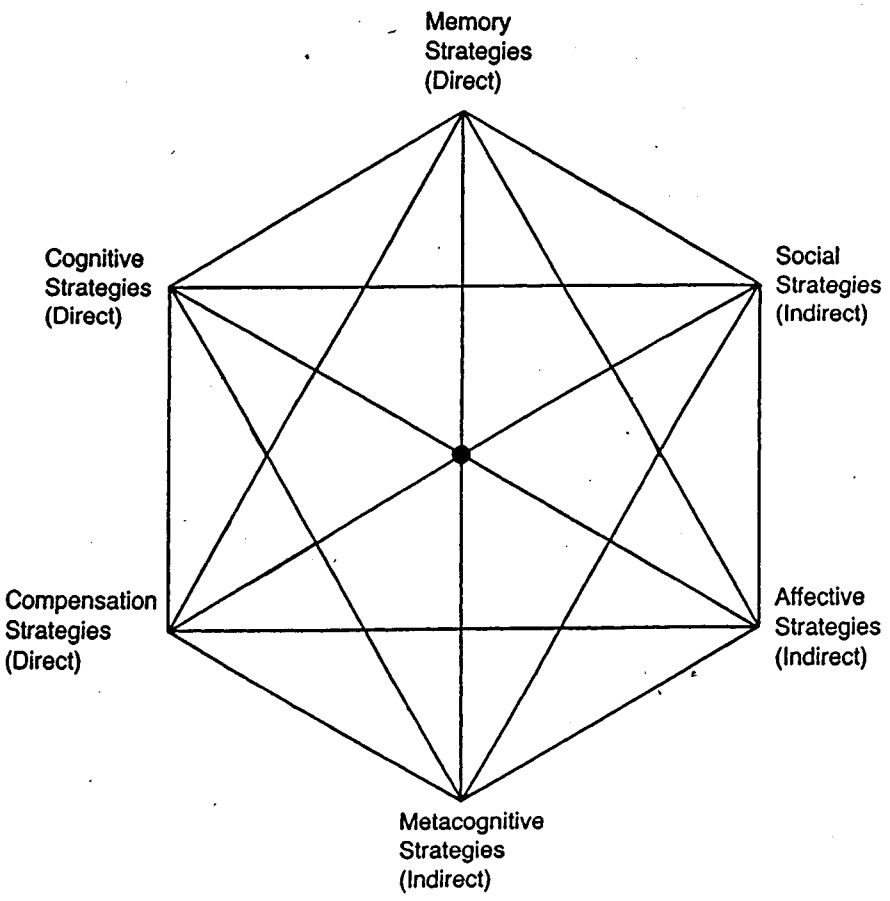

Figure 6. Interrelationships Between Direct and Indirect Strategies and Among the Six Strategy Groups (from Oxford 1990:15).

A more detailed listing of the different strategies under the six main groups is presented in Figure 7 below.

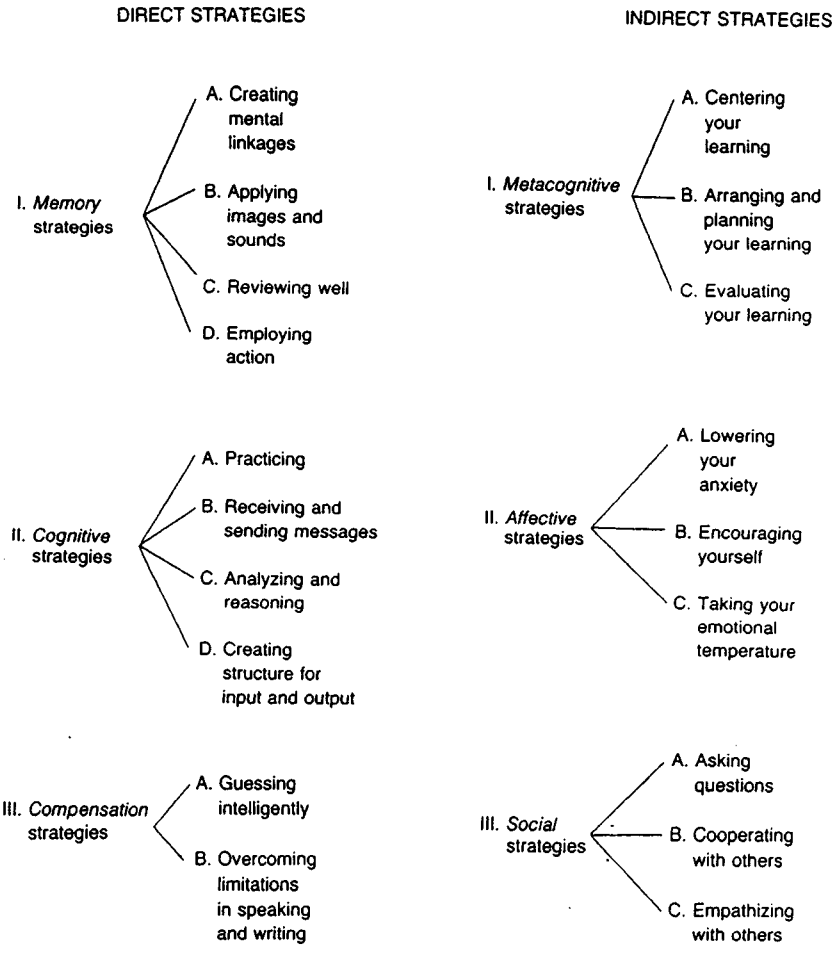

Figure 7. Diagram of the Strategy System Showing Two Classes, Six Groups, and 19 Sets (from Oxford 1990:17).

Comparison of Oxford's system with the earlier systems and concepts of learning strategies shows that it seems to include both learning and other strategies used by second language learners. To support this claim, one of Oxford's six categories, compensation strategies, is defined as "aiding learners in overcoming knowledge gaps and continuing to communicate authentically" (Oxford 1990:9). Thus, compensation strategies would seem to be what other

researchers have called communication strategies, which, according to most researchers, might or might not be learning strategies, as will be discussed later. Moreover, social and affective strategies are also included as learning strategies, as is pointed out by Oxford (1990:22) when she defends her broad system:

> This system provides, albeit in imperfect form, a comprehensive structure for understanding strategies. It includes a wide variety of affective and social strategies which are not often enough considered by strategy researchers, teachers or students. It unites a whole range of compensation strategies, so confusingly separated in other strategy classification schemes. Finally, it organizes well-known metacognitive, cognitive, and memory strategies so that you can access them easily. (Oxford 1990:22.)

Oxford's system has received some criticism. For instance, when referring to Oxford's system, O'Malley and Chamot (1990:103) state that the problem with Oxford's taxonomy of strategies is that "the extended listing is far removed from any underlying cognitive theory, fails to prioritize which strategies are most important to learning, and generates subcategories that appear to overlap". However, according to O'Malley and Chamot, in spite of these shortcomings, when it is necessary to understand strategies and determine what second language strategy might be in question, ie. for classification purposes, Oxford's scheme seems to be the most comprehensive developed so far.

Wenden (1991:18) defines 'learning strategies', or 'learner strategies' as "mental steps or operations that learners use to learn a new language and to regulate their efforts to do so". According to Wenden, they are "one type of learner training content that should be included in plans to promote learner autonomy". Wenden points out that researchers have not been able to agree exactly on what a 'strategy' is. She lists a number of terms from literature used to describe strategies. They are referred to as 'techniques', 'tactics', 'potentially conscious plans', 'consciously employed operations', 'learning skills', 'basic skills', 'functional skills', 'cognitive abilities', 'problem-solving procedures', and 'language learning behaviours'.

Wenden (1991:18-19) distinguishes between two main kinds of learner strategies, cognitive strategies, and self-management strategies, which are distinguished on the basis of their function in learning. Cognitive strategies are defined as "mental steps or operations that learners use to *process* both linguistic and sociolinguistic content", while self-management strategies are used by learners "to *oversee* and *manage* their learning" (Wenden 1991:25; emphasis original). According to Wenden, the latter are referred to in cognitive psychology as metacognitive strategies or regulatory skills (eg. Brown et al. 1983) and in the methodological literature as the skills of self-directed learning (see, for instance, Holec 1979, Dickinson 1987). These skills include planning, monitoring, and evaluating the learning tasks by the learner (Wenden 1991:29). Unlike cognitive strategies, self-management strategies are not task-specific. In learner autonomy training, Wenden emphasizes the significance of metacognitive strategies for effective learning to take place.

According to Wenden (1991:30), the factors that seem to affect the use of strategies are: (1) the subjects' background knowledge about subject matter content and about learning, (2) the nature of the materials to be learned, and (3)

the product or outcome that the learner or teacher has in mind. However, what would seem to receive less emphasis is the affective aspect of strategies stressed by, for instance, O'Malley and Chamot (1990). Instead, Wenden (1991:23) seems to include what she calls "functional practice strategies", and what Rubin and O'Malley and Chamot called social or social/affective strategies respectively, as part of cognitive strategies.

Allwright and Bailey (1991:141-142) look at learning strategies from the perspective of classroom interaction and research and refer to the strategies research as focussing on "what action learners take to try to master the target language". They point out that some types of turns of classroom interaction may be direct evidence of learners' own private efforts to learn. Furthermore, they state that learning strategies have been well documented in recent studies, and quote a list of strategies that are related to classroom participation from a taxonomy of verbal learning strategies developed by Chesterfield and Chesterfiel (1985:49-50) in their observational research on children in bilingual classes.[1] Allwright and Bailey sum up the nature of learning strategies: "All of these strategies, and many more which may or may not have been identified yet, are means that learners seem to employ to help themselves improve their target language proficiency." The statement implies that (1) no one taxonomy of language learning strategies exists, and (2) that strategies are defined by Allwright and Bailey as 'means' that learners use in their interlanguage.

To sum up, according to Richards et al. (1992:355), the term 'strategy' is defined as "procedures used in learning, thinking, etc., which serve as a way of reaching a goal". In second language learning, learning strategies and communication strategies are "those conscious or unconscious processes which language learners make use of in learning and using a language". The term 'strategic competence' is defined by Richards et al. (1992:354) as "an aspect of communicative competence which describes the ability of speakers to use verbal and non-verbal communication strategies to compensate for breakdown in communication or to improve the effectiveness of communication". Using a paraphrase or circumlocution is one example. Strategic competence also includes the use of metacognitive strategies. According to Richards et al. (1992:227), metacognitive strategies involve thinking about the mental processes used in the learning process, monitoring learning while it is taking place, and evaluating it after it has occurred. In learning a new language, metacognitive strategies may include (1) planning how to remember new words, (2) deciding on the approaches that seem to be the most effective at working out grammatical rules, and (3) evaluating the learner's own progress and making decisions about what to concentrate on in the future.

Sharwood Smith (1994:12) is of the opinion that the exact meanings of the term 'strategy' are difficult to ascertain. He mentions 'learning strategies' and 'communication strategies', which students are often said to adopt when they have to cope with handling non-native languages. According to Sharwood Smith, strategies have to do with 'how to learn X', ie. the L2, or 'how to communicate X', and the term 'strategy', as used in the literature, should be

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[1] Nine strategies are listed: 1 Repetition, 2 Use of formulaic expressions, 3 Verbal attention getter, 4 Answer in unison, 5 Elaboration, 6 Anticipatory answer, 7 Appeal for assistance, 8 Request for clarification, 9 Role play. (Chesterfield and Chesterfield 1985:49-50 as quoted by Allwright and Bailey 1991:142.)

understood as "a systematic approach to a task". Furthermore, according to Sharwood Smith (1994:12; emphasis original), in second language learning, "a strategy can be used to facilitate either *acquisition* or *communication* at a given moment in time". Communication would also include the social aspect of language.

Thus, in the light of the literature reviewed above it seems that there are at least two main groups of strategies related to second language acquisition and use:

(1) learning or learner strategies and

(2) communication strategies or compensation strategies

Learning strategies are usually divided into cognitive and metacognitive strategies, with the addition of social or social-affective strategies by most researchers. To find out the relation or difference between learning strategies and communication strategies, literature focussing on communication strategies was looked at.

2.6 Communication strategies

As discussed above, besides language learning strategies, the other large vein of second language strategies is communication strategies. The term 'communication strategy' was coined by Selinker (1972), according to Corder (1978:7) and Ellis (1985:180). Tarone et al. (1976:76-90) define communication strategies as "a systematic attempt by the learner to express or decode meaning in the target language, in situations where the appropriate systematic target language rules have not been formed".

Corder (1978:8) defines communication strategies as follows: "A working definition of communicative strategies is that they are a systematic technique employed by a speaker to express his meaning when faced with some difficulty. Difficulty in this definition is taken to refer uniquely to the speaker's inadequate command of the language used in the interaction." Furthermore, according to Corder, it is sometimes difficult to distinguish between learning strategies and communication strategies because a learner may borrow, for instance, a mother tongue term and use it in his/her interlanguage for the immediate purpose of communicating. However, if the term becomes part of the speaker's interlanguage repertoire, it could be regarded as 'learning'. To avoid the confusion, Corder (1978:9) points out that "strategies of communication are essentially to do with the relationship between ends and means". Accordingly, a division of communication strategies into reduction-type behaviour or risk-avoiding strategies and achievement-type behaviour or resource expansion strategies, which are success-oriented though risk-running strategies, was made by Corder. For potential learning to take place, risk-taking strategies should be used by the learner because successful strategies of communication may eventually lead to language learning. Thus, the most important thing for the learner would seem to be 'not to give up' in a problem situation. Corder (1978:11) also points out the evidence of a personality factor involved: different learners resort to favourite strategies - some are determined risk-takers, others

value social factors of interaction above the communication of ideas. This would seem to refer to the close relationship of strategies to learning or cognitive styles.

Tarone (1981:285-295) also points out the possible overlap of learning strategies and communication strategies. Like Corder, Tarone is of the opinion that what distinguishes the two is the motivation underlying the use of the strategy. Tarone emphasizes the interactive nature of communication strategies. According to her, the function of communication strategies seems to be primarily to negotiate an agreement on meaning between two interlocutors. Her definition of a communication strategy is that "it is a mutual attempt of two interlocutors to agree on a meaning in situations where requisite meaning structures do no seem to be shared". Thus communication strategies are attempts to bridge the gap between the linguistic knowledge of the second-language learner and the linguistic knowledge of the target language interlocutor in real communication situations. As ways of bridging the gap, Tarone and Yule (1989:111-112) mention approximation, mime, literal translation from the native language, and circumlocution. Furthermore, message abandonment and topic avoidance may be used where the gap is viewed as unbridgeable.

Faerch and Kasper (1983:36) define communication strategies as "potentially conscious plans for solving what to an individual presents itself as a problem in reaching a particular communicative goal". Thus, their approach to communication strategies is more psycholinguistic - they regard them as psychological processes - as opposed to Tarone's sociolinguistic approach, which considers strategies in terms of social interaction (Cook 1993:120). According to Faerch and Kasper (1983:36-37; emphasis original), "learners have two possible strategies in general for solving communication problems: *avoidance behaviour or reduction strategies*, in which they avoid the problem, and *achievement strategies*, through which they find an alternative solution". Furthermore, to have a potential learning effect, communication strategies should be governed by achievement, rather than avoidance, behaviour" (Faerch and Kasper 1983:54). Reduction strategies include 'formal reduction strategies' at one of the three levels of phonology, morphology or grammar, and 'functional reduction strategies' at the 'actional', 'propositional', or 'modal' level by, for instance, abandoning a topic (Faerch and Kasper 1983:38-44, Cook 1993:124). As achievement strategies, which Faerch and Kasper (1983:46-53; emphasis original) also call *compensatory strategies* because they are aimed at solving problems in the planning phase due to insufficient linguistic resources, they mention codeswitching or language switch, interlingual transfer, which result in a combination of linguistic features from the IL and the L1 (or other languages different from the L2 in question), IL based strategies (generalization, paraphrase, coining new words, restructuring), and using non-linguistic strategies such as mime, gesture, and sound-imitation, either to communicate the meaning or to reinforce verbal communication. Different kinds of *retrieval* strategies to call an expression from memory are also used as achievement strategies: waiting for the term to appear, appealing to formal similarity, retrieval via semantic fields, searching via other languages, retrieval from learning situations, and sensory procedures. Moreover, *cooperative* strategies such as asking the other person for the term could be used to achieve

communication. In addition to *productive* achievement strategies, Faerch and Kasper (1983:54) also mention *receptive* communication strategies, or inferencing, which means that the learner might use his prior L1, IL or contextual knowledge to understand L2 items which are not yet part of the learner's IL system. As for the distinction between learning strategies and communication strategies, Faerch and Kasper (1983:21; emphasis original) point out that "observing a distinction between the communication and the learning aspects of FL communication is not easy when *analyzing* FL performance data".

Likewise, Bialystok (1983:101-102) criticizes the making of a difference between learning strategies and communication strategies at all. She suggests that a distinction between the two, if any, should be made in terms of the learner's degree of control over the exercise of the strategy. According to Bialystok, learning strategies are related to the extent that the strategies are based on a feature of the learner, communication strategies are based on a feature of the language. Both may be accompanied by varying degrees of learner control. Bialystok says that communication strategies are revealed through linguistic analyses of the learner's interlanguage. In Bialystok's view, rather than draw a clear line between learning strategies and communication strategies and classify them, it is more important to look pragmatically at what learners will do to communicate, given a situation; in other words, what strategy learners will select and how successful it will be in achieving the desired goal. Bialystok thinks that any strategy may potentially operate as either a learning or a communication strategy: ideally the implementation of a strategy leaves a positive mark on both learning and communication. Bialystok defines communication strategies as "all attempts to manipulate a limited linguistic system in order to promote communication". Bialystok (1990:35) also says that "communication strategies overcome obstacles to communication by providing the speaker with an alternative form of expression for the intended meaning".

According to Ellis (1985:181), communication strategies are said to be potentially conscious and problem-oriented. Their problem-orientedness means that the learner might use them when he lacks, or cannot gain access to, the linguistic resources required to express an intended meaning. As compared to learning strategies, the problem arises as a result of attempts to perform in the L2, and the strategies are needed to meet a pressing communicative need. Communication strategies are thus regarded as part of communicative competence, defined by Canale and Swain (1980:1-47) as "how to cope in an authentic communicative situation and how to keep the communicative channel open". Ellis (1985:182) concludes: "Communication strategies are psycholinguistic plans which exist as part of the language user's communicative competence. They are potentially conscious and serve as substitutes for production plans which the learner is unable to implement."

Furthermore, Ellis (1985:182-183) states that there is no generally agreed typology of communication strategies. Similarly to Faerch and Kasper and Bialystok, he points out that it may be difficult to identify communication strategies in the data unless introspective research techniques are used and the speech data properly analyzed.

Other points of interest brought up by Ellis (1985:186) about the use of communication strategies are:

(1) The proficiency level of the learner influences his choice of strategy (reduction oriented vs. achievement oriented).

(2) It might be that strategy choice is influenced by the specific nature of the problem.

(3) Personality factors may correlate highly with strategy preference.

(4) It would seem that learners' use of communication strategies is affected by the situation of use. For instance, in a classroom environment fewer strategies are used than in a natural environment. The situation may also influence the type of strategy used.

Ellis's (1985:165) diagram (see Figure 4, p.23) illustrates well any difference between learning strategies in the L2 and the strategies needed for using the L2 knowledge. As pointed out above, Ellis divides the latter into production and reception strategies and also communication strategies. Thus, communication strategies are used when the speaker is not able to communicate his/her original communicative goal in the way he planned to, and so is forced to reduce the goal or to locate alternative means to express it. Therefore, communication strategies are the result of a failure to implement a production plan and are needed to compensate for inadequate linguistic means. They are likely to involve greater effort and to be closer to consciousness than cognitive strategies. Ellis (1985:188) concludes that it is doubtful whether learner strategies can be divided into learning, production, and communication strategies as neatly as suggested by him. According to him, researchers differ in the frameworks they provide because identifying and classifying the psycholinguistic events that underlie learning and use are problematic.

Rubin (1987:25-26) says that communication strategies are less directly related to language learning since their main focus is on the process of participating in a conversation (ie. functional practising) and getting meaning across or clarifying what the speaker intended. Communication strategies are used by speakers when faced with some difficulty due to the fact that their communication ends outrun their communication means or when confronted with misunderstanding by a co-speaker. Rubin also states that the relationship of communication strategies to learning strategies is not always so clear since in the process of clarifying meaning, learners may uncover new information which they then store in their language system. The purpose of their use is better communication although it may lead to learning too. From the point of view of the learning process, communication strategies are very important because they allow the learner to remain in the conversation. To remain in the conversation, learners must (1) find ways to continue producing the target language despite limitations, (2) recognize when their production has not been properly interpreted, and (3) indicate their reception of the speaker's intentions.

Similarly to the above views of any possible difference between language learning strategies and communication strategies, O'Malley and Chamot (1990:10) also state that communication strategies can be distinguished from learning strategies by the intent of the strategy use. "Learning strategies have

learning as a goal and communication strategies are directed toward maintaining communication." This could be a good way to help define when a strategy might be a 'learning strategy', ie. used to solve problems in learning the L2. With high proficiency learners, however, fewer actual learning strategies might come up because learners' strategies might already be automatized.

As pointed out earlier, Oxford (1990:9) uses the term 'compensation strategies' to mean the same as communication strategies. In her opinion, researchers have used the term 'communication strategies' in a very restricted sense, mainly in the speaking situation (Oxford 1990:243). However, like most of the other researchers, she also says that it is often impossible to determine whether the learner intends to use a given strategy to communicate or to learn; often the motivations are mixed, and besides, learning often results even if communication is the main goal. Thus, to avoid what she calls "the false split" between communication strategies and learning strategies and "a narrow interpretation of communication strategies", Oxford uses the term 'compensation strategies' instead.

Oxford (1990:243; emphasis original) argues that compensation strategies are the heart of *strategic competence*. According to her, they help learners overcome knowledge gaps and continue to communicate authentically. In other words, "they enable the learners to use the new language for either comprehension or production despite limitations in knowledge" (Oxford 1990:47). Oxford (1990:90-91) points out that compensation strategies are mostly used by beginners and intermediate learners, but more expert language learners may also use them if they do not occasionally know an expression, fail to hear something clearly, or are faced with a situation in which the meaning is only implicit or intentionally vague. Oxford (1990:47-51) lists ten compensation strategies clustered into two groups: (1) guessing intelligently (using linguistic and other cues), and (2) overcoming limitations in speaking and writing (using switching to the mother tongue, getting help, using mime or gesture, avoiding communication partially or totally, selecting the topic, adjusting or approximating the message, coining new words, and using a circumlocution or synonym). To sum up, Oxford (1990:22) postulates that the list "unites the whole range of compensation strategies so confusingly separated in other strategy classification schemes".

According to Richards et al. (1992:64-65), a communication strategy is "a way used to express a meaning in a second or foreign language, by a learner who has a limited command of the language. In trying to communicate, a learner may have to make up for a lack of knowledge of grammar or vocabulary". As examples, Richards et al. mention the use of paraphrase or other communication strategies (for instance, gesture and mime).

Finally, Cook (1993:119) describes communication strategies aptly as "a spare tyre for emergencies when the learner has difficulty with communicating in an L2".

To conclude, as discussed above, communication strategies, also called compensation strategies, are an essential element of strategic competence in the IL in situations where the learner lacks the necessary target language means. Communication strategies are mostly used for production and for comprehension, but may also be used for learning the L2.

2.7 The "good language learner"

According to strategies research, learners with different proficiency levels tend to use different kinds of strategies. The 'novice/expert' concept has been used to denote the characteristics and the mental processes of different kinds of learners (see Rubin 1975, Anderson 1980:285). According to Sternberg (1981:1-16), a major difference between experts and novices is the way their knowledge is organized. Bereiter and Scardamalia (1986:10-19) point out that experts organize their knowledge in a coherent way and they possess multilevel knowledge structures. Furthermore, Brierley (1987) states that knowledge is more likely to be easily recalled when it is structured meaningfully. As for L2 learning, according to O'Malley (1987:133), research and theory in second language learning strongly suggest that good language learners use a variety of strategies to assist them in gaining command over new language skills. Kristiansen (1992:63) also points out that factors connected to expert/novice learning must be closely related to learning strategies. McLaughlin (1990 as quoted by Kristiansen 1992:63-64) concludes that "the ability to exert flexible control over linguistic representations and to shift strategies may result from 'learning to learn' ... experts seem to be aware of how they learn best". McLaughlin points out further that "they have learnt and routinized complex skills which have become automatic".

The strategies used by the "good language learners" have been studied by several researchers (Rubin 1975, Stern 1975, and Naiman et al. 1978; see also Dickinson 1987, O'Malley 1987). In fact, second language strategy research started with this focus of trying to find out what kinds of strategies good language learners used as compared to poor language learners. According to Rubin (1975:41-51), good language learning is said to depend on at least three variables: (1) aptitude, (2) motivation, and (3) seeking opportunities to practise the L2. As for motivation, integrative or intrinsic motivation correlates more with successful language learning. What distinguishes the poorer and the good learners is that the good language learner has or creates all the above three elements.

By observing different kinds of language learners, including herself, and by talking to teachers and good language learners, Rubin discovered that good language learners used some general strategies. These included, among other things:

(1) The good language learner is a willing and accurate guesser who gathers and stores information in an efficient way using all the clues which the setting offers him/ her, ie. uses inferencing. The good language learner is also comfortable with uncertainty. A wrong guess does not disturb him/her, but is quickly corrected from the subsequent context.

(2) The good language learner has a strong drive or motivation to communicate, or to learn from communication. To get his/her message across, the good language learner uses circumlocution or paraphrase, gestures, codeswitching, or whatever knowledge he/she has to communicate the meaning. Thus, the good language learner uses communication strategies "fluently".

(3) The good language learner is often not inhibited. He/she can appear foolish if reasonable communication results. He/she is also willing to make mistakes to learn and to communicate. The good language learner can live with a certain amount of vagueness, or anxiety.

(4) The good language learner is prepared to attend to form. He/she is constantly looking for patterns in the language analyzing, categorizing, and synthesizing, when trying to distinguish relevant from irrelevant clues. Looking for the interaction or relation of elements is also typical. Thus, the good language learner uses his/her mental abilities and cognitive strategies.

(5) The good language learner practises pronouncing words and making up sentences. In other words, he/she uses rehearsal and elaboration strategies.

(6) The good language learner monitors his/her own and the speech of others and is an active participant in the learning process. Thus, he/she uses metacognitive strategies.

(7) The good language learner attends to meaning, ie. the context of the speech act, to the relationship of the participants, to the rules of speaking, and to the mood of the speech act. Language is seen as a way to serve many functions, and the good language learner looks for ways to convey these functions. The social dimensions are important.

However, Rubin points out that the strategies of even successful learners will vary with the task, the learning stage, the age of the learners, the context, the individual styles, and cultural differences.

Similarly to Rubin's findings, Omaggio (1978 as quoted by Wenden 1991:41-42) discovered that successful language learners had insight into their own language learning styles and preferences as well as the nature of the task itself. Among other things, they took an active approach to the learning task, they were willing to take risks, and they were good guessers. They were prepared to attend to form as well as to content, and they actively attempted to develop the target language into a separate reference system and try to think in the target language as soon as possible.

Naiman et al. (1978 as quoted by O'Malley and Chamot 1990:5-6) found that there were five primary strategies that all the thirty-four good language learners interviewed used. They were: (1) an active task approach, (2) realization of language as a system, (3) realization of language as a means of communication and interaction, (4) management of affective demands, (5) monitoring of second language performance. Naiman et al. also identified what they called 'techniques' for second language learning. The 'techniques' focussed on specific aspects of language learning related to such things as sound acquisition, grammar, vocabulary acquisition and use, listening comprehension, learning to talk, learning to write, and learning to read. Various such 'techniques' are listed under these headings. In the present writer's opinion, the concept of 'primary strategies' used by Naiman et al. would seem to be closer to the concept of 'communicative competence', including grammatical competence, sociolinguistic competence, discourse competence, and strategic

competence (Canale and Swain 1980; see Oxford 1990:7), than that of strategies, in the modern sense of the word. The concept of 'techniques' would seem to come closer to the modern concept of strategies, as judged by the examples given by Naiman et al. of the various 'techniques'. Thus, good language learners do not only have good strategic competence but good overall communicative competence.

Nunan (1989:48) investigated forty-four good language learners, who had learnt their English in Southeast Asian countries and attained bilingual competency, to find out about their language learning experiences and strategies. Like Rubin, Nunan concluded that the most noticeable characteristics of the good learners were motivation, a preparedness to take risks, and the determination to apply their developing language skills outside the classroom. In the learners' opinion, classroom learning was not enough. As for classroom learning, the importance of communicative tasks and affective factors was found to be significant.

According to O'Malley and Chamot (1990:2), earlier strategy research in the L2 suggested that competent individuals were effective because of special ways of processing information. The special ways could also be learnt by others who had not discovered them on their own. A foreign language descriptive study which was carried out by O'Malley and Chamot (1990:123-128) on the use of learning strategies by sixty-seven high school Spanish students and thirty-four college Russian students at different levels of language proficiency focussing on seven typical language learning activities in the classroom and two nonclassroom activities showed that students who knew how to use different kinds of learning strategies learnt more effectively and were able to transfer their learning into solving new problems. More effective students used learning strategies more often and had a wider repertoire of learning strategies than did less effective students. The learners used far more cognitive strategies than metacognitive strategies. Intermediate and advanced level students reported on using more strategies than did beginning level students. More advanced students relied more on inferencing, without abandoning familiar strategies such as repetition and translation.

A four-semester longitudinal study carried out by O'Malley and Chamot (1990:140) with the same FL students as mentioned above also revealed that, in general, more effective students used a greater variety of strategies and used them in ways that helped students complete language tasks successfully. As compared to novice learners, who sometimes panicked when they realized that they lacked the necessary procedural skills for solving language problems, expert learners approached new language tasks calmly and were able to use procedural skills developed in other language learning situations. Less effective students had fewer strategy types and frequently used strategies that were inappropriate to the task or that did not lead to successful task completion. The qualitative analyses showed that effective FL students were purposeful in their approach to task, monitored their comprehension and production for overall meaningfulness rather than only for individual components, and effectively used their prior general knowledge as well as their linguistic knowledge while working on a task. Students' motivation for learning and studying the language emerged as a primary influence. Effective students were highly motivated,

although they showed variations in motivational level. Thus, the findings by O'Malley and Chamot were very similar to the findings by Rubin.

As a result of their findings, O'Malley and Chamot (1990:148) concluded that different strategies may be used, depending on the students' level of proficiency. The beginning level students used transfer more while intermediate and advanced learners used it somewhat less. Instead, they used inferencing or elaboration and inferencing together. Thus, they relied upon information from the text to predict or guess at meaning. Moreover, O'Malley and Chamot (1990:149) noted that effective language learners reorganized their approach to the problem and applied a variety of strategies, depending on the task demands. More effective language learners also seem to know when and how to call up information that is related to the text to analyze the intended meaning. Thus, they have better retrieval of information important for learning. This, according to O'Malley and Chamot, would seem to mean that experts have better-organized long-term memory structures for their area of expertise. Thus, according to O'Malley and Chamot, "the availability of domain-specific knowledge would seem to point at a clear advantage in being able to use elaborative and inferencing strategies to detect meaning".

Similarly, Oxford (1990:13) says that learners who are more aware of different aspects affecting the choice of strategies and more advanced seem to use better strategies. More highly motivated learners also use a significantly greater range of appropriate strategies than do less motivated learners. Motivation is closely related to the purpose of learning the L2, which thus affects the choice and range of strategies.

According to Huttunen (1990:52), results from studies in the Finnish school context seem to point to the direction that learners who resort to all the four areas of strategies (ie. intake, memory, storage and recall) are successful language learners. According to Huttunen, good language learners also emphasize the functional use of language (see Figure 2 on p.18). Moreover, poor learners can use only a few strategies and they emphasize the conscious use of rules. Many of these learners do not have functional aims for their use of the FL, at least in some Finnish contexts.

To contradict the above findings, Cohen (1990:15) argues that there is no such thing as the most effective strategies for language learning. In his opinion, learners differ notably both in the strategies that they can use effectively in language learning and in the ways that they make effective use of a given strategy in a given instance.

> The view that strategies are inherently good for all learners or that their use would produce successful results for the same learners each time has been found to be simplistic. Rather, it is important to lay out a series of options and to let the particular learner choose according to taste and results from using a given strategy.

Cohen's remark would seem to point at the significance of the context and of individual learner characteristics in the learning situation. Providing options for learners' strategy use seems to be essential, in Cohen's opinion.

Wenden (1991:31) concludes that research has shown that active and successful language learners use self-management strategies, ie. metacognitive strategies. Furthermore, according to Wenden, the research by Brown et al.

(1983 as quoted by Wenden 1991:30) suggested that there were a variety of factors that determined the strategy use by more mature users of the L2 for academic literacy, especially:

- the subjects' background knowledge about subject matter content and about learning
- the nature of the materials to be learned
- the product or outcome that the learner or teacher has in mind.

These findings are similar to the findings by O'Malley and Chamot (1990:140), based on their longitudinal study. O'Malley and Chamot also list factors such as programme objectives, prior foreign language study, task demands, and student motivation.

Similarly, in general educational terms, Kauppi (1997) defined what a "good" or an "appropriate" strategy would seem to depend on:

(1) A strategy is "good" if it meets the requirements of the learning environment.

(2) A "good" strategy helps the learner develop his/her thinking in relation to the learning environment.

(3) Whether a strategy can be regarded as "good" depends on the task and its objectives.

As a result, according to Kauppi, it might be difficult to measure how "good" or "successful" or "effective" a strategy is by using any strategy inventory. Instead, each strategy would have to be judged against the learning context, bearing the above three factors in mind. The learning context would seem to determine - and reveal - what strategies the learner uses and how successfully.

2.8 Taxonomies of second language strategies

Different kinds of strategy typologies or classifications, often referred to as taxonomies, have been developed by researchers (see, for instance, Rubin 1975, Stern 1975, Naiman et al. 1978, O'Malley and Chamot 1990, Oxford 1991). These typologies, many of them originally derived from cognitive research (see Weinstein and Mayer 1986:315-327), are ways of classifying second language strategies. No classification is paramount. Rather, the classifications are the results of the findings by different researchers, as grouped by them, and can be modified according to need. Therefore, Oxford (1990:239) avoids using the term 'taxonomy' in connection with strategies because, in her opinion, "it implies a clear set of hierarchical relationships". Furthermore, she says that classification conflicts are inevitable (Oxford 1991:17). She also states that even individual researchers may classify a particular strategy differently at different times, in the light of new insights (Oxford 1991:22).

Three classifications, those developed by Rubin, O'Malley and Chamot, and Oxford respectively, seem to represent the major development in second language strategy classification. Each classification is a system of its own, but

draws on the findings of earlier research. Rubin (1981:117-131; emphasis added) proposed a classification scheme of strategies which *directly* affect learning (clarification/verification, monitoring, memorization, guessing/inductive reasoning, deductive reasoning, and practice), and strategies that contribute *indirectly* to learning (creating practice opportunities, and using production tricks such as communication strategies). See Table 1.

Table 1. Classifications of learning strategies in second language acquisition. (from Rubin 1981 as quoted by O'Malley and Chamot 1990:4.)

Author	*Primary strategy classification*	*Representative secondary strategies*	*Representative examples*
Rubin (1981)	Strategies that directly affect learning	Clarification/verification	Asks for an example of how to use a word or expression, repeats words to confirm understanding
		Monitoring	Corrects errors in own/other's pronunciation, vocabulary, spelling, grammar, style
		Memorization	Takes note of new items, pronounces out loud, finds a mnemonic, writes items repeatedly
		Guessing/inductive inferencing	Guesses meaning from key words, structures, pictures, context, etc.
		Deductive reasoning	Compares native/other language to target language
			Groups words
			Looks for rules of co-occurrence
		Practice	Experiments with new sounds
			Repeats sentences until pronounced easily
			Listens carefully and tries to imitate
	Processes that contribute indirectly to learning	Creates opportunities for practice	Creates situation with native speaker
			Initiates conversation with fellow students
			Spends time in language lab, listening to TV, etc.
		Production tricks	Uses circumlocutions, synonyms, or cognates
			Uses formulaic interaction
			Contextualizes to clarify meaning

Based on the classification scheme proposed by Brown and Palincsar (1982) consisting of metacognitive and cognitive strategies and on the earlier ESL studies by O'Malley et al. (1985:21-46), O'Malley and Chamot (1990:125; emphasis added) developed a three-category division of learning strategies into *metacognitive, cognitive* and *social-affective strategies* as a result of their ESL studies. The same classification of learning strategies had also been used by cognitive scientists, Weinstein and Mayer (1976:315-327). The reason for O'Malley and Chamot developing their classification was that there had been no consensus on the definition and classification of strategies, and there continued to be persistent confusion over the distinction between learning strategies and other types of strategies applied more to language use, such as communication and production strategies (O'Malley and Chamot 1990:115). Skehan (1989:139) regards the threefold division by O'Malley and Chamot as the most useful classification of strategies. He points out that as higher-order and more general strategies, metacognitive strategies serve to give direction to other strategies, mainly cognitive strategies, which are specific and task-oriented. However, in Skehan's opinion, in the O'Malley et al. (1985) model, social strategies were not very well developed, but by extending the model to incorporate interaction with native speakers as a potential part of learning and also to cover informal learning situations, the model could bring about considerable systematicity to future strategy research. Later, O'Malley and Chamot modified the lists of strategies within their scheme as a result of further studies. Strategies not reported by students were eliminated and additional strategies reported were added, resulting in the augmented lists of strategies (O'Malley and Chamot 1990:125). One such list, the list of strategies developed through their Cognitive Academic Language Learning Approach (CALLA) seems to be illustrative of the O'Malley and Chamot interpretation of second language strategies (mainly language learning strategies), placed under the three main categories, metacognitive, cognitive, and social and affective strategies (see Table 2):

Table 2. Learning strategies taught in the Cognitive Academic Language Learning Approach (CALLA). (from O'Malley and Chamot 1990:198-199.)

Metacognitive strategies	
Advance organization	Previewing the main ideas and concepts of the material to be learned, often by skimming the text for the organizing principle.
Advance preparation	Rehearsing the language needed for an oral or written task.
Organizational planning	Planning the parts, sequence, and main ideas to be expressed orally or in writing.
Selective attention	Attending to or scanning key words, phrases, linguistic markers, sentences, or types of information.
Self-monitoring	Checking one's comprehension during listening or reading, or checking one's oral or written production while it is taking place.
Self-evaluation	Judging how well one has accomplished a learning task.
Self-management	Seeking or arranging the conditions that help one learn, such as finding opportunities for additional language or content input and practice.

Table 2. (continued)

Cognitive strategies	
Resourcing	Using reference materials such as dictionaries, encyclopedias, or textbooks.
Grouping	Classifying words, terminology, numbers, or concepts according to their attributes.
Note taking	Writing down key words and concepts in abbreviated verbal, graphic, or numerical form.
Summarizing	Making a mental or written summary of information gained through listening or reading.
Deduction	Applying rules to understand or produce language or solve problems.
Imagery	Using visual images (either mental or actual) to understand and remember new information or to make a mental representation of a problem.
Auditory representation	Playing in back of one's mind the sound of a word, phrase, or fact in order to assist comprehension and recall.
Elaboration	Relating new information to prior knowledge, relating different parts of new information to each other, or making meaningful personal associations with the new information.
Transfer	Using what is already known about language to assist comprehension or production.
Inferencing	Using information in the text to guess meanings of new items, predict outcomes, or complete missing parts.
Social and affective strategies	
Questioning for clarification	Eliciting from a teacher or peer additional explanation, rephrasing, examples, or verification.
Cooperation	Working together with peers to solve a problem, pool information, check a learning task, or get feedback on oral or written performance.
Self-talk	Reducing anxiety by using mental techniques that make one feel competent to do the learning task.

Oxford (1990:14, 239; emphasis added) tried to combine the existing information on various second language strategies in her development of a classification of sixty-four different second language strategies divided into six different strategy categories, three of which represent what she calls *direct* and three *indirect* strategies (see Figure 8).

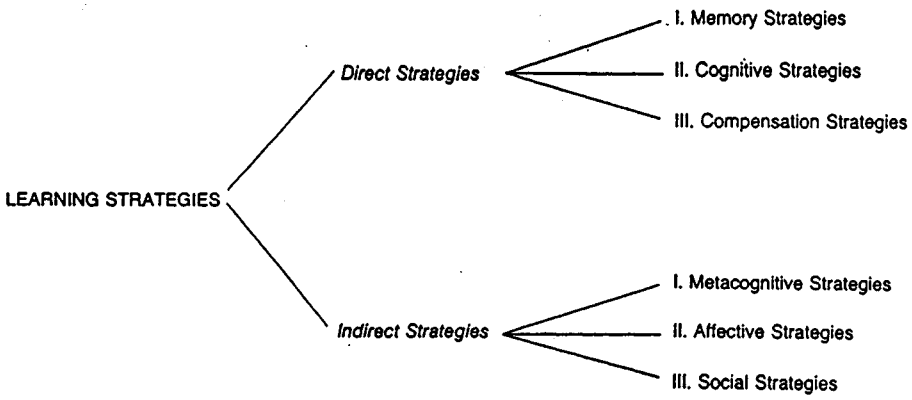


Figure 8. Diagram of the strategy system: Overview. (from Oxford 1990:16.)

In Oxford's system, the individual strategies are as follows (Table2):

Table 3. Diagram of Strategy System Showing All the Strategies. (from Oxford 1990:18-21.)

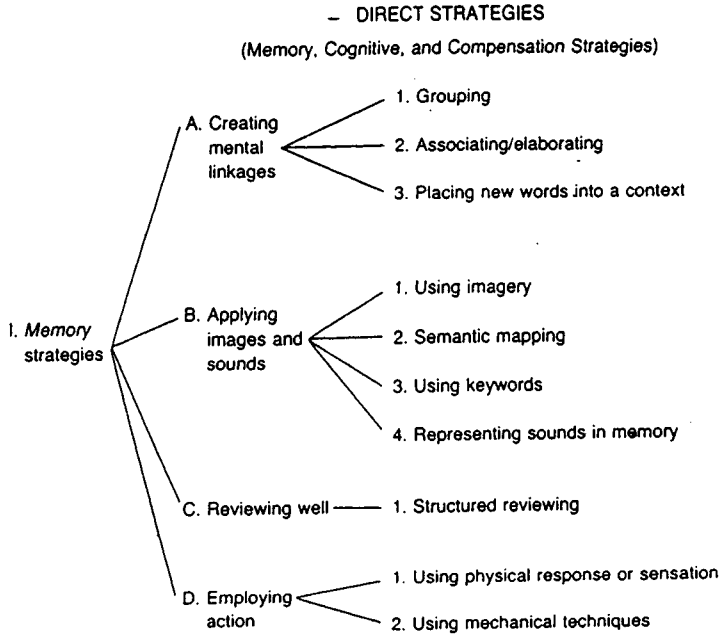


Table 3. (continued)

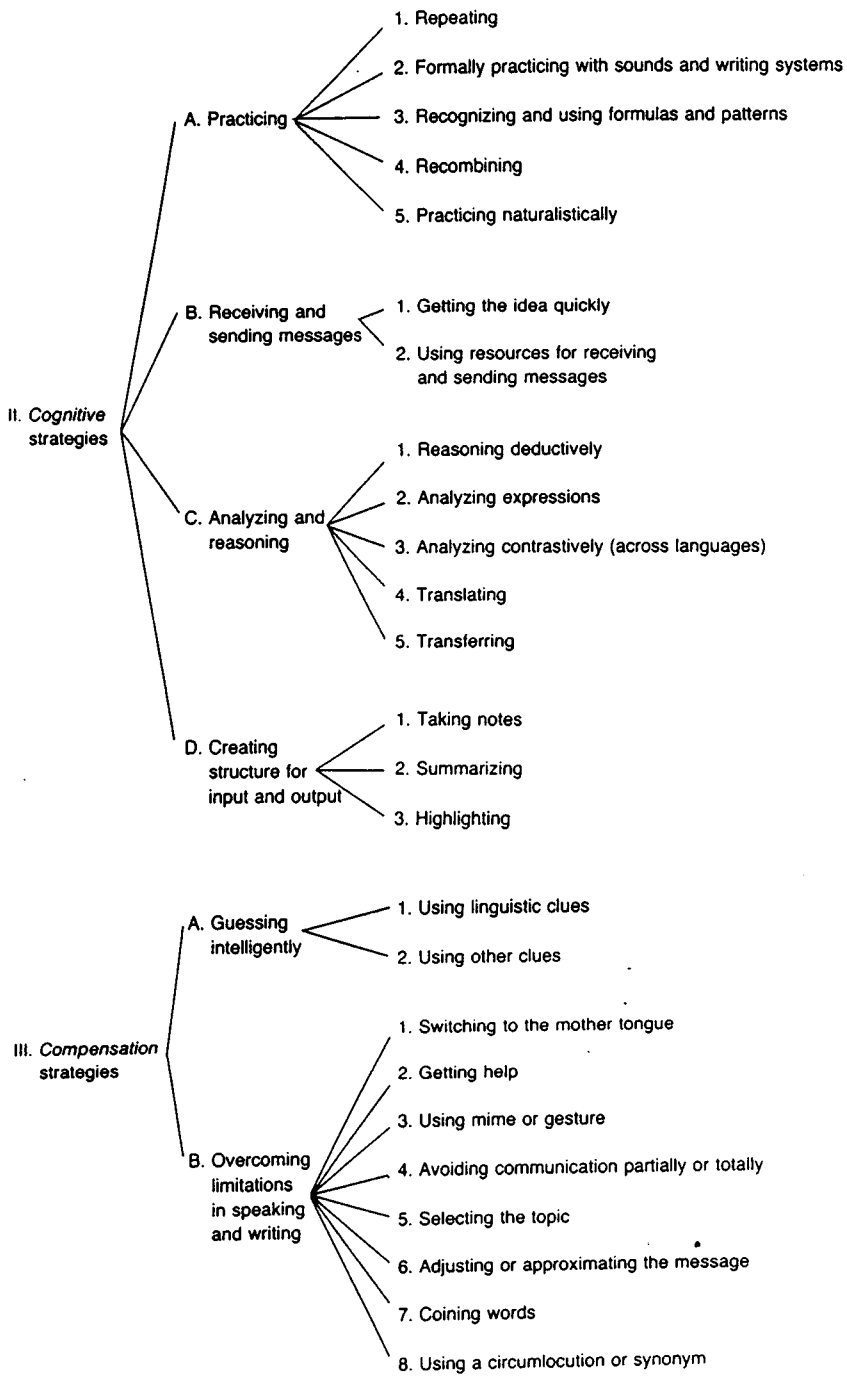
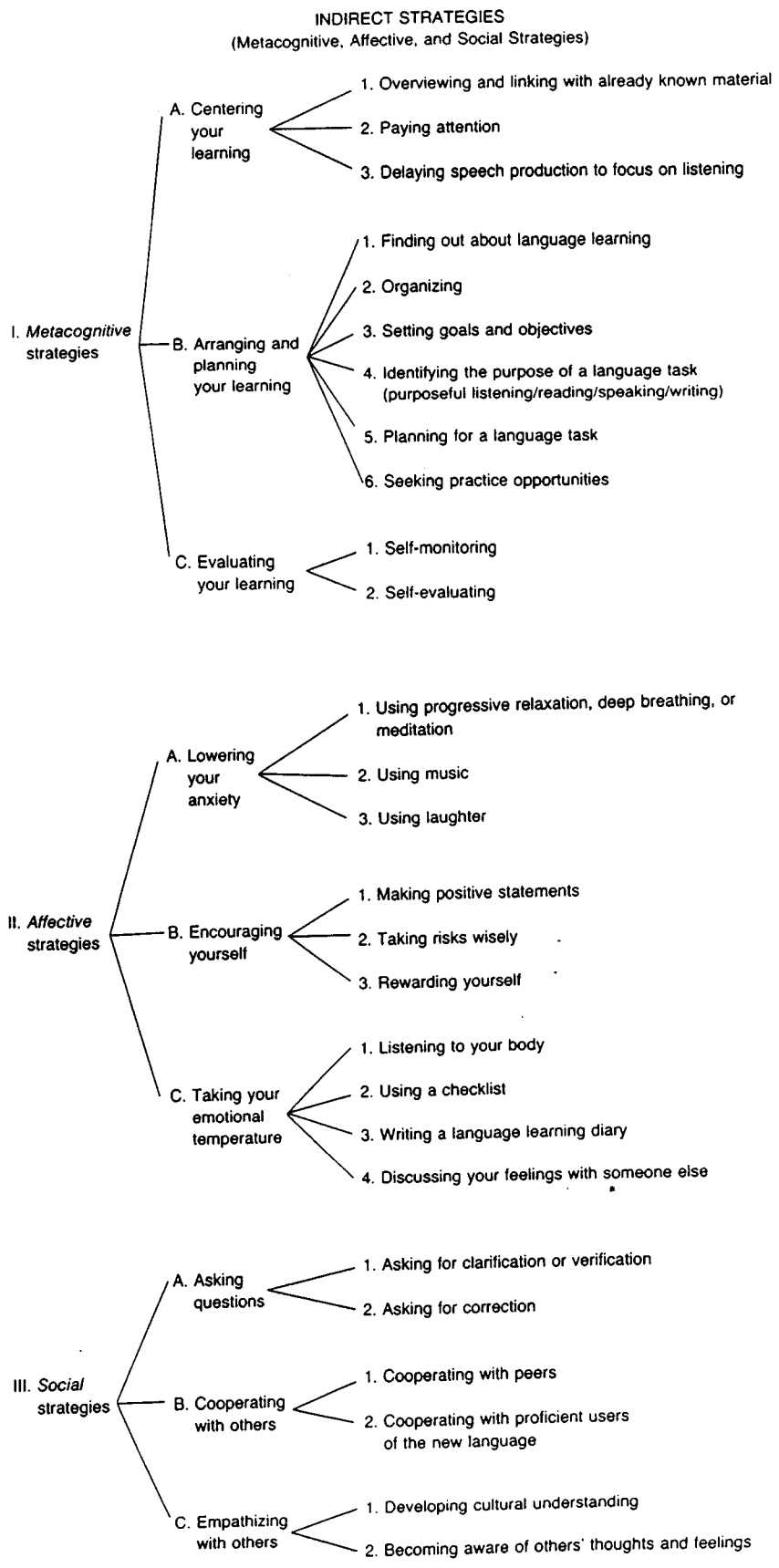


Table 3. (continued)



One advantage of Oxford's list, according to O'Malley and Chamot (1990:103-104), was that Oxford used the classification to generate ideas for a questionnaire designed to assess uses of learning strategies in second language acquisition when she developed the Strategy Inventory for Language Learning (the SILL) to elicit knowledge about the learners' strategies linking them to the four language skills (speaking, listening, reading, and writing). In addition, Oxford's aim was to use less technical terminology since the SILL was meant to be a help to teachers and learners of second or foreign languages (Oxford 1990:237). Different versions of the SILL were produced, which will be discussed in more detail in chapter 4.2.

As stated above, any classification of strategies can be defended or disputed. Skehan (1989:98), although critical of the existing strategies research in general, regards the classifications as one of the assets of strategies research because "they represent the systematicity in the categorization schemes for strategies, so that new investigators need not gather information blindly". Thus, in his opinion, in view of the difficulty of describing internal mental processes, the main purpose of a classification or taxonomy or typology is to help teachers, learners, and researchers discern and classify what strategies might be in question. Skehan also points out that classifications can be used as 'intermediaries' in the research process for labelling concepts, so that the actual phenomena would start to emerge. As to what classification might be the most useful would have to be judged against the research context. For instance, Skehan considers the O'Malley and Chamot's division into metacognitive, cognitive and social-affective strategies useful in a school context but also regards it as having potential for more informal learning environments.

Cook (1993:134) criticizes strategy researchers' lists of taxonomies severely: "Taxonomies of description exist for their own sake; they are collections of found objects, like a beachcomber's collection of pretty stones." Cook's main argument against taxonomies is that second language strategy research is no different from research on learning strategies in general and thus based on cognitive science, not on SLA, as it should be, in Cook's opinion. According to Cook, strategies research has treated learning a language in the same way as learning anything else and has not taken the special characteristics of second language learning into account. Cook (1993:137) argues further that "research such as that by O'Malley and Chamot can contribute towards our understanding of classroom learning by other routes than the language faculty, but tells us little or nothing about linguistic approaches to SLA itself". Cook concludes that "perhaps, however, strategies are as complex linguistic behaviour as any of the formal linguistic levels: taxonomies can never do them justice" (Cook 1993:134).

To improve the situation, Cook (1993:137) suggests the following approach to strategies research:

> The concept of strategy, however, starts from the learner's choice. The learner is a human being with the free will to opt for one thing or the other; given that the learner is at a particular moment of time in a particular situation, what can the learner choose to do?

In this respect, Cook seems to be of the same opinion as Cohen (1990:15), in that learners should only be provided with different kinds of situations in which

to choose the most appropriate strategies themselves and not be expected to resort to certain preconceived types of strategies. Instead, Cook suggests:

> The overall message perhaps is the need for SLA research to look at processses of language as well as knowledge of language, to establish the boundaries between language and non-language areas of the mind, and to link the use question more clearly to the knowledge and acquisition questions.

In other words, attention should be paid to the dynamic situation of both the second language and the strategy use, and to the user in a particular situation or context. This criticism of strategies research seems justified. However, Cook says that classifications can hardly be avoided as a result of strategy findings. Furthermore, it might be difficult to differentiate "the boundaries between language and non-language areas of the mind" since they would necessarily seem to overlap in the learner's cognitive processing as long as the L2 is the medium used for dealing with the content.

To conclude, in the criticism of the strategies research not being necessarily related to SLA research, but rather to general cognitive research, Cook (1993:137) says that "at present, strategies research tells us little directly about either language knowledge or language acquisition ... its full import awaits its integration with the knowledge question: how does knowledge of languages relate to second language use?" Thus, according to Cook, there is a need for the strategies research to look at what choices the L2 learners make in the dynamic situation of language use.

3 THE PRESENT STUDY

3.1 The aims of the study

The basic research question which this study attempts to answer is:

> How did Finnish business polytechnic students cope with the L2 of a business game played autonomously by teams of students? In other words, what second language strategies did they use during the game and how successfully?

The inherent assumption was that in a business simulation delivered in English as the L2, Finnish business polytechnic students could be expected to encounter at least some L2 problems and would need second language strategies to solve them. No further assumptions could be made as to what kinds of L2 problems learners might encounter or what L2 strategies they might use because no previous studies related to a similar context were found. Subsequently, to find an answer to the basic question, the following three questions would need to be answered:

(1) What kinds of L2 problems did learners encounter during the business game?
(2) How did the learners cope with L2 problems? In other words, what different means, ie. strategies, did they use to solve L2 problems?
(3) What was the impact of L2 strategies on the success in the game?

In the light of the strategies literature discussed above, at least the following aspects of second language strategies would have to be considered:

(i) How did learners use their existing L2 knowledge to make out the meaning of the L2 and to produce the L2 required in the learning context? In other words, what language learning and production strategies did they use?

(ii) What means did learners use to compensate for missing L2 knowledge, when solving L2 problems? In other words, what communication strategies did they use?

(iii) How successful were the L2 strategies from the point of view of the learning context, ie. the business game? What was their impact on the course and outcome of the game, if any?

Since, according to a number of strategy researchers (see Tarone 1981:285-295, Bialystok 1983:101-102, Ellis 1985:188, Rubin 1987:25-26, Oxford 1990:243), it is often difficult to discern what particular category, whether language learning strategy, production strategy, or communication strategy, a second language strategy would fall into, it was decided by the present writer to only look at second language strategies in general as means of solving L2 problems and communicating in the L2 in the autonomous game context, and not to try to distinguish between language learning, production, or communication strategies. It could be assumed that in a domain-specific context, learning the L2 and communicating in the L2 would often go hand in hand and perhaps be inseparable, and it might therefore be difficult to ascertain the reason behind the strategy use, especially in the case of an autonomous learning context.

Factors affecting the use of strategies, as discussed in earlier research, brought in further considerations. For instance, Oxford (1990:13) says that learners who are more aware and more advanced seem to use more effective strategies. Oxford and other researchers (see, for instance, Ellis 1985:186, Wenden 1991:36) also mention other factors as possibly affecting the choice of a strategy: stage of learning, task requirements, teacher expectations, age, sex, nationality/ethnicity, general learning style, personality traits, motivation level, and purpose for learning the language. This leads to further issues that need to be addressed:

(a) What was the range of second language strategies used by learners and how did they use them? Were there noticeable differences in the range of strategies used by different teams and individuals?

(b) How conscious were learners of their use of L2 strategies or were their strategies automatized? In other words, how explicit or implicit was their use of L2 strategies? Did it relate to the learners' proficiency in the L2 in any way?

(c) How did the teams of learners decide on the L2 strategies used to solve L2 problems related to the game? Who decided? Was it the CEO of the team or were the decisions made jointly?

(d) Were there any noticeable personal preferences for certain L2 strategies? What might have been the reasons for them?

(e) How did the autonomous game context affect learners' use and choices of L2 strategies? For instance, did learners use a great number of communication strategies in a learning context resembling a natural learning environment, as suggested by Ellis (1985:186).

(f) What strategies did learners use in association with different kinds of language tasks? O'Malley and Chamot (1990:224) postulate that "topics of research should include the ways in which students use strategies with different language learning tasks and the sustained use or adaptation of strategies over time". Some strategies may be more useful or more effective than others, depending on the language or the task. Therefore, strategies would need to be studied in a context.

Since the research context was a business game played by teams of students, a further question emerged:

(f) Did the L2 strategies explain or point at the teams' final ratings in the game in any way? In other words, were the L2 strategies of "successful" players different from the strategies used by "less successful" players? 'Success' here is taken to mean 'a successful outcome in the game in terms of final ranking'.

One impact of strategy use in learning in general seems to be on motivation. Weinstein and Mayer (1986:315-327) state that the goal of strategy use is to affect the learner's motivational or affective state, or the way in which the learner selects, acquires, organizes, or integrates new knowledge (see also O'Malley and Chamot 1990:43). In an autonomous learning environment the motivational effect of strategy use could be expected to be especially important because there is no immediate support by an L2 teacher in problem situations during the learning process unless learners request it. Thus, the following question arose:

(g) What was the relation between the L2 strategies used by learners and their motivation to learn and use the L2, if any?

To find answers to the basic research question and to the other questions arising out of it, the final research context was created. It was a computer-mediated business simulation called *Strategy! A Business Unit Simulation* by Priesmeyer (1992), offered as an optional course at the Helsinki Business Polytechnic in the autumn of 1995. *Strategy!* is an integrated business game incorporating various subjects such as Business Economics, Marketing and Accounting, the use of Information Technology, and English, and to some extent also German and Spanish as L2. The aim of the game is to help business students practise strategic decision-making processes in small groups taking into account the market situation and corporate growth strategies *(International*

Thomson Publishing Catalogue 1992:3). Computer facilities are used for playing the game and can also be used for maintaining contact between the players and the administrators and between players and their possible remote partners.

The main reason for choosing a computer-mediated business game as a learning environment for this study of second language strategies was that the opportunity for it arose which seemed to provide a good learning context for the observation and recording of second language strategies in an open learning environment. Since the simulation provided for the use of L2, it was assumed that second language strategies would be required, should there be some language problems during the process. Therefore, the study of second language strategies was built into the programme. It was hoped that the data obtained would produce sufficient evidence of the use of L2 strategies in the research setting. To support this hypothesis, Räsänen (1994:20) mentions that research has shown that learning content through a foreign language provides opportunities for students to practise and use different language learning strategies. According to Räsänen, besides the double focus on content mastery and language development, there is also a focus on the development of the learner's thinking skills or academic skills. It was of interest to learn what L2 strategies learners used in the learning environment, how their strategies developed, and perhaps how they affected the result of the game.

Another reason for choosing a business game as a setting was that the L2 was integrated with the business content and the new technology. Therefore, the game seemed to provide a new, close-to-real-life context for Finnish business polytechnic students to learn and use the L2, which might give new insight into the ways learners would solve second language problems. The findings could be of help when similar learning projects are planned and implemented, especially in view of more autonomous second language learning at the advanced level.

Thirdly, the significance of looking at strategies in a context has been emphasized by researchers. In terms of general learning strategies, Weinstein and Mayer (1986:325) point out that learning is enhanced when the learner possesses a great deal of domain-specific knowledge. In view of L2 strategies, Rubin (1987:29) also calls for further research to determine how the strategies work together to ensure the success of particular kinds of learners' levels of language skill in a specific foreign/second language and environment. Moreover, Rauste-von Wright and von Wright (1994:33) emphasize that learning is situation-bound. It is tied to the activities, to the context, and to the culture in which information is processed (ie. knowledge is constructed) and used. Thus, to gain new knowledge about L2 strategies used in the business domain by Finnish polytechnic students, a business game in the L2 seemed a relevant and justified research context.

As for the need for this study, Skehan (1989:98) points out that the whole area of the learner-strategies research is at an embryonic stage, and that there is wide scope for additional research (1989:148). From the point of view of understanding how learners' strategies develop, Skehan (1989:95) says: "We can only claim to have scratched the surface so far and will need to study a range of different strategies under a range of different learning conditions before we can offer any serious generalizations about trainability in this area". Thus, he calls for strategy research, especially in more naturalistic learning conditions, by

saying: "Clearly, what is relevant as a strategy varies from situation to situation, and research will have to take this into account" (Skehan 1989:96). Moreover, O'Malley and Chamot (1990:224) say that "descriptive work on strategy use in cooperative learning settings or in nonclassroom environments also needs attention". Thus, the findings of this study were expected to provide some new information about L2 strategies used in a particular setting which had not been studied before.

Some previous studies on the integration of L2 strategy use and subject content in an L2 were found. O'Malley and Chamot (1990) have carried out studies on the use of language learning strategies in different kinds of contexts. One such study was the Cognitive Academic Language Learning Approach (CALLA) model, developed by O'Malley and Chamot (1990:190-204; see Oxford 1990:215). The aim was to learn more about the L2 strategies learners used in an academic mainstream setting which embedded training in learning strategies within activities for developing both language skills and content area skills. The CALLA model was designed to develop the academic language skills of limited English proficient (LEP) students in upper elementary and secondary schools in the USA and it integrated grade-appropriate content topics, academic language development in the second language, and direct instruction and practice in using learning strategies to acquire both procedural and declarative knowledge (O'Malley and Chamot (1990:194). Similarly to the present research context, in CALLA, language was used as a tool to learn the academic subject matter. However, the ultimate aim of CALLA was to help students practise and transfer their L2 skills to mainstream classes later on, and therefore the focus of the study was on embedded strategy training. The CALLA model could be seen as one way of implementing a whole-language or language-across-the-curriculum approach to instruction, with an emphasis on strategic skills (O'Malley and Chamot 1990:204). The main difference between the present study and CALLA, however, is that in the present research context there was no embedded strategy training.

Other examples of fostering the integration of language learning strategy use and subject content, as quoted by Oxford (1990:228-230), have been, for instance, the imaginative and innovative high-tech simulations with Spanish, French, German, Russian, Japanese, and English as a second language, developed at the Massachusetts Institute of Technology, and a number of low-technology, classroom-based simulations designed for students of Spanish, also developed at the Massachusetts Institute of Technology. In the business education sector, the worldwide International Communication and Negotiation Simulation (ICONS), which was developed in the USA and involves about 20 university teams and seven languages, also provides opportunities for the integrated use of the L2, content area, and learning strategies. Oxford (1990:230) points out that "many metacognitive, cognitive, compensation, and social strategies are implicitly encouraged by ICONS". In ICONS, the L2 becomes a purposeful, authentic, and communicative activity as students throughout the world gather at their computer terminals for simultaneuous discussions or negotiations on particular issues. Some Finnish Universities have also taken part in the ICONS project. For instance, the Helsinki School of Economics has had ICONS in its study programme since 1990 (Tammelin

1994:31), and the experiences served as an example and inspiration for the present study.

Moreover, Kasper (1997:309-319) has carried out research on second language strategies in an academic mainstream context. As a result of her research, she discovered that through the introduction of meaningful discipline-based texts, college-level ESL students at the intermediate level of English proficiency became aware of how to construct meaning from information stored in memory, how to extract relevant information from the larger text context, and how to filter out redundant or irrelevant information. Kasper (1995/96:298-306 as quoted by Kasper 1997:318) also mentions that her earlier research suggests that discipline-based texts appear to encourage students to construct schemata, help increase metacognition of the reading/writing processes, and lead to the use of efficient comprehension strategies.

The significance of looking at strategies in a context has been emphasized by other researchers. In terms of general learning strategies, Weinstein and Mayer (1986:325) point out that learning is enhanced when the learner possesses a great deal of domain-specific knowledge. In view of L2 strategies, Rubin (1987:29) also calls for further research to determine how the strategies work together to ensure the success of particular kinds of learners' levels of language skill in a specific foreign/second language and environment. Furthermore, Rauste-von Wright and von Wright (1994:33) emphasize that learning is situation-bound. It is tied to the activities, to the context, and to the culture in which information is processed (ie. knowledge is constructed) and used. Therefore, to gain new knowledge about L2 strategies used in the business domain by polytechnic students, a business game in the L2 seemed a relevant and justified learning context in which to study learners' L2 strategies.

To support this research focus, Koivisto (1989:76) mentions that simulations have remained relatively unexploited although they would be good ways of learning the L2. According to Koivisto, in simulations, cooperation, interaction and negotiation can form an essential prerequisite for the proceeding of a task and would therefore be especially useful for the learning of communication and strategic skills. Therefore, Koivisto calls for the use of simulations, especially in specific fields of education, such as economics, in which they already exist, as a way of encouraging cooperation, negotiation and linguistic reasoning. As a result, it was hoped that the present study would reveal what kinds of L2 strategies would be used in such a contex. The study could provide new information on the usefulness of a business game as a learning environment from the point of view of the L2. It is a fact that, without this study, in the case of a business game being played autonomously by students with no L2 teacher present during the actual learning process, little would have been known about the role of the L2 in the course of the game and about learners' readiness to cope with the L2. Thus, the present study was expected to yield information as to whether the game actually provided an effective learning context for the learning and use of the L2 besides the learning of business in the L2. The findings could be used later for the development of the learning context from the point of view of the L2, or for the planning and implemention of other similar learning contexts, in which the L2 is used as a medium.

Since no previous L2 strategy studies were found representing exactly the same kind of research context and focus, the research setting had to be devised and appropriate methods designed for the present study before it was possible to carry it out. The main difference between this study and earlier strategies research is that the present study focuses on second language strategies in an autonomous context, not a classroom one.

Thus, for the present study, *Strategy!* was set up as an 80-h course at the Helsinki Business Polytechnic (Degree Programme of Business Administration). During the course the students worked mainly autonomously in small teams (with 2-5 members in each team), and three teachers representing different subject domains of the game acted as consultants or facilitators. The research programme of second language strategies was built into the course.

After the course, two teams of players (one with three and the other one with four Finnish players and six Dutch players), who were both successful at the beginning of the game but whose success was widely different at the end of the game, were chosen for an analysis of their L2 strategies. It was believed that the comprehensive data they provided during the game would yield some evidence of the L2 strategies they used, which could be analyzed and discussed further to find answers to the above questions. In the analysis of the data, mainly qualitative methods, which will be explained in greater detail below, were applied. The main means chosen to make sense of the data was the SILL (Strategy Inventory for Language Learning, Version 5.1) developed by Oxford (1990:283-291). However, to draw final conclusions, the O'Malley and Chamot (1990) division into metacognitive, cognitive and social-affective strategies seemed applicable to the present, more informal learning environment, as advocated by, for instance, Skehan (1989:98). As a helpmate for the analysis of the data, a combination of the two strategy inventories was developed by the present writer to see if the different strategy inventories would complement one another and thus help in concluding from the data what L2 strategies might be in question. The procedure was known to be problematic and liable to subjectivity, but, nevertheless, worth attempting to obtain as reliable a picture as possible of the different L2 strategies used during the game.

3.2 The setting up of *Strategy!*

To help understand how the research context was built, an account of its different phases is given below.

The setting up of *Strategy!* proved a lengthy process, which took place between 1992-1995. Before setting up the final study, slightly different forms of computer-mediated collaboration using English as an L2 between remote partners were created in the academic year of 1992-1993 to learn more about the requirements of such learning contexts (see Luukas 1995a:169-182, 1996:15-16, 1997a:190-203). This was due to some technical and other problems that had to be solved to pave the way for the final research setting.

Originally, the first contact with *Strategy!* was made in 1992 when Professor Morton Cotlar of the University of Hawaii contacted the Finnish Business College (a part of HelBP) and offered HelBP students and teachers the opportunity to participate in playing *Strategy!* with business students from Hawaii via e-mail. The idea was introduced to the Teacher Education

Department and adopted as a new teacher education experiment called a venture for 1992-93 (see Kauppi 1993:248-254). Thus, it became the first e-mail-mediated learning project in English as L2 at HelBP and was studied by a venture group of teacher trainees. The present writer was in charge of this project.

At the outset there were a number of problems involved. One of them was that an e-mail connection called Funet via the Finnish University Network existed but had not been used for language learning at HelBP yet. Therefore, some practical problems at the classroom level had to be solved first. Another problem arose as the original idea of playing *Strategy!* had to be postponed because of Professor Cotlar's sabbatical, and a new content for the experiment was suggested by Assistant Professor Elaine Bailey of the University of Hawaii. Accordingly, instead of doing the business simulation, the experiment had to find a new form and the parties involved agreed to cooperate on an e-mail exchange related to specific topics agreed: (1) an exchange of biodata, (2) a discussion on Human Resource Management and Industrial Relations in Hawaii and in Finland. A group of seventeen second-year secretarial students from the Finnish Business College and a number of Hawaiian business students took part in the e-mail exchange, during which 112 e-mail messages were exchanged in the autumn of 1992.

Five Finnish teacher trainees participated in the venture as facilitators and researchers. The project came to be known as *Aloha!*. The venture group studied the requirements, impacts and consequences of the introduction of an e-mail-mediated learning project to integrate various business subjects, Information Technology, and English, and the implications to teaching. The group produced a final research report called *Aloha! Sähköpostiprojekti* (Aitto-oja et al. 1993). This study was essential in preparing ground for the introduction of *Strategy!* later on.

Another opportunity to set up *Strategy!* came in spring 1993 as Professor Cotlar repeated his offer and two second-year HelBP male students volunteered to play the game with a Hawaiian student team. The Finnish students acted as European Operation Managers (OMs) of their team and exchanged some two hundred e-mail messages with the Hawaiian partners, when negotiating strategic business decisions related to *Strategy!*. This project was organized and monitored by a group of several HelBP teachers representing different subjects (Business Economics, Marketing, Information Technology, English), including the present writer. The Finnish students involved produced a report on their experiences of the simulation (Saikku and Rinne 1993). This report was a basis for further development for the introduction of *Strategy!* into the study programme at HelBP and for a new teacher education venture to be built around *Strategy!* and to be carried out in 1993-94. The present writer was in charge of this venture as well.

The aim of the new venture was to study the requirements of the learning process in an open and complex learning environment in view of the different subjects involved (Business, IT, and English) in the context of *Strategy!* (see Kauppi 1995:64-75, Luukas 1997b:291-296). Ten HelBP students, forming three teams, signed up for the game. Originally, Hawaiian students were expected to join the game, but this could not take place, which meant that there could be no e-mail exchange between Finnish and Hawaiian students, as had

been hoped. Therefore, the game was "shortened", and only seven rounds instead of the twelve originally planned were played between the three all-Finnish teams, with no foreign partners. A research report was produced by the venture group, consisting of a Business Economics teacher, two Marketing teachers, an IT teacher, and two English teachers (Halonen et al. 1994). In the report it was suggested that *Strategy!* could well be suited as an integrated learning project for the study programme of HelBP as an optional course.

Finally, in spring 1995, *Strategy!* was approved as an optional course into the HelBP curriculum (*Helsingin Liiketalouden Ammattikorkeakoulu, Opinto-opas* 1995-96:21-22) to be implemented in autumn 1995 and delivered in English. Thus, the research setting for this study was made possible.

3.3 The organization of *Strategy!* for the present study

For this study, *Strategy!* was played by twenty-three Finnish students in six teams with two to five members in each team between 23 October, 1995, and 5 January, 1996. A team of three teachers, a Business Economics teacher, an IT teacher, and the present writer as an English teacher, administered and ran the game. During ten weeks, twelve rounds were played. In fact, the number of the rounds was ten since the first round of the game was the beginning round containing the basic parametres of the game. Moreover, there is no record for Round 10 in the game results nor in the log-books provided by the students, which means that after Round 9 the round to be played was Round 11. Three of the teams had foreign partners to cooperate with. The negotiations between the Finnish and the foreign partners of a team mainly took place by e-mail, occasionally also by facsimile. Throughout the course, English as L2 was the main language used. All the material given to the students was in English as L2. English was also used during the contact sessions. During the decision-making meetings the students could use their mother tongue, but they were encouraged to use an L2 too.

As for the organization of the game, the teams acted as independent learning units. Some teams had been formed by students before they had enrolled on the course, others were formed during the orientation session. Each team selected a CEO amongst themselves. For practical reasons, the CEO was a Finnish team member as the student disks had to be updated after each round and it was easier to do it centrally in one place, in this case at HelBP. The CEOs had to see to it that the strategic decisions were made and entered on the student disks by a certain time. After the CEOs handed in the diskettes to the IT administrator of the game, the data were compiled and processed on the system disk and the outcome of each round was printed out. Thus, it was possible for the teams to know their own positions and also the other teams' positions after each round.

The foreign partners willing to join the game were from the Johannes-Kepler Universität in Linz, Austria, with English as L2; the Hanzehogeschool Groningen, and the Hanzehogeschool Rotterdam in the Netherlands, both with English as L2; the University of Sunderland in Sunderland, UK, with both English as L1 (native students) and as L2 (foreign students); and a single member from the United States, with English as L1. In the end, only the Austrian and the Dutch partners were able to play with the Finnish teams. The

other foreign partners had to resign because of technical problems. Thus, the foreign partners that took part in the game represented L2 speakers.

At HelBP, the students played the game autonomously. This meant that the teams were free to organize their work and timetables independently, except for three obligatory contact sessions. These there sessions and their contents were:

(1) A 4-hour orientation session for all participants to launch the game and to give out the necessary material with any other information required

The main focus was to explain what *Strategy!* was, what the objectives of the game were, and how to use e-mail. As for English, the role of the foreign dimension was explained and the e-mail and facsimile addresses of the foreign partners were given out together with a handout with suggestions for the content of the first e-mail or fax message. The teams were requested to send copies of their messages in the L2 to the English teacher. The teams were also requested to take hardcopies of both outgoing and incoming messages to be handed in to the English teacher at the end of the game. A one-page English vocabulary and abbreviations list of the key business terms used in the game manual was gone through briefly by the Business Economics teacher. The meanings of the terms were explained in English, and corresponding Finnish expressions were given orally. The orientation session was not video recorded.

(2) A 30-minute intermediate meeting between the administrators and each team respectively after Round 6

This was a semi-structured interview, with two questionnaires prepared beforehand: one related to the business and IT elements of the game, another one related to the use of the L2 in the game (Appendix 3). The questionnaires were mainly used to help structure the interview, but the teams could also fill in the forms later and return them to the administrators. For research purposes, the interviews were video and audio recorded.

(3) A 90-minute final evaluation session of the game with all participants

During the final evaluation session, each team was asked to tell the others about the business strategies adopted by their team in the game so that the others might also learn from them. A semi-structured evaluation form (Appendix 4) was designed by the administrators to be filled in individually by the players. It contained questions related to the general nature of the game, as experienced by the players, questions on special aspects related to the business, IT, and L2 elements of the game respectively, and further suggestions for improvement of the administration of the game. During the final evaluation session each player also received a diploma, which contained the names of the team members and a description of the extent and of the contents of the course in English. The final evaluation session was video recorded.

Outside these three contact sessions, the players acted independently as teams and could approach the administrators mainly by e-mail. When interacting

with foreign partners, the teams were responsible for it themselves and could organize it independently.

Because of the nature of an open learning environment, a special-format log-book form was developed by the administrators for follow-up, evaluation, and research purposes. The learners were instructed to record their learning experiences in it round-by-round. The student manual also contained some ready-made, semi-structured forms which the learners could use during the game. Another log-book form, in which the teams were asked to record any L2 problems and their solutions, was designed by the present writer. The teams were asked to enter their comments in the log-books as they proceeded in the game and to return them at the end of the game to the administrators.

3.4 The research context from the point of view of second language strategies

In view of the aims of this study, the setting-up of the game seemed appropriate for studying students' second language strategies for the following reasons:

(1) For the Finnish students, the main language required to play *Strategy!* was English as L2. In view of the general language requirements of the game, as advocated for in the study guide (*Helsingin Liiketalouden Ammattikorkeakoulu, Opinto-opas* 1994-95:21-22), having second- or third-year polytechnic students as participants meant that their level of English proficiency was expected to be intermediate or advanced. This again meant that the learners could be expected to cope with most of the L2 requirements but might have occasional problems with either general or domain-specific language and would therefore be expected to need second language strategies to cope with the L2 demands.

(2) Some knowledge of Spanish and German as L2 would be required of players who would choose to buy or sell a Mexican and/or a German SBU in the game. This again would most likely necessitate the use of second language strategies by these players, should they have any L2 problems related to these languages in the game.

(3) Since English was the main working language throughout the course, ample exposure to English as L2 and opportunities for coping with it would be provided during the course. In case of any L2 problems, second language strategies would be needed.

(4) The previous application of *Strategy!* at HelBP during 1993-94 had shown that the game provided some L2 problems to polytechnic students, as was shown by the students' log-books (Halonen et al. 1994: Appendix 13). Thus, most likely, L2 problems and L2 strategies would also occur during the present delivery of the game.

(5) During the decision-making meetings English as an L2 would have to be used at least receptively because the manual and the computer software of the game were in English. This would call for understanding the L2 of the game. In addition, some of the domain-specific L2 concepts (for instance, *divestment*, *ROA*, *differentiation*, etc.) could be expected to be new or less familiar to some

players, which would necessitate the use of L2 strategies. As for negotiating the decisions to be made for each round, however, it was to be assumed that the students would most likely use their mother tongue. Therefore, for research reasons, to have the students use the L2 as much as possible on these occasions as well, the teams were encouraged to carry on some negotiations in English and audio record them. The audio recording equipment was provided by the researcher and by HelBP.

For the above reasons, the use of the L2 seemed to be well represented and embedded in *Strategy!*. Therefore, it was to be assumed that when encountering any L2 problems within the learning context, the students would need second language strategies. Accordingly, to answer the research questions, the research setting was expected to contain evidence of the use of L2 strategies, which could be analyzed.

4 METHOD

4.1 The choice of a method

This study falls under the category of qualitative research, where a phenomenon is studied within a natural context and the data are often collected by means of a number of procedures used simultaneously (Seliger and Shohamy 1989:159-160). To justify the choice, according to Seliger and Shohamy, in qualitative research the researcher does not determine in advance the exact data that will be sought, since it is not known whether those data will even exist. A variety of procedures and data from a variety of sources can be used to build up a rich and comprehensive data base, which can often provide an expanded and global picture of the phenomenon. Each source can give additional data. This is also referred to as 'methodological triangulation', which means that different methods are used to collect the data (Allwright and Bailey 1991:73, Hammersley 1994:8). Likewise, according to Smith (1987:173-183 as quoted by Seliger and Shohamy 1989:160), in qualitative research, data is often collected inventively and the data collection procedures are often tailored to the situation and played off against each other. Thus, in qualitative research a variety of procedures are recognized as legitimate. In the case of the present study, the qualitative approach seemed the only possible since it was not known what kind of L2 strategies might come up and in what kind of data. Earlier strategies research also seemed to support this choice, as will be shown below.

Furthermore, it was believed that in the present study through applying qualitative research methods, the process nature of the use of second language strategies in the business game could be observed and understood better than if quantitative methods were used. What Kincheloe (1991:143-144) says about qualitative research would seem to support this choice of method, especially in view of the learning context:

> Qualitative researchers maintain that many natural properties cannot be expressed in quantitative terms - indeed, they will lose their reality if expressed simply in terms of frequency. Knowledge of human beings involves the understanding of qualities which cannot be described through the exclusive use of numbers. As qualitative researchers direct their attention to the meanings given to events by participants, they come to understand more than what a list of descriptions might provide ...

Moreover, Kincheloe (1991:144) argues in favour of the significance of the context in qualitative research, which would also seem to apply to the present study:

> One of the most important aspects of qualitative research is its concern with context ... human experience is shaped in particular contexts and cannot be understood if removed from those contexts. ... Qualitative research views experience holistically, as researchers explore all aspects of an experience. As individuals explore human situations they must attend to the variety of factors which shape them.

One difficulty related to the study of L2 strategies brought up by earlier research is that what is going on in the learner's mind is not usually visible or audible as the learner approaches the learning task. Naiman et al. (1975:68) concluded that very few learning techniques, or strategies, were overtly displayed in classroom observation. They discovered that only through interviews could one have access to techniques that were invisible to observers. Ellis (1985:14) also says that learner strategies cannot be observed directly, they can only be inferred from language learning behaviour. Therefore, the strategies research has employed ethnographic methods commonly used in social and educational research, such as questionnaires, interviews and self-reports, to obtain data which is often related to a single case or a small number of cases (Hammersley 1994:1-17). This kind of data can provide more indepth information than a survey would. Ellis (1985:183), for instance, refers to introspective techniques as well as the analysis of speech data for the identification of the use of communication strategies.

Accordingly, introspective means, such as learners' reports of their own insights into the strategies they used, have been employed widely (see Cohen 1987:32-33; Chamot 1987:72-75; Oxford 1990:194-197; Wenden 1991:81-86). These reports can take different forms. According to Cohen (1987:32-33), to tap the conscious mental processes involved in language learning, verbal reporting can take the form of a 'think-aloud' stream-of-consciousness disclosure of thought processes while the information is being attended to, or it can take the form of inspection of special language behaviour, either while the information is still in short-term memory, or after the event, in which case the reporting is called retrospection.

Similarly, regarding second language qualitative research in general, Seliger and Shohamy (1989:160-162) mention a number of data collection methods, which have also been used in strategies research. As a major data collection tool Seliger and Shohamy include observations, in which a researcher usually observes a number of behaviours taking place simultaneously. Observations can be open or more structured, depending on the focus of study. Video and audio tapes are used for documentation to obtain a more

comprehensive picture of the observed phenomenon. Besides observations, Seliger and Shohamy state that "some of the typical devices and procedures employed in SLA research include interviewing informants, compiling biodata about them, administering open or semi-structured questionnaires, eliciting ratings and rankings, and using various unobtrusive measures such as studying students' notebooks, handouts given by the teachers, and official documents". Students can also be asked to keep diaries or learning-logs to record different aspects of a process or a phenomenon in writing. Besides verbal descriptions, tapes (audio or visual) may also be used to record the learning process. These are often transcribed or summarized before an actual analysis is made.

As for the 'think aloud' procedure or introspective verbal reporting used in SLA research, Seliger and Shohamy (1989:169-171) state that it is believed to yield rich data, since it elicits information which is kept in short-term memory and is thereby directly accessible for further processing and verbalization. However, Seliger and Shohamy also criticise the validity of verbal reporting techniques because the subjects may not be accustomed to using them and because of social or psychological factors which might interfere. Therefore, in Seliger and Shohamy's opinion, secondary data collection methods such as questionnaires should also be used, or the subjects should be trained in the use of the methods. In any case, according to Seliger and Shohamy, "verbal reports should be treated with caution".

Furthermore, Seliger and Shohamy (1989:166-169) point out that interviews have been used for obtaining information about L2 strategies which language learners use in the process of producing and acquiring language in a variety of contexts. The language learner is asked to report verbally on the cognitive strategies and processes used in producing different features of language. Interviews can be open or more structured. Open interviews allow greater depth and are therefore used mostly in qualitative studies. They generally elicit more elaborate data in the form of impressions, descriptions, and narratives obtained from interviews, which are often supplemented by audio or video taping or by notes taken of the main points. The findings are then analyzed by looking for patterns and categories within the data.

For their studies, O'Malley and Chamot (1990:114) used classroom observation, retrospective interviews (both individual and group interviews) with student and teacher interview guides, and introspective think-aloud procedures to elicit both general and specific information about L2 strategies. For the think-aloud process learners were also pretrained in the use of the method (O'Malley and Chamot 1990:131). The interviews were tape recorded and rated afterwards for the occurrence of strategies, based on an abbreviated transcript prepared by the person conducting the interview (O'Malley and Chamot 1990:117). Generally, they had considerable success in identifying learning strategies through interviews with students, but less success in interviews with teachers and negligible success in conducting observations (O'Malley and Chamot 1990:118). Retrospective interviews are relatively easy to conduct with small groups of three to five students, but a drawback is that it is difficult to associate specific strategy applications with individual students (O'Malley and Chamot 1990:95).

Similarly to other strategies researchers, Oxford (1990:193-194) lists observations, interviews, 'think-aloud' procedures, note taking, diaries or

journals, and self-report surveys as some of the most important strategy assessment techniques. She also points out that videotapings of observation sessions can be valuable because they provide a permanent record of the sessions. As for interviews with self-observation (ie. retrospective reporting), Oxford (1990:197) states that such interviews work well in small groups or with individuals, and also lend themselves well to taping. After the tapes are transcribed, a way to categorize or make sense of the data must be developed.

Wenden (1991:80-83) also reviews the different data collection methods. According to her, strategies can be elicited from the learner's observed verbal or nonverbal behaviour. However, to reveal the thinking processes behind this behaviour other methods need to be used to supplement the findings. One of these is the 'think aloud' method, which she describes as "a report on one learning or communication task that takes place in a particular setting". As students complete the task, they verbalize their thought processes, so there is no separation in time between the report and the task. Thus, introspective reports provide information primarily on the strategies that learners are actually using to perform a particular task at the the time they are reporting and are often collected with one student at a time. According to Wenden, the defects of the introspective method include: (1) Concentrating on both the task and the reporting may put a strain on the learner's concentration, and therefore either might suffer. (2) When doing the reporting in the L2, the description of the process may not be so exact as when doing it in the L1. (3) The result may not be comprehensive, for learners might actually be using more strategies if they did not have to think aloud.

As regards introspective and retrospective reporting as means of assessing L2 strategies, Wenden (1991:83-86) says that a significant difference between them is that unlike introspective reporting, retrospective reporting is primarily a source of insight into what learners know about their actual language learning, i.e. their metacognitive knowledge. Retrospective statements can also point to the use of self-management strategies. However, as a source of information on strategies that learners actually use in a particular situation, retrospective reports may not always be exactly accurate because the learners may have forgotten what they actually did. Thus, retrospective reporting cannot always be relied on to produce data stemming directly from the subject's actual experience or thought processes. Nevertheless, retrospective reports are a useful source of information on learners' metacognitive knowledge, including the strategies they generally use (Wenden 1991:86).

According to Cook (1993:131), the strategies research is especially problematic because it is faced with the difficulty of obtaining evidence for particular strategies. Therefore, also in Cook's opinion, several ways of collecting evidence need to be employed. Related to the different methods of collecting evidence discussed above, Cook (1993:132) points out that the danger with introspection is that it limits the data to conscious strategies rather than reveal those of which the learner is unaware. Therefore, such data need to be supplemented by other data, such as interviews. which allow for a more personalized and in-depth information gathering, free response, and flexibility that cannot be obtained by other procedures.

Bearing in mind the above principles of qualitative research and the methods of data collection used in earlier strategies research as discussed above,

it became evident that because of the limitations of any one method, various means to obtain the data for the present study would have to be resorted to. These could include:

(1) Basic background information about learners, especially in view of their language proficiency and L2 strategies.

(2) Introspective reporting data about L2 strategies through log-books and through audio recorded decision-making discussions.

(3) Observations about the L2 strategies learners used during the three contact sessions when faced with L2 problems. Observation data has not been found very useful by earlier research. Observation was also known to be an unreliable method in this case because of the researcher's role as a teacher at the same time.

(4) Retrospective reporting data in the form of speech data during the intermediate interview with each *Strategy!* team to find out what L2 strategies learners had used. The interviews should be video and audio recorded to obtain more permanent evidence, so that the data could be replayed and reconstructed for further analysis later.

(5) Retrospective reporting data in the form of speech data during the final evaluation session, which should be audio and video recorded, and which should be viewed and relevant parts of which should be transcribed for further analysis.

(6) Any other documentation, such as the log-books and the e-mail and facsimile messages, in case they should reveal something about the strategies used.

Thus, inspite of the known shortcomings related to an individual data collection method, it was hoped that rich data would be yielded by different means of data collection (Seliger and Shohamy 1989:159-160). The use of different kinds of data could also supplement and reinforce the findings. However, a problem remained related especially to the analysis of the introspective and retrospective reporting data, as pointed out by, for instance, Oxford (1990:197) and discussed above: a suitable device, such as an existing strategy inventory, would have to be used or modified to help categorize the findings and to draw conclusions.

4.2 Data collection

As a result of the above discussion, multiple data were collected using the following instruments to collect the data and to help analyze the findings derived from them. The language used by the students to provide the data could be the L1 or L2. However, data in the L2 were especially looked for because the students' level of proficiency (Finnish business polytechnic students, whose language proficiency could be assumed to be intermediate or advanced on the basis of their previous language studies since they were interested to play a

business game in English) seemed to warrant it and because it might provide information on the learners' L2 strategies in situ:

(1) A background questionnaire (see Appendix 1) designed by Oxford (1990:281-282) was used at the beginning of the game to collect general information on the students' language learning background and learner characteristics. The questionnaire helped elicit such information as the learners' age, sex, languages spoken at home, the number of years that the learners had studied English, the learners' own estimates of their overall proficiency in the L2 as compared with other students in the class and also with native speakers of the L2, the learners' motivation to learn the L2, what L2 languages the learners had studied, and the learners' favourite experiences in language learning. Quantitative and qualitative measures were used to analyze the data.

(2) The Strategy Inventory for Language Learning (SILL), Version 5.1 for English Speakers Learning a New Language (see Appendix 2), a structured self-report survey developed by Oxford (1990:283-291) and based on her six-category strategy system (Oxford 1990:14-22) and additional items adapted from early surveys and strategy lists by O'Malley, Chamot, and Rubin (as quoted by Oxford 1990:255) was given to the students at the orientation meeting to have them assess their readiness to use language learning strategies in general. The original L2 version of the SILL without a translation into the L1 was used.

The reasons for choosing the SILL as an initial strategy inventory were:

(a) As a result of the discussion about various taxonomies of language learning strategies dealt with in chapter 2.8, the SILL seemed to be the most comprehensive systematic language learning strategy inventory available to provide an insight into each learner's general range of language learning strategies.

(b) According to Oxford (1990:255-256), the inventory has been widely used by language teachers and tested with groups of foreign language learners in high schools and universities around the world, and with adults learning English as a second language in several countries. The target group of this study represented adult learners in higher education.

(c) The SILL was easy to administer and self-score in an open learning environment. The learners could fill it in by themselves and return it later to the researcher. To be exact, the SILL is recommended to be used in classroom situations with careful instructions by the teacher. In this case, however, it was impossible to have the SILL filled in during the orientation session because of lack of time. Therefore, the learners were asked to complete the SILL during their own time and return it later. The SILL contained written instructions for filling it in. The learners did not report on having encountered any language or other problems although they completed the SILL outside the contact hours.

(d) One more asset of using the SILL as a strategy inventory could be that it gives learners some feedback on their use of L2 strategies. After having computed their results, learners are encouraged to try out new strategies if their score in some group is 'low', ie. below 2.4 (see Figure 9, p.68). Thus, it can make learners sensitized to the significance of strategies. However, in the case of the present autonomous learning environment, this feedback was only available to the learners in the written form and was not particularly pointed out by the researcher, so that the learners' choices of strategies during the game would not be imposed on in any way.

A drawback of the SILL from the point of view of this study would seem to be that the focus of the SILL is on 'language learning strategies', not so much on 'strategies of language use'. In a business game, however, the focus of L2 strategies could be expected to be on language use rather than on language learning, especially in the case of more proficient learners, as in this case. On a more careful examination of the statements on the SILL, however, many of them could be interpreted as equally applicable to language use as language learning to determine what choices learners make when faced with a language problem. This interpretation is supported by what Oxford (1990:22) says about her system of strategies which the SILL is based on, as pointed out above: the SILL includes a wide variety of affective and social strategies and unites the whole range of compensation strategies; it also organizes well-known metacognitive, cognitive, and memory strategies so that you can access them easily. Thus, the SILL could be taken to cover not only language learning strategies but also communication strategies and strategies of language use. Therefore, the SILL seemed a practicable framework for trying to map the learners' L2 strategies derived from the data.

Two different versions of the SILL were available: (1) the 80-item 5.1 version for English Speakers Learning a New Language, and (2) the 50-item 7.0 version (ESL/EFL) for Speakers of Other Languages Learning English. The latter version was used for several reasons.:

(a) According to Oxford (1990:199), no major differences between the two versions exist: in the 7.0 version the language is highly simplified, but the 7.0 version operates similarly to version 5.1 in most other respects.

(b) Although the subjects represented L2 learners and it would have been more natural to choose the 7.0 version for them, the more elaborate 5.1 version meant for L1 speakers was chosen instead, mainly because it contained more finetuned items for each strategy category than the 7.0 version and was therefore considered more suitable, especially in view of the subjects' assumed language proficiency (intermediate and advanced L2 learners), which could be regarded to be close to that of native speakers.

(c) When comparing the two versions (see Oxford 1990:283-300), it could be noted that some items that would seem to refer to common strategies used by L2 students were totally excluded in the 7.0 version. These included such strategies as "using reference materials such as glossaries or dictionaries" (Part B, Item 32 in the 5.1 Version of the SILL, Oxford 1990:285), and "using

gestures or switching back to one's own language momentarily" (Part C, Item 44 in the 5.1 Version of the SILL, Oxford 1990:286), both of which could be assumed to be used by L2 learners. Therefore, the 5.1 version was considered more suitable for the purpose of trying to identify the target groups' general strategies.

(d) The various items mentioned in the SILL profile under each category in the 5.1 version (Oxford 1990:290) seemed to provide a more comprehensive understanding of what L2 strategies were included under each category in the SILL than the mere names of the categories in the 7.0 version (Oxford 1990:299).

As a result, the 5.1 version of the SILL was found more relevant in this research context than the 7.0 version.

As for the contents of the SILL, the items or statements in it are grouped under six categories of strategies and the results obtained produce a profile for each learner showing the learner's readiness to use second language strategies (Oxford 1990:290-291). The six categories are:

A. Remembering more effectively
B. Using all your mental processes
C. Compensating for missing knowledge
D. Organizing and evaluating your learning
E. Managing your emotions
F. Learning with others

Under each category a number of different strategies are listed (see Appendix 2, pp.226-235).

The 5-point scale on the SILL ranges from "never or almost never". The overall average obtained indicates how often the learner tends to use L2 strategies in general, while averages for each part of the SILL indicate which strategy groups the learner tends to use the most frequently. Thus, learners can find out whether they belong to a group of low, medium or high strategy frequency as for the particular group of strategies (see Figure 9 on p.68). It is emphasized in the introduction to the inventory that there are no right or wrong strategies.

Version 5.1
(c) R. Oxford 1989

Key to Understanding Your Averages

	Always or almost always used	4.5 to 5.0
High	Generally used	3.5 to 4.4
Medium	Sometimes used	2.5 to 3.4
	Generally not used	1.5 to 2.4
Low	Never or almost never used	1.0 to 1.4

Figure 9. Key to Understanding Your Averages (from Oxford 1990:291).

The scores can also easily be transferred into graphic form so that learners can see their profiles of language learning strategies.

(3) Each team was asked to keep a general log-book in English during the game to be submitted to the administrators at the end of the game. The log-book was a semi-structured form developed by the administrators and given to the students during the orientation session. The form, laid out horizontally on an A3-sized paper, contained the following five items:

Round (No.) Language Problems Other Problems Action / Decision - WHY? Effect / Result

The students were asked to enter their comments and experiences below each item round-by-round. Thus, language and other problems with the solutions and the assumed impacts were to be recorded on this form.

For the purpose of this study, another semi-structured log-book form was designed by the present writer. The teams were asked to record any L2 problems and their solutions in it. The form consisted of the following two items, laid out horizontally on an A4-sized paper:

Language problem (eg. problems with understanding a word or a concept, pronunciation, choice of words, writing a message, a communication gap, cross-cultural misunderstanding, etc.)	Solution / How?

Learners were told that the log-books would be used for research and evaluation purposes. Thus, all learners were aware of the research focus.

(4) The teams were requested to audio record their decision-making meetings. For research purposes, they were encouraged by the present writer to carry on these meetings in English. Because of the autonomous learning situation, it was

difficult to obtain verbal reporting data on L2 strategies without knowing before the game if the learners would meet with L2 problems at all. The autonomous learning context also made it difficult to observe the L2 strategies in the learning situation. Therefore, the choice was made to ask the learners to record their decision-making discussions in the hope that their think-aloud speech data would produce some evidence of the use of L2 strategies as well. Three of the six teams recorded some of their meetings. On the basis of what the teams reported orally, when asked about the language used at the decision-making meetings, the negotiations were mainly carried on in Finnish. The recordings obtained showed that one of the teams (Nerds) had carried on one negotiation session in English.

(5) Three separate questionnaires, two for the interim meeting and a final evaluation form for the final meeting, were developed by the administrators to obtain more exact information on specific aspects of the game, including the use of the L2. For the interim meeting, one set of questions was composed by the Business Administration teacher and the other by the present writer as the English teacher (Appendix 3). The latter focused on how learners had experienced the L2 of the game and what they had done to solve any L2 problems. Four (4) interim forms concerning L2 strategies and seventeen (17) final evaluation forms were returned completed.

(6) The interim meetings (30 minutes reserved for each team), which were mainly carried on in English, were audio and video recorded. The interim questionnaires were used to structure the discussions during the interim meeting.

(7) A 90-minute final evaluation session in English was arranged four weeks after the game was over. The aim was to discuss the experiences of the game and to give each team an opportunity to tell the others about the business strategies they had chosen and to compare them. Learners were also asked to fill in the final evaluation questionnaire (Appendix 4) at the meeting or afterwards. The evaluation meeting was video recorded. All six teams were represented at the final meeting, but not all team members were present.

(8) The teams were asked to provide copies of any e-mail or fax messages sent or received by them concerning the game. Three of the Finnish teams were unable to have a foreign partner, which meant that no messages in English could be had from them. All the e-mail messages used for communication between the students and the administrators and between the administrators respectively were filed in the computer and could thus be retrieved later, if necessary.

(9) Besides the contact sessions, unstructured observations about the game and L2 strategies were made by the present writer during any spontaneous discussions that took place between students and the present writer as a game administrator during the course. Sometimes students turned to the writer for help, usually by e-mail, or if they met her in the hall or in the cafeteria. This happened on an 'ad hoc' basis. The present writer also had occasional discussions with each team, mainly to inquire about any problems related to the

research setting, or when trying to motivate students to overcome problems that a team had in their foreign connection. In problem situations, the only instructions given by the present writer were to suggest that the students think of alternative ways in case something did not work, to ensure the continuation of the game. Using the word 'strategy' or suggesting any L2 strategies to be used was avoided by the writer. Thus, it was hoped that the findings that would emerge from the data would represent the strategies that the learners had chosen themselves and not as imposed from outside.

4.3 The analysis of the data

The following means of data analysis were used:

(1) Quantitative and qualitative measures were used to analyze the data received through the background questionnaire on the learners' previous language learning experiences.

(2) The two teams' individual and team profiles of their range and overall readiness to use L2 strategies, as revealed by the SILL 5.1, were looked at to have an overall idea of their use of L2 strategies and to see how the teams compared with each other in this respect at the beginning of the game. The results of the SILL 5.1 survey were expected to provide some insight into the general use of certain L2 strategies or types of L2 strategies by individual students and by different teams.

(3) The log-book data seemed to provide the most obvious data since learners were asked to record any language problems and their solutions in the log-book. These data were expected to provide explicit information on the conscious use of strategies by the learners. However, it was discovered after the game that the log-books contained only a few instances of explicit strategy use and did not always provide answers to the research question as to what L2 strategies the learners had used and why. Therefore, the speech and other data also had to be looked at for additional information. The use of different kinds of data presented problems for a coherent analysis.

Firstly, O'Malley and Chamot (1990:93) point out that with data collection procedures that have little structure, one of the major sources of difficulty is how to classify strategies accurately from open-ended responses. Secondly, as revealed by earlier strategies research, there is lack of any generally agreed device for grouping the findings to make sense of the data, as discussed in chapter 3.1. Several groupings or taxonomies of strategies exist and have been used by different researchers, but no classification seemed to be accepted as paramount and fully applicable to the present research context. To solve this problem, Oxford (1990:197) states that a researcher has to decide how to categorize the findings. In this case, it first seemed that the O'Malley and Chamot (1990) categorization into cognitive, metacognitive, and social-affective strategies was clear and seemed to include both learning and communication strategies. It had also proved useful for the description and categorization of the learning strategies of FL students (O'Malley and Chamot 1990:127-128). Because of the autonomous nature of the learning environment,

it also seemed that the significance of metacognitive and social-affective strategies would have to be considered besides the actual cognitive strategies. Skehan (1989:98), for instance, is of the opinion that the O'Malley and Chamot categorization is also suitable for more informal contexts. Moreover, some of the studies by O'Malley and Chamot (1990:114-150) were made among higher level ESL/EFL students, whose level of proficiency could be regarded as somewhat comparable to the assumed level of proficiency of the students of this study.

However, several listings of the O'Malley and Chamot system seemed to exist, each slightly different, based on the results of their different ESL studies (see O'Malley and Chamot 1990:119-120, 137-139, 198-199), as pointed out earlier in chapter 2.8. It came out that in their initial studies with ESL students, O'Malley and Chamot did not use any predefined list of strategies but were interested in the dynamic exchange between students in small groups discussing strategies (O'Malley and Chamot 1990:115). Later, they used the classification scheme developed for their initial ESL study with some modifications to classify strategies reported by students (O'Malley and Chamot 1990:125). Since the O'Malley and Chamot studies seemed to represent research settings (mostly in a classroom environment) different from the one in this study, it was difficult to determine what classification by O'Malley and Chamot would be the most suitable to classify the findings of this study, for which multiple data, different from the data used in other studies, were used. The O'Malley and Chamot classification was, however, deemed applicable as one possibility because of its scientific basis and clarity of definitions.

Therefore, as a result of the problem of finding a suitable instrument to analyze the data and to make sense of the findings for a further qualitative analysis, the choice was made to rely in the initial analysis of all the data and the grouping of L2 strategies on the same 5.1 version of the SILL by Oxford (1990:282-291), a six-tier classification, used in the survey to gather information on the learners' range of various strategies. Thus, it was hoped that some of the findings from the data could perhaps be interpreted with the help of the results from the SILL, ie. the students' scores for their use of different types of strategies at different language tasks in general. After that, to form a more coherent picture of the findings, the O'Malley and Chamot (1990:199-198) classification of metacognitive, cognitive, and social and affective strategies would be used because their three-tier classification seemed suitable for an autonomous learning context (Skehan 1989:98). However, to determine if and/or how the strategy definitions in the two classifications would match, a synthesis of the Oxford and the O'Malley and Chamot systems was attempted by the present writer (see Table 4, pp.72-76).

Table 4. Comparison of the SILL Strategy Inventory 5.1 (Oxford 1990) with the O'Malley and Chamot (1990) Strategy Inventory.

SILL, Strategy Inventory for Language Learning (5.1) Oxford 1990:283-290.	**Learning strategy definitions** O'Malley and Chamot 1990: 119-120, 198 -199.
Six Parts: **A, B, C, D, E, F** (below)	Three Main Categories: **A. Metacognitive strategies** **B. Cognitive Strategies** **C. Social-affective Strategies**
Part A. **Remembering More Effectively:**	**A. Metacognitive Strategies** **B. Cognitive Strategies**
* Grouping;	**B. Grouping**: Classifying words, terminology, numbers, or concepts according to their attributes.
* making associations;	**B Elaboration**: Relating new information to prior knowledge, relating different parts of new information to each other, or making meaningful personal associations with the new information.
* placing new words into a context to remember them;	**B. Recombination**: Constructing a meaningful sentence or larger language sequence by combining known elements in a new way. (1990:120)
* using imagery, sounds, sound-and-image combinations, actions, etc. in order to remember new expressions;	**B. Imagery**: Using visual images (either mental or actual) to understand and remember new information or to make a mental representation of a problem. **B. Auditory representation**: Playing in back of one's mind the sound of a word, phrase, or fact in order to assist comprehension or recall.
* reviewing in a structured way;	**A. Self-management**: Seeking or arranging the conditions that help one learn, such as finding opportunities for additional language or content input and practice.

* going back to review earlier material.	**A. Self-management** (see definition above)
Part B. **<u>Using Your Mental Processes</u>:**	**A. Metacognitive Strategies** **B.Cognitive Strategies**
* Repeating;	**B. Repetition**: Imitating a language model, including overt practice and silent rehearsal.
* practising with sounds and writing systems;	**B. Auditory representation**. Playing in back of one's mind the sound of a word, phrase, or fact in order to assist comprehension or recall. **B. Repetition** (see definition above)
* using formulas and patterns;	**B. Cognitive strategy (?)**
* recombining familiar items in new ways;	**B. Elaboration** (see definition above)
* practising the new language in a variety of authentic situations involving the fours skills (listening, reading, speaking, and writing);	**B. Elaboration** (see definition above)
* skimming and scanning to get the idea quickly;	**A. Advance organization**: Previewing main ideas and concepts of the material to be learned, often by skimming the text for the organizing principle. **A. Selective attention**: Attending to or scanning key words, phrases, linguistic markers, sentences, or types of information.
* using reference resources;	**B. Resourcing**: Using reference materials such as dictionaries, encyclopedias, or textbooks.
* taking notes;	**B. Note taking**: Writing down key words and concepts in abbreviated verbal, graphic, or numerical form.
* summarizing;	**B. Summarizing**: Making a mental, or written summary of information gained through listening or reading.

* reasoning deductively (applying general rules);	**B. Deduction**: Applying rules to understand or produce the second language or making up rules based on language analysis.
* analyzing expressions;	**B. Deduction** (see definition above)
* analyzing contrastively via comparisons with another language;	**B. Transfer**: Using what is already known about language to assist comprehension or production.
* being cautious about word-for-word translating and direct transfers from another language;	**B. Translation**: Using the first language as a base for understanding and/or producing the second language. (1990:120)
* looking for language patterns;	**B. Transfer** (see definition above)
* adjusting your understanding according to new information.	**B. Deduction** (see definition above)
Part C. Compensating for Missing Knowledge:	**A. Metacognitive strategies** **B. Cognitive Strategies**
* Using all possible clues to guess the meaning of what is heard or read in the new language;	**B. Inferencing**:Using information in the text to guess meanings of new items, predict outcomes, or complete missing parts.
* trying to understand the overall meaning and not necessarily every single word;	**A. Advance organization** (see definition above)
* finding ways to get the message across in speaking or writing despite limited knowledge of the new language; for instance, using gestures, switching to your own language momentarily, using a synonym or description, coining new words.	**(not found as such in the O'Malley and Chamot lists)**
Part D. Organizing and Evaluating Your Learning	**A. Metacognitive strategies** **B. Cognitive strategies**
* Overviewing and linking with material you already know;	**A. Advance organization** (see definition above)

	B. Elaboration (see definition above)
* deciding in general to pay attention;	**A. Self-monitoring**: Checking one's comprehension during listening or reading, or checking one's oral or written production while it is taking place.
* deciding to pay attention to specific details;	**A. Selective attention** (see definition above)
* finding out how language learning works; arranging to learn (schedule, environment, notebook);	**A. Self-management** (see definition above
* setting goals and objectives;	**A. Organizational planning**: Planning the parts, sequence, and main ideas to be expressed orally or in writing. **A. Self-management** (see definition above)
* identifying the purpose of a language task;	**A. Organizational planning** (see definition above)
* planning for a language task;	**A. Organizational planning** (see definition above) **A. Self-management** (see definition above)
* finding practice opportunities;	**A. Self-management** (see definition above)
* noticing and learning from your errors;	**A. Self-evaluation**: Judging how well one has accomplished a learning task.
* evaluating your progress.	**A. Self-evaluation** (see definition above)
Part E. **Managing Your Emotions:**	**A. Metacognitive strategies** **C. Social and affective strategies**
* Lowering your anxiety;	**C. Self-talk**: Reducing anxiety by using mental techniques that make one feel competent to do the learning task.
* encouraging yourself through positive statements;	**C. Self-talk** (see definition above)

* taking risks wisely;	**A. Self-management** (see definition above)
* rewarding yourself;	**A. Self-management** (see definition above)
* noting physical stress;	**A. Self-management** (see definition above)
* keeping a language learning diary;	**A. Self-management** (see definition above)
* talking with someone about your feelings/attitudes.	**A. Self-management** (see definition above)
Part F. **Learning with Others:**	**C. Social and affective strategies**
* Asking questions for clarification or verification;	**C. Questioning for clarification**: Eliciting from a teacher or peer additional explanation, rephrasing, examples, or verification.
* asking for correction;	**C. Questioning for clarification:** (see definition above)
* cooperating with peers;	**C. Questioning for clarification** (see definition above)
* cooperating with proficient users of the new language;	**C. Cooperation**: Working together with peers to solve a problem, pool information, check a learning task, or get feedback on oral or written performance.
* developing cultural awareness;	**C. Social-affective strategy** (?)
* becoming aware of others' thoughts and feelings.	**C. Social-affective strategy** (?)

From this synthesis it can be seen that, for the most part, the same strategies, although defined slightly differently and grouped differently, are included in both classifications. This was to be expected since Oxford's system was known to rely on earlier existing taxonomies: Categories A, B and C in the SILL represent cognitive strategies, Category D metacognitive strategies, and Categories E and F affective and social strategies in the corresponding O'Malley and Chamot classification. The major problem with trying to match the two systems seems to be with communication or compensation strategies (Part C in

the SILL): Oxford lists a number of them while they seem to be missing from the O'Malley and Chamot lists. For example, inferencing, or guessing intelligently by using linguistic and other clues, is considered a compensation or communication strategy by Oxford (1990:322) and listed under Part C in the SILL, while O'Malley and Chamot (1990:199) regard it as a cognitive strategy. One reason for the seeming lack of communication or compensation strategies in the O'Malley and Chamot lists could be that O'Malley and Chamot (1990:115) had discovered in the previous strategy research that there was persistent confusion over the distinction between language learning strategies and other types of strategies applied more to language use, such as communication and production strategies. Therefore O'Malley and Chamot focussed on learners' language learning strategies and developed strategy lists based on their research. Thus, it is natural that communication strategies seem to be missing from the above list. On the other hand, it could be claimed that inferencing also requires the use of mental processes and could well be placed under Part B in Oxford's list. Thus, inferencing illustrates the difficulty of strategy grouping and provides one explanation of the different kinds of listings produced by different researchers. A similar problem emerged with Part F in the SILL, for some of the strategies mentioned were not found in the O'Malley and Chamot lists as such. However, 'developing cultural awareness' and 'becoming aware of others' thoughts and feelings' could be regarded as social-affective strategies in accordance with the O'Malley and Chamot lists. For other than these observations, the two systems seemed to correspond with each other quite well. Thus, it was concluded by the present writer that the two ways of categorization were not in distracting disharmony and could be used to supplement one another when discussing the findings of this study. The six-tier SILL by Oxford was used to group the findings from the data, and the three-tier O'Malley and Chamot classification was deemed broad enough to discuss the findings in the conclusion part. The comparison of the two systems was used especially in problem situations when it was found difficult to determine with the help of the SILL what strategy might be in question. Thus, in this study, two classifications were used side-by-side as the means to discover, analyze, and group the findings from the data in an attempt to find answers to the research questions. As for individual strategies, in the data analysis, inferencing is interpreted by the present writer as both a cognitive strategy (Part B in SILL), in accordance with the O'Malley and Chamot listing, and as a compensation or communication strategy (Part C in SILL), as interpreted by Oxford.

The use of two different strategy classifications side-by-side can be criticized. However, research (see Skehan 1989:98, Oxford 1990:16-17, Kellerman 1991:142-161 as quoted by Cook 1993:135) has indicated a need to compare the findings of strategies by different researchers and, accordingly, the suggested categorizations. Abraham and Vann (1987:97) have also pointed out that the classification systems of strategies need further development and standardization. Because no earlier comparison could be found of the existing taxonomies of L2 strategies, a new, comparative instrument was devised for the purpose of this study. Kellerman (1991:145; emphasis original) points out that if a taxonomy is used to explain compensatory strategies, it should be *generalisable* across tasks, items, languages and learners; no strategies should be uniquely associated with certain tasks or certain items. Moreover, Kellerman

argues that a taxonomy should not be sensitive to learners' backgrounds nor the L2 being learnt, nor to whether learning takes place in the classroom or out of it. Therefore, it was deemed appropriate to attempt to apply the chosen instrument to different kinds of L2 data obtained in a nonclassroom environment for the purpose of this study.

A third problem related to the data analysis was that it was evident that the process of analysing the speech data would be especially problematic and subjective. According to literature, one solution is to look for clear markers of strategies, or problem indicators in the linguistic data, according to Faerch and Kasper (1983:56). These include 'implicit signals of uncertainty' such as pauses and slips, or an 'explicit (metalingual) signal of uncertainty', such as "I don't know how to say this", or a direct appeal for assistance. Ellis (1985:165, emphasis original) speaks about 'strategy tokens', which would seem to mean the same as strategy markers. As pointed out earlier (p.24), Ellis says that both native speakers and L2 learners use the same strategy *types*, but learners manifest more strategy *tokens*. As for the interpretation of the results, Cook (1993:133) states that because the strategy markers may produce a biased result in favour of communication strategies (as opposed to language learning strategies), supporting evidence such as a later interview should be used to safeguard the results. Nevertherless, this may not always be possible because of the time lapse between the actual time of the data collection and the time of the research. Cook also concedes that subjectivity cannot be eliminated altogether. However, since in the case of this study, as a result of the theoretical discussion, it was decided not to look for the difference between learning strategies and communication strategies at all, only at what second language strategies learners used in the learning context, any possible bias in favour of communication strategies would be acceptable. In fact, communication strategies could be expected to emerge in an autonomous context of second language use.

In accordance with the above statements, to decide on what parts of the audio and video recorded discussions should be transcribed for further analysis, strategy markers were looked for. This meant that whenever learners seemed hesitant or not knowing how to deal with the L2, or when they used metalanguage to discuss a language problem, or when they asked for help with the L2, these 'tokens' were taken as indicators that L2 strategies might have been needed to solve language problems. Those parts of the audio and video recordings were listened to and viewed carefully and the parts of the recordings that seemed to reveal information on the use of L2 strategies by the students were transcribed word-for-word, as far as possible. However, an abbreviated or a 'rough' transcription of the verbal data was deemed adequate for the purpose of this study. Pauses and hesitations were marked in the transcription, but the lengths of the pauses were not measured. No speech overlappings were marked either. The phonology was indicated, using the international phonetic script when the pronunciation of an L2 word differed significantly from the approved pronunciation and played a role in L2 strategies. Similarly, word stress, emphasis, intonation and other aspects of speech were also noted in the transcript, when significant from the point of view of L2 strategies.

As a result, rather than try to come up with a quantitative list of strategies, a qualitative analysis of learners' L2 process was attempted to find out what means learners used to cope with the requirements of the L2 in the

business game. In other words, the attempt was to understand the processes underlying strategy use in the L2, as called for by, for instance, Kellerman (1991:145), and not just make a list of strategies. When trying to ascertain the nature of the L2 strategy in question, it was done on the understanding that each time a strategy is used it is an individual choice made by the learner,[1] and therefore an attempt was made to analyze the implications of that choice related to the use of the L2 in the learning context and to the learners themselves. Another reason for not attempting a quantitative count of individual strategies was that the teams provided different amounts and different kinds of data to be studied, which were not comparable. Therefore, it was considered that no valid conclusions could be made in quantitative terms. Instead, a qualitative approach was expected to reveal some phenomena and trends in the learners' use of second language strategies in the learning context.

This choice of a qualitative research focus is supported by Cook (1993:133), who criticizes the compilation of lists of strategies as the sole objective of strategy research at this phase of research when extensive lists of strategies already exist. According to Cook (1993:120), the method used has mainly been "to comb through transcripts of learners' language for specimen's of strategies". However, Cook (1993:135) points out that "perhaps ... strategies are as complex linguistic behaviour as any of the formal linguistic levels; taxonomies can never do them justice". Kellerman (1991 as quoted by Cook 1993:135) also says that if taxonomies are used, they should be generalisable to different learners, tasks, situations, and so on. According to Kellerman, the available lists of strategies could and perhaps should be made use of, but new methods of research should also be developed in the field of strategies.

The present writer was aware that a qualitative analysis was bound to be subjective by nature (cf. Cook 1993:133). To make up for this defect, it would have been beneficial if there had been another researcher or several researchers who could have carried out their own analyses, which could then have been compared with one another and a consensus perhaps reached on the findings. However, the original idea of two researchers had to be given up. Still, this study being part of 'practical research' or 'action research', even a subjective way of understanding the process could have its benefits for both the researcher and others. This is supported by what Kincheloe (1991:146) says about qualitative research:

> Teacher researchers use qualitative research perspectives to enrich their own unavoidably subjective view of the lived world of education. After involving ourselves in action research do we possess new and better ways of seeing educational events? Are we better able to conceptualize educational questions in general and questions about our practice in particular? The purposes of qualitative research are multi-dimensional, as the inquiry attempts to engender understanding on three levels simultaneously: the issue being researched, the research process itself, and the researcher.

[1] The concept of strategy, however, starts from the learner's choice (Cook 1993:137.)

The validity and reliability of the interpretations and conclusions could no doubt have been improved with the help of a co-researcher or another rater.

Moreover, after the initial analysis of the results, the writer asked some team members about problem cases related to the transcript or the interpretation of L2 strategies. However, no actual post-interview was arranged, which should have been done to validate the findings.

Concerning the legitimation of the study, the subjects of this study, ie. the players of the game, were asked orally for permission to use the data submitted by them for research purposes. This request was granted by all subjects. Later, the individual players of the two teams chosen, Mr Spock and the Nerds, and the two co-administrators were asked if it would be possible to use their initials or something similar when referring to the speakers in the transcripts. This permission was granted either orally or in writing by all. The reason for this system of reference in the transcription was that the use of the initials, especially in reference to the subjects in the discussions of the data, was found to be more reader-friendly than, for instance, references to the subjects as S1, S2, or S3, or in some other more incognito way. In view of the relatively extensive amount of data and the significance of speaker identification, it was felt that it would be more reliable to refer to the subjects by their initials and also easier for the reader to follow.

As for a pilot study, since this was the first time that *Strategy!* was delivered in its present form at Helsinki Business Polytechnic so that the research programme of L2 strategies was built into it and since it took several years to build up the final research context, it was impossible to carry out a pilot study prior to this study. In autumn 1995, when the final research context was set up, it was not known whether another delivery of the *Strategy!* course would take place. Therefore, the data collected during the present delivery had to be resorted to. This was a drawback, for the data collection and data analysis methods could certainly have been improved after a pilot study.

5 THE RESULTS OF THE STUDY

Six teams took part in the simulation. The second language strategies of two of the teams will be analyzed below. The teams chosen were: (1) Mr Spock, the winning team, and (2) the Nerds, Team No 5 in the end. The reason why these teams were chosen was that both teams were Team No 1 in ranking for nearly half of the game, albeit during different halves of the game, and that the data that they provided seemed to contain ample evidence of the students' use of different strategies at different points of the game. Unlike some of the other teams, both teams had also audio recorded some of their negotiations, which was expected to give more accurate information on the students' strategies than the other data collection means used, as will be shown below.

Since the research findings and the discussions of the two teams grew extensive and since it was to be assumed on the basis of the log-book entries made by all the teams that they had used similar strategies, it was decided to limit the research to the two teams. The findings were considered sufficient to yield information on the L2 strategies of the students in the research context to draw final conclusions.

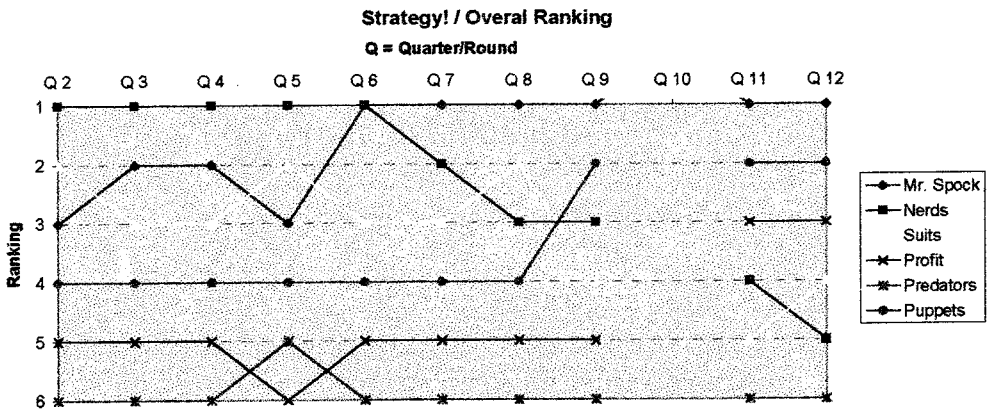


Figure 10. The rankings of the six teams in *Strategy!* at HelBP (1995).

5.1 Mr Spock, the Winning Team

The winning team, Mr Spock, gained position No 1 during Round 6 and kept it till the end of the game. As shown above in Figure 10, for the first six rounds, the Nerds held No 1 position while during the first half of the game Mr Spock was the third in ranking during Rounds 2 and 4, and the second during Rounds 3 and 5. During Round 6 they tied with the Nerds, and from then on Mr Spock was No 1. There is no data available about the ranking of any of the teams for Round 10, for an unknown reason.

5.1.1 General information on Mr Spock based on the background questionnaire

The background questionnaire (Oxford 1990:282; see Appendix 1) was completed and returned by the three Finnish team members. The following general conclusions could be made about the team Mr Spock:

Mr Spock consisted of one female (KH) and two male students (IK and PA). The CEO was the female student. The average age of the students was 23.3 years. The L1 of the students was Finnish, which was used at home by all of them. The average number of years that the students had studied English as L2 was nine (between eleven and five years). The students estimated their overall proficiency of English to be good (2) or fair (1), as compared with the proficiency of other L2 students in their class. As compared with the proficiency of native L1 speakers of the language, the subjects rated their proficiency as good (1) or fair (2). They considered it very important (1) or important (2) to become proficient in the L2 language (English) for the following reasons:

- interested in the L2 (3)
- interested in the culture (1)
- have friends who speak the language (1)
- required to take a language course to graduate (1)
- need it for my future career (3)
- need it for my graduate studies possibly in England (1)

The reasons given show that the students had an intrinsic motivation for the L2 as a result of their previous language studies ("interested in the L2 and the culture, friends who speak the language") and as influenced by their present or future needs ("required to take a language course to graduate, need it for my future career, need it for my graduate studies possibly in England"). All three students indicated that they enjoyed language learning. As an L2, besides English, the team members had studied German, Swedish, Spanish, and French. Their favourite language learning experiences had been "to learn to express myself in some other language than mother tongue" and "to be able to communicate in foreign language". One student wrote: "The TV series when I was little. It was that one where Neil Hardwick played a Bobby (policeman) and and other fellow, who's (*sic!*) name I don't remember played another one. And the 'heureka'-experience was the classic line: The cat is in the moon!" The latter two members had rated their proficiency level as "fair" as compared with native speakers of English.

5.1.2 The results of the SILL

When tested with the 5.1 Version of the SILL, the results for Mr Spock were as follows (maximum 5.0):

Part/Strategies covered	KH	IK	PA	General Average
A. Memory Strategies	3.9	2.5	2.6	3.0
B. Using Your Mental Processes	4.0	2.8	3.2	3.3
C. Compensating	3.9	3.5	3.8	3.7
D. Organizing / Evaluating	3.6	2.8	3.2	3.2
E. Managing Your Emotions	4.1	2.1	2.6	2.9
F. Learning with Others	3.6	3.2	2.8	3.2
The overall SILL	3.9	2.8	3.0	3.23

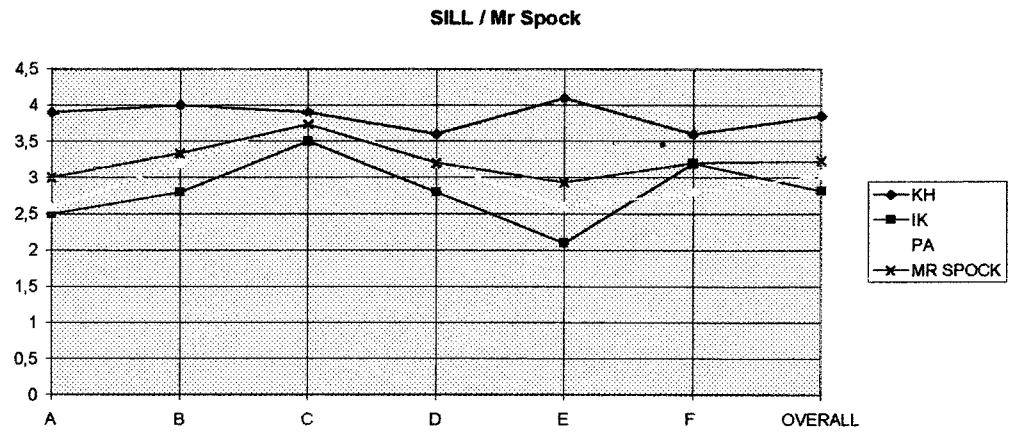


Figure 11. Mr Spock: A profile of the results of the SILL.

The overall SILL average of the three members of Mr Spock was 3.23, which means that Mr Spock fell into the category of medium range of strategy use (between 2.5 and 3.4), ie. language learning strategies were sometimes used by them, as interpreted in accordance with Oxford's (1990:291) Key to Understanding Your Average (see Figure 9 on p.68).

As for the sub-scores of the SILL of Mr Spock, as also shown in the diagram (Figure 11 on p.82), the highest general average for any of the six parts of the SILL was for Part C / Compensating for missing knowledge, ie. for communication strategies. The score (3.7) indicates that the team generally used compensation strategies, which corresponds to the high range of strategy use (between 3.5 and 5.0). The second highest average (3.3) was for Part B / Using Your Mental Processes and the third highest (3.2) for Part F / Learning with Others as well as for Part D / Organizing and Evaluating your Learning. The scores indicate that the team sometimes used these strategies, ie. Mr Spock represented the medium range (between 2.5 and 3.4) in their use of these strategies. The team's lowest general average (2.9) was for Part E / Managing Your Emotions meaning that the team sometimes used those strategies and represented the medium range of strategy use. The same applied to Part A / Memory Strategies (3.0).

Within the team, in the light of the SILL, the general use of the various language learning strategies by the individuals in the team varied somewhat. KH had a higher overall SILL (3.9) than the other two team members (IK/2.8 and PA/3.0), and her readiness to use strategies of all the six groups of strategies included in the SILL was better than the readiness of the other two team members. She represents the high range of strategy use (between 3.5 and 5.0) both in her overall use of strategies and the six parts of the SILL. She was chosen as the CEO of her team. Her highest score (4.1) was for Part E / Managing Your Emotions. For Part B / Using Your Mental Processes she had an almost equally high score (4.0). Both scores indicate that she generally uses these strategies. Her score (3.9) for Part A / Memory Strategies and the same score (3.9) for Part C / Compensation Strategies also indicate that she generally uses these strategies.

As compared with KH, the overall SILL of IK (2.8) and that of PA (3.0) represent the medium range of strategy use (between 2.5 and 3.4). As for the different parts of the SILL, the scores of IK and PA indicate a medium range of strategy use on the whole, except for Part C / Compensating for Missing Knowledge for PA (3.8), which puts him in the high range (between 3.5 and 5.0), and for Part E / Managing Your Emotions for IK (2.1), meaning that those strategies are generally not used by him (score between 1.5 and 2.4). An interesting discovery is that for Part E / Managing Your Emotions, KH has a high-end score (4.1) while IK has a lower-end score (2.1). Thus, it seems that in general there could be a significant difference in the use of these strategies by KH and IK within the team.

5.1.3 Strategies used by Mr Spock: evidence of the log-book entries and audio and video recordings

The conclusions below are based on (1) the log-book entries and on any other notes kept and submitted by the team, (2) the audio recorded discussion of

composing and sending the first e-mail message to the foreign partners in Sunderland, and (3) the interim and the final evaluation discussions, which were audio and video recorded and relevant parts of which were transcribed word-for-word after careful listening and viewing.

As for the audio recorded session of composing the e-mail message, Mr Spock was assigned a foreign partner team of two British students from the University of Sunderland Business School in the UK. The names and e-mail addresses of the British students were given to Mr Spock at the orientation meeting. Two team members (KH and IK), who had attended the 4-h orientation meeting, composed the message at a computer in a self-access computer room immediately after the orientation. For recording purposes, the students were asked to think aloud as they were discussing what to write. Unfortunately, it was not possible to video record the occasion in the computer room, for there were a number of other students working at the computers, and these students might have been disturbed by the videoing. However, the writer was present as an observer for about 10 minutes at the beginning of the session, which lasted for altogether some 45 minutes, as judged from the audio tape. For the rest of the time, the learners worked by themselves, with the tape recorder switched on next to them. Towards the end of their first session, the learners tried to send an e-mail message to Sunderland, but owing to technical problems, the connection was never established. The team did not try other means of communication, such as a facsimile, which was confirmed by the team at the interim meeting.

In general, the data by Mr Spock showed that they were not conscious of encountering many L2 problems during the game. In the log-book there were only four explicit entries under the item "Language problems". They were:

Round 1	**piski = doggy?**
Round 2	**Some probs with enviroScan reports but dictionary helped out**
Round 3	**Non.**
Round 11	**Pool sales? We don't think it means selling billiard tables.**

This was no surprise as none of the teams that took part in the game reported on having had any major linguistic problems, according to their own words , as came out in the interim discussions, and also as judged from the log-books. This could be taken to mean that, in general, the learners' level of proficiency in the L2 measured up to the requirements of the game and that their L2 strategies were already highly automatized. That was perhaps why they did not seem to encounter many L2 problems. To some extent, this finding was to be expected since a good knowledge of English in the L2 had been a requirement for attending the game. However, the proficiency level of the students was not checked in any way before they entered the game and therefore there could have been less proficient learners among the students. Still, it was rather unexpected that in general, when asked, the teams found the L2 of the game easy. As judged from their log-book entries, the team Mr Spock seemed to fit this general pattern, for they stated the matter explicitly in the log-book for Round 3 (*Language problems: Non.*) and had only entered three language problems in

all. Implicitly, however, some more information to the contrary could be obtained from the other entries in the log-book and from the recordings, as will be explained below.

The team's first entry for an L2 problem in the log-book was *Piski = doggy?*. *Piski* is a slightly pejorative Finnish term for 'a dog', also 'a small dog'. The L2 equivalents for *piski* given in two Finnish-English dictionaries are: 'cur', 'pup', according to Alanne (1962:650), and 'cur', 'tyke', (*Am.*) 'pooch', according to Hurme et al. (1984:876). *Piski* was the password that the team had chosen, and the password was needed so that they and their foreign partners could access their own game file through the WWW to obtain the data for the decision-making rounds. The log-book entry with the question mark after *doggy* showed that the students had had a problem with how to express *piski* in English, but the log-book contained no information about when or how the problem might have come up, nor did the log-book contain any explanation as to what strategies the learners might have used to come to the conclusion of the word *doggy*. The question mark (*?*) after the word *doggy* would seem to mean that the team was hesitant as to whether their choice of an equivalent was correct. Therefore, to find out more about the possible L2 strategies used, the audio recorded discussion of the team during the composing and sending of their first e-mail message to their foreign partners was listened to. The recording revealed that the problem of *piski* came up towards the end of the discussion.

This is a transcribed extract from the audio recorded discussion:

KH	Mikä on *piski* englanniks?
IK	*Doggy*. ... hhh ... ei se on liian kiltti sana ...(inaudible) *ma ... mad* tai joku tämmöne.
KH	No laitetaan tohon sulkuihin ...
IK	... ku mä en tiedä miten se kirjotetaan.
KH	No laitetaan siihen *doggy*
IK	joo
KH	sinne päi sama se niiku ... (inaudible)

As the first solution to the problem, IK suggested a translation, which he easily recalled from memory (*doggy* / Part B and Part A in SILL). However, he was not satisfied with it and used deductive reasoning (*hhh ... ei se on liian kiltti sana* / Part B in SILL) and self-evaluation (Part D in SILL). He then tried to recall a more suitable word (perhaps the word *mongrel* when he suggested *ma ... mad tai joku tämmöne*) by trying to activate a semantic field to recall the word (Part A in SILL); in other words, he played in back of his mind the sound of a word to assist recall, ie. used a cognitive strategy called auditory representation, in accordance with O'Malley and Chamot's list of strategies (1990:198). Unfortunately, this strategy was not successful, for he could not recall the orthography of the word *(... ku mä en tiedä miten se kirjotetaan)* and the attempt was dropped. Thus, he used self-evaluation (Part D in SILL) and a reduction oriented communication strategy, or compensation (Part C in SILL). To find a solution, however, the CEO quickly decided in favour of IK's original suggestion *doggy*, a coinage of the word *dog*, used especially to or by children for a 'dog' (*Longman dictionary of English language and culture* 1992:375; emphasis original). In other words, she adopted a risk-oriented strategy which

would communicate the idea, or used a compensation strategy (Part C in SILL). Her quick decision on *doggy* thus reveals the successful use of risk-taking strategies by KH (Part E in SILL). To perhaps explain this move, KH, who made this final decision, had shown a high frequency (4.1) in her SILL sub-score for Part E (Managing Your Emotions), which includes risk-taking, and it seems that she used those strategies together with the compensation strategy to take the decision and to get rid of the problem at hand in order to move on. Cooperation was also shown during the whole process of negotiating the problem together (Part F in SILL), even though, in the end, the final decision was made by the CEO. However, IK accepted it (*joo*). Thus, in the course of the process of solving the L2 problem, Mr Spock seemed to use strategies corresponding to all the six Parts of the SILL. In other words, they used a wide range of strategies. The strategies, with the exception of the memory strategy used to recall the L2 word for *piski*, also led to a successful outcome.

However, to fully understand the choice of the strategies used by KH to decide on *doggy* as the final solution, the entire context, which was quite lengthy, must be looked at. The problem of *piski* came up at the end of the team's first session, which took place immediately after the 4-h orientation session late on Monday afternoon and lasted longer than the team had planned for (close to an hour instead of the 15 min planned for, as evidenced by the recording and KH's words towards the end of the session *M'ollaa ... täss niiku oltu iha turhaa vaa melkei tunti ...*). Thus, the time pressure seemed to cause considerable tension among the team members, and they were getting impatient and anxious to complete the job at the terminal, as shown by the recorded discussion. Especially IK was anxious to finish the e-mail message to get home to study the manual because the first decisions were to be submitted by Friday noon, and he wanted to have enough time to go through the manual before that (*... tänä iltana pitää nyt lukee noita pelin ohjeita aika rajusti ... et tänä iltana o tiedossa paljon lukemista ... pakko*). As a result of the pressure, when trying to reach an agreement as to what day they should suggest to their foreign partners as the deadline for the reply communication, an argument about KH's role as the CEO arose:

KH	(typing at the computer) laitaks mä tähä et 'Could you tell us your opi ... opinions
IK	no se ois ihan kiva ...
KH	... on Wednesday? (rising intonation)
IK	kyllä se Thursday riittää varmaan ...
KH	no ei riitä sit (inaudible) vähäki
IK	no okei ... Wednesday sitte ... **sä rupeet käyttäytyy jo ku toimitusjohtaja**
KH	(inaudible)
IK	**ni sitte se on ku kerran toimitusjohtaja päättää keskiviikkona ni olkoo keskiviikkona**
KH	... no jos tulee jotai mieltä asiasta
IK	(indignantly) **mähän myönnyin jo ... mä myönnyin jo keskiviikkoon**
KH	mut niillo hirvee vähä aikaa sit mut minkäs sille voi

As L2 strategies in the above extract, KH used cooperation or asking for clarification (Part F in SILL) and repetition (Part B in SILL): *Laitaks mä tähä et 'Could you tell us your opi ... opinions ... on Wednesday?*. IK also used cooperation (Part F in SILL): *kyllä se Thursday riittää varmaan ... ; no okei ...*

Wednesday sitte ... Both also used compensation (Part C in SILL) as an L2 strategy when they used the L2 expressions as such amidst the L1. Apparently stressed by the pressure of the learning task and the shortage of time and being less able than KH to manage his emotions in stressful situations, concluding from his results for Part E in the SILL for Managing Emotions (KH 4.1 vs. IK 2.1), IK became indignant by KH insisting on an earlier day and made a comment to KH that she was already starting to act like a CEO (*sä rupeet käyttäytyy jo ku toimitusjohtaja*). KH tried to reconcile and explained why she felt that they would need a reply from their partners on Wednesday at the latest (*no jos tulee jotai mieltä asiasta*). IK conceded to her suggestion, even though reluctantly (*ni sitte se on ku kerran toimitusjohtaja päättää keskiviikkona ni olkoo keskiviikkona*), thus showing seeming cooperation. However, his statement and tone of voice implied that he only gave in because KH was the CEO and therefore had the right to decide on the matter. IK was not pleased with the decision, and KH tried to appease him by saying that she understood that the partners had very little time but it could not be helped (*mut niillo hirvee vähä aikaa sit mut minkäs sille voi*).

The CEO issue and the tension came up again somewhat later when the players discussed an L2 problem related to the wording of the e-mail message. Thus, this L2 problem came up implicitly:

KH	(typing and saying aloud) ... **in the future** ...
IK	... (eloquently) in the future there will be no man on the planet of Earth ...
KH	(laughing) ole hiljaa
IK	...no businesses (KH laughs) ... in the future there will be nuclear war (KH laughs) ... **aika mahtipontista toi 'in the future'**
KH	(laughing)
IK	(eloquently) ... by the end of the year three thousand and fifty seven
KH	(laughs) Hölmö!
IK	... this ... this game will be played ...
KH	Sä sekotit mut nyt iha kokonaa ... kirjota itte!
IK	Enkä kirjota... **sä oot toimitusjohtaja sun homma o kirjottaa**...
KH	... (inaudible) **sihteeri**
IK	***Mä*** (emphatic) **en oo mikää sihteeri ... mähä sanoin et mä oon lähetti täs firmas**
KH	Kirjotetaa nyt mä haluun pois täältä ...
IK	(as if announcing) **K** (= first name of KH) **will not write this message ...**
KH	**(laughs)**

To alleviate the anxiety created by the controversial issue and the time pressure, IK started joking about the formulaic L2 expression (Part B in SILL) that KH suggested for the message (*in the future*) and made KH laugh (Part E in SILL). The expression seemed to bring a number of associations to his mind and he used the expression in different combinations imitating native speakers. Actually, he was cautious about transferring the expression into the message as such. Thus he used his mental processes, mainly elaboration (Part B in SILL), and humour (Part E in SILL) together. He also analyzed the expression and found it rather pompous (*aika mahtipontista toi 'in the future'*), which shows the use of evaluation strategies (Part D in SILL). IK continued joking, which finally confused KH and she suggested that he write instead of her (apparently to act as 'secretary', since she said *sihteeri*). IK did not like her suggestion and responded by bringing up the CEO issue and saying that he would not be a

'secretary'; instead, it would be the CEO's duty to write; he was only prepared to be a messenger in the company, which he had already told her before (*Enkä kirjota... sä oot toimitusjohtaja sun homma o kirjottaa ... Mä (emphatic) en oo mikää sihteeri ... mähä sanoin et mä oon lähetti täs firmas*). This was said jokingly too, ie. humour was used to soften the message and alleviate the anxiety of the argument. KH tried to solve the argument by using cooperation (Part F in SILL) and appealing to IK that they should write the message, so that they could finally go home (*Kirjotetaa nyt mä haluun pois täältä ...*). To this IK reacted by using humour (Part E in SILL) as he announced in English (*K will not write this message ...*), and KH laughed (Part E in SILL). Thus, the problem of the CEO was settled amicably for the time being, but as to how the L2 problem of wording the e-mail message was settled in the end never came up on the audio tape. It seems that the main strategies used to solve the L2 problem were elaboration (Part B in SILL) and self-evaluation (Part D in SILL). Codeswitching was also used throughout the extract, for both speakers used L2 expressions amidst the L1. Thus they used compensation or communication strategies (Part C in SILL).

The CEO issue was also noted in the log-book jokingly during Round 2 under "Other Problems" (*CEO is a bit dictator)*, which was not to be taken verbatim, as confirmed later by the explicit statement from the taped interim discussion below (*... it was just a joke*):

Interim discussion:

KH	**... so we can make sure that everybody is making the decisions**
AL	good ... good
IK	and argue
AL	hm ... ya
SR	so you have...
AL	part of the game (laughter)
SR	**so you have made joint decisions?**
KH	**yah, everything**
SR	**CEO is not dominating too much?**
KH	**No ... (laughter)**
IK	**Well ...**
KH	**It was just a joke because these two, if I don't tell them, we ... we're not ... going nowhere ...**

KH's word *No* and her laughter indicated that the *No* was not to be taken seriously (Part E in SILL). Thus, the implications of what the team meant by the explicit statement about the CEO not dominating too much can only be fully understood from the above analyses of the audio-recorded extracts from the first session.

Later, IK continued his joking (Part E in SILL) when the players discussed another L2 problem related to how to end the message. The CEO issue still came up in between the lines, as KH made the final decision on the L2 greeting to be used at the end of the message:

IK	**joku mukava tervehdys loppuu ...**
KH	(keying in)
IK	**Hellurei ja hellät tunteet!**

KH	(laughs)
IK	**Cheerio! and Happy feelings!**
KH	(laughs)
IK	**... eiku hellät ... Tender feelings! niihä se onki**
KH	(saying to herself) **Tender feelings and** (keying in) ... **no kirjotetaa jotai ... Greetings**
IK	**taas**
KH	**Best wishes**
IK	***Best wishes?*** (emphatic) **How ... imaginative!**
KH	**noh** ...
IK	**Gruess Gott ... aus**
KH	***Kir*jota!** (emphatic)
IK	**Mitä ... no ko et sä nyt päässy nyt sun omantuntos kans ... viel selvyytee et mikä se nyt on**
KH	**pääsinhä ... Best wishes**
IK	(keying in)
KH	**Pitäisköhä siihe laittaa from?**
IK	**No ... voidaan laittaa** ... mä yritän nyt saada tän ... (keys in)

The above extract shows a number of L2 strategies used by IK and KH. IK used a humorous L1 greeting *Hellurei ja hellät tunteet* as an affective strategy (Part E in SILL) to reduce the earlier tension between the players. He then used a less word-for-word translation for the L1 greeting to communicate the idea (Part C in SILL) when he suggested *Cheerio! and Happy feelings!* On second thoughts, however, he evaluated the outcome (Part D in SILL) and reasoned (Part B in SILL) about the exact equivalent of 'hellät': *eiku hellät ... Tender feelings! niihä se onki.* KH realized that it was suggested by IK jokingly since she repeated what IK had said as she was typing (Part B in SILL), but preferred (Part D in SILL) the neutral *Greetings* to communicate the idea (Part C in SILL). IK disapproved of the suggestion by reminding KH that they had already used that greeting earlier (*taas*), thus showing the use of evaluation (Part D in SILL). KH suggested another less literal expression *Best wishes* (Part C in SILL), which IK found too unimaginative (Part D in SILL). It seems that his semantic field of greetings was activated, ie. the associations between the different greetings made him recall other greetings from memory (Part B in SILL), also in another language, and he suggested a German greeting *Gruess Gott*, even with the preposition *aus* (Part C in SILL). However, the main reason for the use of this transfer was most likely the desire to alleviate the anxiety of the disagreement (Part E in SILL) by additional joking. Finally, at IK's request, KH as the CEO decided in favour of *Best wishes*, the appropriate English greeting they were familiar with, often used at the end of e-mail and facsimile messages. This was the result of deductive reasoning and elaboration as a strategy (Part B in SILL) for they knew that none of the other L2 suggestions would have been appropriate. The other expressions were evidently brought up by IK to alleviate the anxiety of the learning situation (Part E in SILL). Similarly, KH mainly used laughter and sometimes also not saying anything to alleviate the anxiety (Part E in SILL). She also used cooperative strategies (Part F in SILL) when she said *no kirjotetaa jotai* and *no ...* , and IK responded with cooperation when he conceded in the end *No ... voidaan laittaa* (Part F in SILL). The use of cooperation and elaboration continued in the move when KH asked IK whether she should add the preposition after the greeting (*Pitäisköhä*

siihe laittaa from?), and IK responded (*No ... voidaan laittaa*). Thus, cooperation (Part F in SILL), it seems, was extremely important together with elaboration (Part B in SILL) to solve the original L2 problem of finding a suitable L2 greeting.

This seems to be confirmed as the same strategies were used when KH continued the writing. She checked once more with IK that *Best wishes* was approved by him too (Part F in SILL). It was at this point that the issue of *doggy* came up again, as IK evaluated their performance (Part D in SILL):

IK	pistä **'Best wishes'**
KH	(laughs) **tai laitetaa 'With love'** ...(laughs)
IK	kummalle? ... H'lle (H for the first name of a Sunderland partner)
KH	eiko P'lle (P for the first name of another Sunderland partner) tietysti mä voin laittaa P'lle sä voit laittaa H'lle
IK	joo
KH	**Best wishes from ... tartteeko?**
IK	kyl se nyt (inaudible) ... **from the periferia ... periferia of the** (English pronunciation) **Europe [europe]** (= Finnish pronunciation) **... Best wishes from the land of the ice bear ...**
KH	(inaudible) (keying in) ... **from the ... Best wishes from**...
IK	... mä hävitän teidät maan tasalle tos pelis
KH	**mä laitan tähä et 'Best wishes from us' ...**
IK	**joo**
KH	(exclaiming) Aih! ... Tuleeks toho muu ... muuta?
IK	Äh ... (indignantly) **No ei kai ... eiks siin nyt oo kaikki oleelline ... se nyt on kaikkien kirjeenkirjotussääntöje vastane mutta niille pitää nyt** (inaudible)
KH	Mmm ... (keys in)
IK	(indignantly) Lähetää nyt ... mä haluun päästä himaan lukemaa noit ohjeita ku mä haluun et mä o lukenu ne ennen ... tämän vuorokauden loppua ...
KH	(keys in)
IK	**Ne pitää meitä aivan idiootteina ku siel o kaikenmaailman dogeja**
KH	(laughs) **no kai me sit ollaa vähä idiootteja ku valittii sellasii** ...
IK	**Kuka se valitsi!**

KH monitored (Part D in SILL) what she was typing in the L2 (*from the ... Best wishes from ...*). On the other hand, she used her mental processes, or deduction, as she decided on the appropriate L2 expression *mä laitan tähä et 'Best wishes from us' ...* (Part B in SILL). She repeated the expression (Part B in SILL) and asked IK for an opinion (*tartteeko?*) using cooperative strategies (Part F in SILL). IK apparently felt annoyed (*kyl se nyt ...*) indicating that *Best wishes* would be enough. To alleviate his anxiety, he started to play with the L2 idiom (Part E in SILL) using it in new combinations, and thus used elaboration (Part B in SILL): *from the periferia ... periferia of the (English pronunciation) Europe (Finnish pronunciation) ... Best wishes from the land of the ice bear ...* He also mixed up the L2 and the L1 (Part C in SILL) by pronouncing *Europe* in the Finnish way, jokingly (Part E in SILL). KH again appealed to his cooperation (Part F in SILL), but IK continued joking (Part E in SILL) as a way of controlling his tension and maintaining self-esteem in the game *(... mä hävitän teidät maan tasalle tos pelis*). Soon, however, he cooperated with KH by saying *joo* (Part F in SILL). Then he got serious and used evaluation (Part D in SILL) and his mental processes (Part B in SILL) to solve the problem in the L2 when he compared their message with his previous knowledge of writing

business messages in the L2 (*No ei kai ... eiks siin nyt oo kaikki oleelline ... se nyt on kaikkien kirjeenkirjotussääntöje vastane mut niille pitää nyt ...*). In other words, in the O'Malley and Chamot (1990:199) terms, he used a cognitive strategy, elaboration, or 'relating new information to prior knowledge, relating different parts of new information to each other, or making meaningful personal associations with the new information'. He was still worried about his self-esteem but tried to control his anxiety by using humour (Part E in SILL), when he said: *Ne pitää meitä aivan idiootteina ku siel o kaikenmaailman dogeja.* When he said *dogeja*, he used the L2 word, but added the Finnish Partititive Case ending in congruence with the L1 syntax of the rest of the sentence. Thus he switched to another language and used a compensation strategy (Part C in SILL) to communicate the idea. In conclusion, it could be said that it seems that the L2 strategies mainly used by IK in the above passage were deduction and elaboration (Part B in SILL). However, codeswitching (Part C in SILL) and humour were also used by him (Part E in SILL). KH mainly used repetition and deduction (Part B in SILL) as well as cooperation (Part F in SILL) as L2 strategies, and laughter as a way to alleviate anxiety (Part E in SILL).

The same went on as KH suggested that they explain to their foreign partners why they had chosen such an extraordinary password and IK ruled it out by using his mental processes (Part B in SILL):

KH	No sit laitetaa ... selvitetää toho **'It comes from the ...**
IK	*Ei nyt* (emphatic and indignant) sel ... selvitetää nyt se viesti menemää ... selvitetää himaa
KH	ei...
IK	selvitetää itsemme himaa
KH	älä nyt ite sanoit
IK	Hei ... mite sä sait nyt ton noin tonne vi...(inaudible)
KH	Emmä tajuu
IK	No niin! Hyvä K (= first name of KH), hyvä!
KH	(keys in)
IK	Mä vedä oman ... oman nimeni yli tost koht tost viestist
KH	(laughs)
IK	(reading) **It comes from ...**
KH	mikä se on (laughs)
IK	*Eii!* (emphatic)! Pyyhi ny veke noi ... se voidaa sit joskus selittää ... jos mä oon tuntenu ne kakskyt vuotta sit mä voi selittää ... ne o varmaa oppinu muuteki tietää jo et
KH	**no ei sitte laiteta**
IK	**ei ... ei laiteta mitää**

To explain their password in the above extract, both KH and IK repeated (Part B in SILL) the target language expression *It comes from the ...* in the midst of their mother tongue speech and thus used codeswitching as a communication strategy (Part C in SILL). IK used elaboration, deduction (Part B in SILL), and evaluation strategies (Part D in SILL) successfully when he insisted that they should not explain anything at this point when the partners did not know each other yet. He even threatened to withdraw his name from the message (*mä vedän omani ... oman nimeni tost viestistä*), which KH knew was said in joking (Part E in SILL). Finally, they both agreed cooperatively (Part F in SILL) that they should leave out any explanation of why they had chosen *doggy* as their

password: *no ei sitte laiteta ... ei ... ei laiteta mitää.* Thus, they used compensation (Part C in SILL), or topic avoidance as a risk-avoiding strategy.

From the many extracts above it can be seen that the recorded discussions were essential data for understanding what L2 strategies the learners really used to solve the first L2 problem of *piski* mentioned in the log-book and why. The extracts reveal why KH made the final decision on *doggy* quickly and used a compensation or communication strategy (Part C in SILL) instead of checking the translation of *piski* with the help of a dictionary, for instance. The question mark (*?*) after *piski*, used in the log-book, also confirms the assumption of the use of a compensation strategy: the team were not sure of the exact translation but used the nearest equivalent they could think of to convey the meaning. There apparently was no time to check the word in the dictionary, nor did they deem it necessary. The atmosphere was also quite heated, and KH chose the best word at hand at the moment to avoid further arguments. Thus, the entire learning context, including the individual players themselves as different kinds of human beings and their relationship, the physical environment in the computer room with a number of other students working at computers simultaneously, the time and other constraints of the game, the competitive nature of the game as a learning task, and also perhaps the additional onus of being the target of research must be taken into account when trying to interpret what strategies the learners used. Against this background, besides the cognitive (Part B in SILL) and communicative strategies (Part C in SILL) used to solve the actual L2 problem, the affective strategies used to alleviate anxiety in the learning situation (Part E in SILL) became important. The social requirement to work as a team in the game might also explain the abundant use of cooperative strategies (Part F in SILL) in solving the L2 problems. Moreover, the two team members knew each other very well prior to the game, as was revealed later during the interim discussion, and therefore felt free to say things in an unveiled way and joke at each other's cost.

Another finding also derived from the previous extracts was that in a learning context in which both the L1 and L2 are used concurrently, it is natural that learners switch over from one language to the other as a quick means of communication, or use communication strategies (Part C in SILL). This became evident in the audio recorded session as the students tried to send the e-mail message. The names of the function keys were in English, and so was the text on the screen. As a result, L2 computer terms were used as such or with L1 pronunciation or syntax during L1 conversation, as the following extracts show:

KH	No ni. Nyt tää o valmis ... nyt se meni. **[kontrol]** **[ko:]** (= Finnish pronunciation) ...

IK	sitten valitset siitä sen **[sendin]**
KH	**[send]** (rising intonation)
IK	noin

IK	(reads) **'Delivery failure notification'**(English pronunciation) ... ei tullu

KH päästääks me takas siihe äskeisee tekstii ... vai
IK ei ku se ... (indignantly) no se lähti menemää jo

KH Siis et meniks se nyt vai?
IK Äläs nyt ... mä katon ... Noo ... **One or more addresses in your message have failed with the following responses from the ...** (inaudible) **user unknown ... user unknown? ... for assistance** ... niihä mä teinki ... ei tota **orakkelii** ...
KH No s'ei nyt sit vaan menny ...
IK odotas nyt ... se osote on kyl ainakin sen ... tos pitäs toi pitäs olla toi **Sunderland** (English pronunciation) pitäs olla sen **serverin** (Finnish pronunciation) nimi ... toi on niiku ... en tiedä ... sama ku (inaudible) toi **UK [juu kei]** (= English pronunciation) on se maa
IK **paa [kvitti]** (= quit; Finnish pronunciation) ... lähetetää sit huomenna uudestaa ... kokeillaa huomenna uudestaa
KH M'ollaa ... täss niiku oltu iha turhaa vaa melkei tunti ...

IK used the L2 terms *[kontrol]*, *[ko:]*, *[sendin]*, *serverin*, *orakkelii*, *UK [juu: kei]*, and *[kvitti]* as such, in accordance with the Finnish syntax, to convey the meaning (Part C in SILL). The pronunciation was mostly assimilated to the L1 too, except for [*juu kei*]. As for the text that appeared on the screen, to make out the meaning, IK skimmed through the text (Part B in SILL) and then concluded what was to be done by using deduction or his mental processes (Part B in SILL). When confronted with something that he did not understand (*user unknown* ...), he stopped and repeated the expression with rising intonation *user unknown?*, thus using repetition (Part B in SILL) and apparently deductive reasoning (Part B in SILL) as strategies. Furthermore, deduction (Part B in SILL) and self-evaluation (Part D in SILL) were used to monitor the performance (*for assistance ... niihä mä teinki*). Thus, his main strategies in dealing with the text were skimming and deductive reasoning, or using his mental processes (Part B in SILL), combined with self-monitoring (Part D in SILL). Thus, IK seemed to use both cognitive and metacognitive strategies together effectively and was able to make out the meaning of the L2 text on the screen. In addition, social strategies (Part F in SILL) were also used because the two learners were working together at the problems.

The following extract from the same session is another example of the use of both cognitive, metacognitive and social L2 strategies for comprehension:

KH Mitä tää *nyt* (emphatic) kysyy?
IK Mitä sä haluut tehä?
KH No, mä lopetan (emphatic) sitä ...
IK (reads from the screen) **Move read [ri:d**; wrong pronunciation] **message to received folder Yes / No** (English pronunciation) ... **Haluut sä jättää sen tähä vai siirtää sen toisee fouldörii** (English and Finnish pronunciation)**? ... Sä voit panna siihe vaikka että 'No' [nɔu]** (= English pronunciation)
KH (keys in)

KH's foremost strategy was asking for help or cooperation (Part F in SILL). IK skimmed through the L2 text (Part B in SILL) and translated the main idea using communication strategies (Part C in SILL). This was shown by the mispronunciation of *read* [*ri:d*] instead of [*red*]; he did not monitor or improve

his performance. The L2 terms *fouldörii*, and *No [nɔu]* were also used as such, *folder* with the Finnish syntax, in between the L1 (Part C in SILL).

The second explicit entry of an L2 problem and a solution mentioned in the log-book by Mr Spock was when the team wrote that if they did not know a word, for instance, in the manual, the dictionary helped out:

Round 2: Some probs with enviroScan reports **but dictionary helped out.**

Thus, they used resourcing as a strategy (Part B in SILL). Resourcing is a cognitive strategy, according to O'Malley and Chamot (1990:198).

During Round 3, the team stated explicitly that they had had no L2 problems during that round:

Round 3: Language problems: **Non.**

However, implicitly, the misspelling *non* shows some lack of monitoring. Thus, compensation was used as an L2 strategy (Part C in SILL).

The third entry about an L2 problem explicitly recorded in the log-book was during Round 11, *Pool sales?*, an expression used in the manual. The solution given in the log-book (*We don't think it means selling billiard tables*) suggests the use of mental processes (Part B in SILL), in this case recombining familiar items in new ways, or elaboration. In addition, the explanation reflects the team's use of humour as an L2 strategy (Part E in SILL).

Thus, in terms of the O'Malley and Chamot (1990) classification of strategies, Mr Spock explicitly used translation, resourcing, and elaboration as cognitive strategies to solve the L2 problems (*piski*, a word unknown, and *Pool sales?*). Implicitly, however, as has been shown above, a great number of other strategies were used in conjunction with the cognitive strategies. The other strategies included self-evaluation as a metacognitive strategy, and the use of social-affective strategies, such as asking for help, and using humour and laughter to alleviate the anxiety of learning.

Further L2 strategies were implicitly revealed by the log-book entries made to record the business problems, the actions taken, and the impacts of the actions. Such entries were: *massa mark. panostus*, using the mother tongue to record things in the log book (Part C in SILL), and *11,3%*, using the Finnish comma instead of the English decimal point (Part C in SILL), still using the correct way of writing the %-sign immediately after the figure in English (Part D in SILL), as compared to the Finnish way of writing, ie. *11,3 %*. Whether the team were really conscious of the difference between the English and the Finnish ways of writing the percentage figure could only have been determined by asking the team about it, but this was not done. Thus it is difficult to say whether they used metacognitive strategies or not to monitor their performance in writing the figure in English. The use of the Finnish forms *massa mark.* and *panostus* would seem to indicate that the team had used Finnish during their negotiations (as was indicated later during the interim meeting) although the log-book was completed in English. In cases like above, the team most likely did not take time to monitor the English equivalents by using metacognitive strategies; instead, they resorted to the use of communication strategies to compensate for the missing knowledge by using the mother tongue as a shortcut

momentarily (Part C in SILL). The correct use of the %-sign may have been influenced by the L2 forms in the manual and/or on the screen and may have been unconscious.

As for monitoring the L2, in general, the L2 used to record the business actions and their impacts in the log-book was fairly accurate. The team seems to have monitored (Part D in SILL) their L2, but a few slip-ups occurred, perhaps because of the notetaking style and because of the influence of the L1. Here is an example from Round 11:

Round 11:

RTOY	We are trying to keep a steady position.
CELL	Investing 20 000. And **strengthen** the quality control.
MAQU	Bad news, so we try to keep our profits acceptable a little decrease though.
EXER	Investing a bit more and **placing human resources to a more important place.**
HLTH	Very bad news, but we are settling for smaller profits and just divesting a bit

Appropriate terminology was used and the L2 was grammatically correct except for the use of *strengthen* instead of *strengthening* (Part C in SILL), which would have been congruent with the previous verbal form *investing*. The team also used an L2 word-for-word translation *placing human resources to a more important place* (Part C in SILL) to convey the idea of *sijoittaa enemmän henkilöstömenoihin* instead of a more idiomatic L2 expression, for instance, *giving human resources priority*. The full stops at the end of the sentences were not used consistently either, but the omission of full stops may be due to the notetaking style. Thus, the team did not always seem to monitor their L2 in the log-book, but used compensation strategies (Part C in SILL) instead.

Similar characteristics can be seen in the following log-book extracts from Rounds 2 and 3:

In the 2nd round we tried to sell our CELL but obviously you can't sell it **unless you don't allready have** a buyer. We try **certan** strategies: **focus with differentation, differentation** + invest 20 000, **differentation** no invest, low cost, invest 7000, **focus with differentation** invest 10 000, **focus with** low cost invest 5000. The game doesn't "understand" our strategies. It must depend on turnover and **gros** margin. (NB. Highlighting not original

Round 3:
Language problems: **Non.**

The game doesn't "understand" our strategies. Anyway we are in **th** 2nd place.

There is lack of monitoring grammatical forms (*unless you don't have* instead of *unless you have*, and *focus with* instead of *focus on*) besides the lack of monitoring in spelling (*allready, certan, differentation, gros*). Similarly, in the first extract, the L1 way of writing the figures is used (for example, *20 000 instead of 20,000*). From the point of view of communication, however, these shortcomings are not serious; the message is conveyed all the same. Apparently, the team did not consider it necessary to monitor their writing all the time, they used communication strategies instead (Part C in SILL).

The L2 used in the above passage for describing the business strategies in the decision-making process also implicitly provided some clues to the use of second language strategies by the team:

In the 2nd round we tried to sell our CELL but **obviously** you can't sell it unless you don't allready have a buyer. We try certan strategies: focus with differentation, differentation + invest 20 000, differentation no invest, low cost, invest 7000, focus with differentation invest 10 000, focus with low cost invest 5000. **The game doesn't "understand" our strategies. It must depend on** turnover and gros margin.

Expressions such as *obviously*, *doesn't "understand"*, and *It must depend on* reveal the use of mental processes (Part B in SILL). This would seem to indicate how intertwined with, and hardly separable, the strategies related to the use of the language are from the context and the use of the actual business strategies. With reasoning, concluding, or inferencing as an inherent element of any decision-making process, it would only seem natural that these strategies should also be reflected in the language, in this case in the L2, in this kind of context.

The following extracts serve as further examples of the team's use of notetaking strategies (Part B in SILL), which seemed to be relatively automatized:

Round 1:
Effect was satisfactory; we are in 3rd place. (cf. **The effect .. the third**)

Round 2:
Some **probs** with enviroScan reports but **dictionary helped out.** (cf. **We had** some **problems** with EnvironScan reports but **the dictionary helped us out.**)
CEO is a bit dictator. (cf. **The CEO is a bit of** a dictator.)
Trying to establish sustainable growth but **probs** with strict strategy planning. (cf. **We are trying** to establish sustainable growth but **are having problems** with strict strategy planning.)
Effect was satisfactory; we are in 3rd place. (cf. **The effect** ... **the third**)
In the **2nd** round ...(cf. **second**)
No established strategies. (cf. **We had** no established strategies.)
Result pretty good. (cf. **The result was** pretty good.)

Round 2:
Create RTOY (= a new SBU)
Result pretty good
 # 2

Using shortened forms of words (*probs*), using figures or signs for numerals (*2nd*, *3rd*, #), or using cable-style discourse by leaving out articles, predicates or auxiliary verbs, prepositions, etc. are typical of notetaking strategies. This kind of style is an effective communication strategy (Part C in SILL) since it saves writing and thus time. However, it was not used consistently by the team, full sentences also appeared, as shown, for instance, by the following extract:

Round 1:
All decisions concerning Strategy! [*sic!*] are made together because our group is small and it suits us.
We are in 3rd place.
We try certan strategies. The game doesn't "understand" our strategies. Anyway we are in th 2nd place.

The reason behind these two different approaches to note taking is unknown. The only way to find out would have been to ask the team about it. However, because the log-books were submitted at the end of the game and the only opportunity to interview the team was halfway through the game, this was not possible.

5.1.4 Strategies revealed by the interim meeting

The semi-structured 30-minute interview was conducted by the Business Economics teacher and the present writer as the English teacher after Round 6 in the game. All three team members were present. The team were asked to describe orally how they had experienced the game. The questions put to the team followed the order of the questions in the two questionnaires, one prepared by the Business Economics teacher and the other prepared by the English teacher and specifically related to the use of L2 strategies (see Appendix 3). The interview was conducted in English, but a free discussion in the L1 concerning the use of L2 strategies followed shortly after the interview. The discussions were audio and video recorded, except for the informal discussion in the L1, which was only audio recorded. The questionnaire concerning L2 strategies was given to the team at the end of the meeting for completion in writing but was not returned. Thus, the data of the interim meeting for Mr Spock contained audio and video recordings plus any observations made by the two interviewers.

At the beginning of the interim meeting, the team explained how they had oriented themselves towards the game after they had received the L2 material. This mainly has to do with the learner's use of metacognitive strategies when the learner is trying to make out the overall idea of what is to be learned and to set goals for learning, when approaching the learning task. In this case, these strategies were more directed to understanding the overall idea of the business game rather than working out L2 problems. However, since the manual was in the L2, the same strategies were applied to making out the L2.

As for metacognitive strategies, the interim meeting revealed that Mr Spock used advance organization or overviewing and linking with material they already knew (Part D in SILL) as a metacognitive strategy. They also used such strategies as selective attention (Part D in SILL), and skimming and scanning and elaboration when they studied the manual (Part B in SILL). According to Oxford (1990:290), skimming and scanning and elaboration are cognitive strategies, but according to O'Malley and Chamot (1990:198), skimming and scanning are metacognitive strategies. Furthermore, they showed good self-evaluation strategies (Part D in SILL) and used cooperation together with metacognitive strategies when they divided the work between the team members (Part F in SILL). Thus, they used a combination of metacognitive, cognitive, and social strategies, in the O'Malley and Chamot (1990) terms. The following extract shows the use of these strategies respectively:

SR	So I start asking you a few questions. Er ... was it difficult to orientate to the framework of the game?
PA	**Ya for me it was bit difficult ... demanded a lot of reading ... in advance** (self-evaluation / Part D in SILL; advance organization / Part D in SILL)
SR	Yes ... right ...

PA	**and I didn't have time at that point so I ... I didn't read it all ... all the material you gave us but when we played the first time I got a ... got a good idea of the game as a whole** (elaboration / Part B in SILL; self-management and self- evaluation / Part D in SILL)
SR	Hmm ... hmm ... right ... ya ... so did it take a long time to read that manual?
KH	No. **We** (pointing at IK) **divided it** (cooperation / Part F in SILL; advance organization / Part D in SILL)
SR	OK
KH	..**so we read it together ... and ... we divided it to half and half and ... hm ... I think it was about one ... evening ... and not more ... and we just ...** (cooperation / Part F in SILL; advance organization / Part D in SILL)
IK	or two evenings ... maybe
KH	maybe **but it was easier because he read something and when he thought that this is important he told me that read this** (self-evaluation / Part D; cooperation / Part F)
SR	Oh good!
KH	**and ... like vice versa** (cooperation / Part F in SILL)
AL	Ahaa ... good
KH	**It was OK ... and I think the most important part was almost the last questions in the book** (self- evaluation and advance organization / Part D in SILL)
AL	Ahaa ... so you went through the questions?
IK	**Ya ... they give much more information than the original text** (reasoning / Part B in SILL; self-evaluation / Part D in SILL)
SR	Ya actually I agree (laughs) ... ya I read them ... you know through to too
AL	... so that saved time to focus on the right matters ... was that it?
IK	**Ya, in practical situations** (summarizing / Part B in SILL; self-evaluation / Part D)
SR	Exactly. Exactly. Ya.

Within the team, IK and KH had used a number of metacognitive strategies when going through the manual in the L2 (Part D in SILL): they had divided the work and discussed it together (advance organizing, previewing) and read through the questions at the end of the manual to get an overview and to know what to focus on (selective attention). This would seem to point at the use of deep-processing skills and highly automatized metacognitive strategies on their part. On the other hand, PA had not used these strategies, for he was busy with something else at the beginning of the game, as was also revealed by the audio recording from the first session when KH and IK tried to send the e-mail message to Sunderland:

KH	Onks P'l (P for the first name of PA) jotai?
IK	O ... (keeps on keying in)

Therefore, in the interim discussion above, PA pointed out that he had not had time to read through the manual in the beginning (*and I didn't have time at that point so I didn't read it all ... all the material you gave us*). However, he had resorted to the other team members helping him get an overall idea and thus had used cooperation as a strategy (Part F in SILL). In addition, he had used a cognitive strategy, elaboration or relating the new material to a context (Part B in SILL), to manage in the game (*but when we played the first time I got a ... got a good idea of the game as a whole*). Later, however, he had gone through the manual by himself (*Ya for me it was bit difficult ... demanded a lot of*

reading ... in advance) and thus also used metacognitive strategies (Part D in SILL)

As shown by the examples above, the team's metacognitive strategies seemed to be internalized. Good time management to safeguard that learning can take place is also one of the metacognitive strategies (Part D in SILL):

SR	Mmmm ... Er ... has it been difficult to arrange meetings?
PA	**Not very difficult because ... again ... we're just the three of us**
SR	right ... ya, ya
KH	**we meet always ... almost always on Thursdays**
SR	ya
KH	**... at the same time ... so it's not a problem**
SR	mm ...
IK	... **I talked before this game to ... A** (= first name of a former player) **and ... E** (= first name of a former player) **... recall that they played the game ... a year or two ago ...**
AL	yes, a year ago ...
IK	**they said that don't have too big group because you have to meet regularly...**
SR	right
IK	**and it's much more easier if you have a small group**
SR	right ... and
KH	**and it's like we all ... we can tell our opinions about everything**
SR,AL	hm ...
KH	**so we can make sure that everybody is making the decisions**
AL	Good ... good
SR	Hhm
PA	**... and argue...**
AL	Hhm ... ya ...
SR	So ...
AL	... part of the game (laughter)
SR	so you have made joint decisions
KH	**ya ... everything**
SR	**so CEO is not dominating too much?**
KH	**no**
PA	**everything ... well ...** (laughter)
KH	**it was just a joke** (laughter) **... because these two ... if I don't tell them ... we ... we're not ... going nowhere ...** (laughter)
SR	OK ... (laughs)
IK	**we're not concentrating on the issue**
KH	**yes, because I want to concentrate and these two want to joke.**

KH told that the team had met regularly (*we meet always ... almost always on Thursdays ... at the same time ... so it's not a problem*) and had mostly concentrated on the game although there had been some joking too, but the CEO had made sure that the work got done (*because I want to concentrate and these two want to joke*). Thus, she used good self-management as a metacognitive strategy (Part D in SILL). She seems to have generally used good metacognitive strategies, as her score for Part D in the SILL (3.6) would also seem to indicate. Thus, her sub-score for the metacognitive strategies represents the high end of the range while IK and PA belonged to the medium range with their sub-scores for Part D (2.8 and 3.2 respectively). However, judging from the recording of the first e-mail session, IK seemed to be even more concerned than KH about having enough time to read through the manual.

Thus, as for planning his studies, his metacognitive strategies could be said to be effective too. In the above extract, he also said that he had contacted two players of the previous round of the game (in 1994), to obtain useful information for playing the game. This could be seen as a sign of strong motivation and as a good metacognitive strategy, besides his showing cooperation (Part F in SILL). According to O'Malley and Chamot (1990:199), self-evaluation is an important key to increasing motivation. Other strategies that assist motivation are self-management, in which students set goals and arrange the conditions that help them learn, and self-talk, in which students learn how to control anxiety about a task. Mr Spock seemed to be good at using these strategies, as the above extracts show. Moreover, O'Malley and Chamot (1990:222) point out that their findings suggest that "one of the metacognitive strategies that differentiates effective from less effective learners is problem identification, which entails analyzing the task objective and one's own resources for accomplishing it". Thus, Mr Spock would seem to have used effective metacognitive strategies in this respect.

Cooperation emerged as a decisive strategy that the team had used in all their work. The use of cooperation as a general decision-making strategy by the team was mentioned in the above extract (*so we can make sure that everybody is making the decisions*) and was confirmed by the discussion that followed, during which the group stated explicitly that they had made all the decisions together:

SR	So how has your group worked? ... So ...
PA	**We have worked together all the time**
SR	all the time ...
PA	**because we're so small group**
IK	**and we make the decisions** ..
KH	**all together ... for all ... all the** [ðɔ] **s** [æs] (= Finnish pronunciation) **SBUs [esbi:ju:z]** (= English pronunciation)

In the above extract, it must also be noted that KH self-corrected (Part D in SILL) her pronunciation of the initial letter *-s-* in the expression *SBUs* , thus showing the effective use of her metacognitive strategies. She first pronounced the *-s-* in the L1 way but quickly corrected it to be pronounced in the L2 way.

When asked specifically about the L2 strategies that the team had used when they had to solve problems with Spanish or German as the L2, the team first said that they had not bought the Spanish or the German sub-units. Thus, it would seem that they had avoided the L2 problems too, in that respect. This was not the case, however, as the following discussion shows, for the team had read the Spanish and German EnviroScans to be ready to buy the respective industries when they would become profitable. As to what kinds of L2 problems the team had met with, and how they had solved these problems, was not revealed in this discussion. However, during the discussion an interesting example of an L2 problem came up, which was solved by using a number of strategies, but especially by using cooperation (Part F in SILL):

AL	Ya, OK ... Yah I was wondering ... er ... you bought some sub-units ... do you have ... did you buy any of the ... did you buy the Spanish or the German sub-unit?
KH, IK	No

AL	No ... because ... so you haven't needed those languages at all?
KH	**Well ...we have been reading them** (= the EnviroScans) **all the time.**
AL	Aha, OK
KH	**they have been the** (puts her right hand to the corner of her eye) the .... **hhm ... prosp ... no**
IK	**alternative**
AL	**industries or**
IK	**yeaah .. to buy ...**
AL	aha

As evidenced by both the video and audio tapes, KH apparently had difficulty in recalling the L2 word she wanted as she said *hhm* and paused and put her right hand to the corner of her eye. She pondered, looking at the table and not at other interlocutors, while trying to recall the L2 word, which she then tried to produce: *prosp* ..., apparently for *prospective*. In other words, she used sounds or auditory representation as a memory strategy to remember more effectively (Part A in SILL). However, she quickly evaluated the outcome as not satisfactory as she said *no*, using self-evaluation as a metacognitive strategy (Part D in SILL). IK realized that KH needed help (Part F in SILL) and came up with the word *alternative*, after which AL added another word to suit the context (*industries*). After that, IK used evaluation as a metacognitive strategy (Part D in SILL) as he said *yeaah*, thus confirming that the expression *alternative industries*, achieved cooperatively, was the one looked for. Thus, during the process, the combination of cooperation and self-evaluation, in other words, of social and metacognitive strategies, produced a satisfactory outcome when a memory strategy could not be relied on. The process resembled that of solving the problem of *piski* during the first session, when a memory strategy was first attempted by IK (*ma ... mad ... tai joku tämmöne*), but since it was not successful, a number of other strategies were used.

As the discussion continued, IK used compensation strategies:

IK	if they were ... **er ... you know good enough and their performance was ... good enough** ... we would have bought them
AL	you would've bought them yeah
KH	but every time what it says there ... **it's ... it doesn't look so good**

IK used circumscribing (Part C in SILL), when he looked for an expression in *if they were ... er ... you know good enough and their performance was ... good enough* and in *it's ... it doesn't look so good.*

As for making out the Spanish and German EnviroScans, the use of cooperation or learning with others (Part F in SILL) as the main L2 strategy was stated explicitly by the team:

AL	Well, since the the ... you know the information on those companies that's is in Spanish and in German ... how have you worked that out from the language point of view?
IK	**Well, she speaks Spanish and ... and German** (all laugh)
AL	so K (= first name of KH) has been a great resource ... (laughter)
IK	**and we both speak**
IK, PA	**a little German**

Thus, the team members had combined their resources in German as the L2 but relied on KH in Spanish (*Well, she speaks Spanish and ... and German*). However, as was revealed later, on one occasion IK had turned to an outsider for a second opinion, to check a Spanish word:

AL	Ahaa OK ... Have you had to resort to any other means ... have you been able to make out everything just by yourselves or have you used dictionaries or ... or any any other resources or asked people or something like that?
IK	**Well, once I asked**
PA	(inaudible) ourselves
IK	**... once I asked S** (inaudible) **what this ... because she** (starts laughing) (inaudible)
KH	**he didn't believe what I said** (humour)
AL	Yeah, what was it?
KH	**It was one of the...**
IK	This is an argument.
KH	**er ... ennustus** (looks at AL for help)
AL	**Aha ... a forecast ...**
KH	**it was one of the forecasting** ...
KH	**and I ... I told him what it means and he didn't believe me**
AL	**Was that a German word or?**
KH	**No, Spanish**
AL	Spanish
KH	**the whole thing, and then he had to go to ask some ...**
IK	(defending himself) **I asked** [a:skɔd] (slight mispronunciation) **for a second opinion**
AL	OK
IK	**and it was**
KH	**but you didn't believe me**
IK	**yes I did but I just asked for fun** (laughter/KH)
KH	**so how was it? right or wrong?**
IK	**jolly good** (humour)

So, IK had used cooperative strategies outside the team and consulted someone who knew Spanish to check on KH's opinion. This was not considered appropriate by KH, jokingly, as the discussion showed. Humour and joking (Part E in SILL) were used as affective strategies by both IK and KH to settle the argument amicably.

The solution of the actual L2 problem (*ennustus*) above also illustrates the use of cooperation, although KH seemed to use a number of other strategies as well. As she realized the problem, she first used a hand gesture and the mother tongue word (*ennustus*) as a cue to indicate the L2 problem. In doing so, she compensated for missing knowledge (Part C in SILL), or used communication strategies. At the same time she cooperated with others when she turned to AL for help (Part F in SILL). After the right L2 word was given to her, she picked it up quickly and used it in her L2 speech, although in a slightly incorrect form (*forecasting* instead of *forecasts*). Thus, she used elaboration (Part B in SILL) but failed to monitor the form, and therefore used a compensation strategy for communication (Part C in SILL). Her communication strategies of resorting to gestures and a mother tongue expression momentarily plus using the L2 word to get her message across, and the strategy of asking others for help plus using elaboration worked well to solve the L2 problem. Thus, besides cooperation she used a wide variety of

strategies and it would seem that her L2 strategies were highly automatized. She seemed to represent what O'Malley and Chamot (1990:222) would designate as an 'effective language learner: effective learners use strategies more frequently and use a greater variety of strategies than students designated as less effective learners.

The other team members also used cooperation when faced with an L2 problem. In the following instance, IK asked AL for help to verify that he had used the right word (Part F in SILL):

IK	if I wasn't doing my final research or ... dissertation ... **is it called dissertation?**
AL	Ya dissertation ... dissertation is fine

IK's question (*is it called dissertation?*) also showed good self-evaluation (Part D in SILL).

Another similar example of cooperation was when PA also verified his understanding of what was meant by SR's question (Part F in SILL):

SR	so ... how has your quarter report influenced your motivation?
PA	**What was *that* (emphatic)?**
SR	So that you are now ... er ... *Oh you are* (emphatic) very ... doing very good ... well ... today... so ... you have had your ... your down periods and ... up periods or how do you call them ...
PA	perhaps (laughing)

In this case, the elaboration of the context helped PA understand what was meant.

On the basis of the above examples, it can be concluded that Mr Spock used cooperation as an effective L2 strategy, often together with other strategies.

Compensation strategies (Part C in SILL) were used to produce and understand the L2 instead of or besides using linguistic means. In this kind of a learning context, in which the L2 was a vehicle of communication in the game context, this would only be natural. The video tape of the interim meeting evidenced the use of nonverbal strategies, such as gestures or body language, to communicate meaning besides using words in the L2 or when trying to find the right L2 words. The following extract related to the learners' general evaluation of the usefulness of the game is a good example:

AL	So you find this a good way of learning ... business?
IK	Yes. You can ... the best part of it is ... that ... you can when you make some ... kind of decision you ... find out what they **(hand gestures)** ... mean ... in the **... (draws quotation marks " " in the air) ... "real life"** and what the outcome of it **(apparently trying to find an expression)**
AL	The impact of the decisions ... is shown to you in a way
IK	Ya
SR	Ya ... so you don't need any ... feedback during the game ... so or more feedback but the ... reports?
KH	Well actually we get it all the time from the ... after every round
SR	ya
KH	that's the feedback we need
AL	Would you have liked to discuss it ... for instance you know ... discuss the

	impacts or ... or learn something more about them or ...?
SR	More human touch!
AL	more human touch (laughter)
IK	Well I think things like ... when you are ... I've been wondering if it's **(touches the corner of his eye)** ... does it have any impact on a ... hm **(hand gestures)** a ... a certain business unit when you have ... if you have a **(hand gestures / open palms)** one company operating on it or if you have like ten companies operating on it ... what's the competition what does it ... what does that mean and ... things like that. And ... you know if ... I don't know you have certain ... parametres on the game
SR	hmm
IK	and they give the [ðə] (wrong pronunciation) outcome of a one ... round or ... the decisions like ... I think that the game ... it's limited the **(hand gestures; looking for an expression)** ... the ... how shall I put it ... the resources of the game are limited
AL	yhm
IK	and the game doesn't ... have the human touch ... in it
SR	hmm
AL	So have you in a way missed the human touch in that sense?
IK	No [no] (= Finnish pronunciation, meaning 'well,') ... *maybe* (emphatic)
AL	a little bit
IK	maybe ya
SR	OK, I'll just write it down ...

Throughout the extract, IK used circumlocution as a compensation or communication strategy (Part C in SILL). When looking for an expression, he made short pauses and used hand gestures: *You can ... the best part of it is ... that ... you can when you make some ... kind of decision you ... find out what they (hand gestures) ... mean ... in the ... (draws quotation marks " " in the air) ... "real life" and what the outcome of it (apparently trying to find an expression).* The touching of the corner of his eye was another gesture used to signify that he was looking for a suitable expression. However, the most obvious gesture was the one used to signify the quotation marks (" ") in *"real life"*, to mean the same as 'the so called real life'. To make the quotation marks used in orthography visible in speech, IK drew them in the air. This strategy could have been influenced by the L1 communication strategies, for the same gesture is often used in the L1 as well to mean the same. Thus it could be regarded as an example of switching to your own language momentarily, although in this case to sign language (Part C in SILL). The abundant use of gestures seems to be connected to IK's use of reasoning strategies (Part B in SILL) when he tried to find the right expression (*the ... how shall I put it)* and finally came up with the expression he wanted: *the resources of the game are limited.* Thus, the combination of gestures and other compensation strategies (Part C in SILL) together with the use of mental processes (Part B in SILL), such as reasoning and summarizing, was successful.

Furthermore, the long monologue by IK in the middle of the above extract is a good example of the effective use of a number of L2 strategies. IK used circumscribing (Part C in SILL) when he tried to find the expressions he was after. Especially his words *how shall I put it* reveal that he was looking for a better expression, which he was then able to recall and produce using his mental processes (*the resources of the game are limited* / Part B in SILL). He also rounded up the monologue by using the expression *the human touch*, which he picked up from the previous speakers. Thus, he used a cooperative strategy,

or being able to pick up expressions from the other interlocutors or more proficient users of the language (Part F in SILL). Towards the end of the extract, IK also used elaboration (Part B in SILL), ie. tying new things to what is already known about the subject matter to produce the L2 (*and the game doesn't ... have the human touch ... in it*). IK seemed to be especially skilful at using his mental processes or cognitive strategies, as shown above. However, his SILL score for Part B was 2.8, indicating that he sometimes used them. Nevertheless, judging from many of the extracts, he seemed to use mental processes much to the same extent as KH, whose score for Part B in the SILL was 4.0.

Here is another example of circumscribing used by IK (Part C in SILL):

AL	Hm. Have you been ... you've been selling your SBUs?
KH	Yes.
IK	Ya.
AL	Have you negotiated with the other teams as to if they would buy them?
IK	**Yah, you have to fix the price before ... the transaction ... because otherwise it won't work .... you have to set up the** [ðə] (wrong pronunciation) **exact price.**
AL	Yes, hm.
KH	So we sold two and bought one.

The statement by IK shows circumscribing before he came up with the exact expression: *you have to fix the price ... because otherwise it won't work ... you have to set up the exact price*. Moreover, lack of monitoring the pronunciation of *the* in *the exact price* and using a less idiomatic expression *set up a price* instead of saying *fix a price* also point at the use of compensation strategies (Part C in SILL).

Similarly, compensation strategies (Part C in SILL) were used when learners occasionally failed to produce the correct L2 forms, either grammatically, syntactically, or phonetically. All three students sometimes failed to monitor their speech, as these extracts show:

KH	**we meet always** (instead of **we always meet**; wrong word order)
KH	actually ... **the last questions** (instead of **the last few questions**; an idiom)
KH	but we have made ... it's like ... we have **concentrated like mass marketing** and ... product development. (instead of **concentrated on like mass marketing;** missing preposition)
KH	actually we get it ... after every round to see **where are we standing** (instead of **where we stand**; wrong word order and wrong verbal form)
PA	because we're **so small group** (instead of **such a small group**; the use of the article)
PA	I think **it's OK still** (instead of **it's still OK**; wrong word order)
PA	But our *toy* (emphatic) industry is making **losses [lo:si:z]** ... at (instead of **[lɔsi:z]**; wrong pronunciation)

IK you have to set up **the [ðə] exact** price (instead of **the [ði] exact**, wrong pronunciation)

IK don't have **too big group** (instead of **too big a group**; the use of the article)

IK **I talked before the game to A and E** (instead of **I talked to A and E before the game**; wrong word order)

IK because if you don't know the people ... it can be **disaster** (instead of **a disaster**; the use of the article)

IK **so what is his or her skills** ... (instead of **what are his or her skills**; the concord)

In the following extract IK failed to monitor several expressions and used compensation strategies instead (Part C in SILL):

SR What kind of technical problems have you had?
KH What ... (looking at IK)
IK We had ... one one disk broke down but it wasn't so ... **it didn't meant** much but because we had another one straight from R (= first name of the IT administrator) so ... it's OK ... just didn't **do the decisions** again **from ... for** one round and (inaudible)
AL You didn't have a back-up copy?
IK Yes we did but **R's office were** (laughter) closer than the back-up copy so ...

IK used the wrong verbal form of the Past Tense negative (*it didn't meant* instead of *it didn't mean*), then he used the verb *do* instead of *make* in *do the decisions*, and the wrong Past Tense form for the verb *be* in *R's office were* instead of *R's office was*. However, he monitored (Part D in SILL) the preposition when he said: *the decisions from ... for one round.*

Likewise, in another short extract, IK had four incorrect forms (Part C in SILL):

SR ... it (= the game) could be a little bit shorter?
KH no
IK no ... maybe **a one or two dimensions more** like you can **invest your money to money market** or ... you can buy a piece of some company ...

IK used both the indefinite article *a* and the numeral *one* together and misplaced the word *more* instead of saying *one or two more dimensions*, so he had difficulty with the use of the article and the word order. He also used the wrong preposition *to* instead of *in* after the verb *invest* and omitted the article *the* from *the money market.*

On the basis of the above representative examples, it seems that IK had slightly more difficulties with monitoring his speech than the other two members. PA's speech was mostly accurate, as evidenced by the tapes, but he spoke somewhat less than KH and IK during the interim meeting; instead, he listened more and occasionally joined in the discussion. Judging from the results of the SILL, all three students had relatively high scores for Part C: KH had 3.9, IK had 3.5, and PA had 3.8. Although IK had the lowest sub-score for Part C of the three, it would indicate that he, too, generally compensated for missing L2 knowledge, which was thus confirmed by the examples above. As for Part D,

his SILL score was the lowest of the three with 2.8 while KH had 3.6 and PA had 3.2. As far as monitoring speech by different individuals within the team was concerned, the evidence of the interim interview seemed to support the findings of the SILL in this respect.

To make out the meaning of an L2 word or expression, inferencing (Part B or C in SILL) seemed to be used more than resourcing, or using a dictionary (Part B in SILL) by Mr Spock. The present writer asked the team specifically about the use of dictionaries or resourcing as an L2 strategy:

AL	What about dictionaries, have you been using dictionaries at all?
IK	**Yah ... English**
AL	English dictionary?
PA	**Have we?**
IK	**Yes we have**
PA	**but I haven't** (laughter)
AL	yah .. that's fine..yah
IK	**German**
KH	**No German ... and once I looked ... one word in the Spanish**
AL	Ahaa, OK OK... because that's what I'm interested in and ...

KH and IK had occasionally used dictionaries, but PA had not.

The present writer then tried to find out if the team had used inferencing as an L2 strategy and if they were aware of it (Part B or C in SILL):

AL	... the thing I would like to find out more about as to **how do you solve the problems when you come across with a language problem how do you solve it then**
KH	**Normally ...**
AL	**do you just guess or do you ... do you**
PA	**I ... I'm guessing**
AL	**consult somebody or do you consult a dictionary or**
KH	**Usually there're ... hmmm**
AL	... Have there been many language problems?
IK	**No, the English words are ...**
KH	**No.**
KH	**quite easy**
AL	yah
IK	**familiar ... from the** [ʒə](wrong pronunciation) ... **English courses we've had ... or the courses that are taught in English**
AL	**OK ... and so you're using the information you already have**
KH	**Yes**
AL	**on the subject matter**
IK	**Yah**
AL	OK
KH	**and Spanish ... sentences they have been ... very easy**

The team confirmed that they concluded the meanings from the context, ie. used inferencing (Part B or C in SILL), and also used elaboration or relating new information to prior knowledge (Part B in SILL) as strategies, as the word *familiar* shows. The discussion *so you're using the information you already have ... yes ... on the subject matter ... yah* thus proves the use of the context. These findings would seem to comply with what O'Malley and Chamot (1990:145) had discovered about the significance of the context in their longitudinal study. They concluded that "students understand language through

accessing declarative knowledge, tapping into schemata related to the language topic, and calling upon that information to assist in their comprehension or production". In other words, "the comprehension of a second language was in a sense a problem-solving activity in which all pieces of information available from the text, from knowledge of vocabulary and grammar, and from prior knowledge of the topic needed to be brought into correspondence in the construction of meaning". This seemed to be the case with Mr Spock. Since the English language element of the game was found relatively easy, as was confirmed later, this may have been one reason why inferencing was used more than resourcing when trying to make out the meaning of the L2 text in English: the students' proficiency level warranted inferencing.

Another interesting case related to inferencing came up when the students evaluated the quality of the German elements of the game, thus also showing good metacognitive strategies (Part D in SILL):

KH	... and well, I have been reading those German things and **there are a a lot of mistakes in them**
SR	yah, it's ... it's horrible
KH	**some verbs are missing ... there was one sentence and no ... no verb**

KH used evaluation (Part D in SILL) (*there are a a lot of mistakes in them*) and mental processes, such as analyzing inductively (Part B in SILL) and/or inferencing (Part B or C in SILL) (*some verbs are missing ... there was one sentence and no ... no verb*), to make out the German parts. When asked explicitly how they had solved the L2 problem, the learners replied:

AL	How did you work *that* (emphatic) out then?
KH	Well ... (inaudible) we don't have the [ðə] (wrong pronunciation) SBU [esbi:ju:] so ...
AL	But how did you work out the meaning you know if you no ... noticed that ...
KH	**You can't. You just can't because the verb ... verb is missing so it's** (inaudible)
SR	It's really bad ...
AL	You didn't even try to guess it or
KH	**You can't ... it can be anything ...**
AL	yeah, ahaa, ahaa
KH	**because it's the ... it's ... it's like the main word of the sentence and it's the last one so it can be anything**
IK	**but I guess we can guess something because this is still business language and you can guess something**
SR	something yes
KH	**from the other sentences so you can think about something**
IK	**something that relates to the subject**

KH had used reasoning (Part B in SILL) and transfer (Part B in SILL) as strategies in trying to make out what was wrong with the German text (*You can't ... it can be anything ... because it's the ... it's ... it's like the main word of the sentence and it's the last one so it can be anything*). The statement made by IK at the end (*but I guess we can guess something because this is still business language and you can guess something*), on the other hand, points at the use of inferencing, ie. concluding the meaning from the context (Part B or C in SILL). On the whole, the passage shows that KH used more transfer, ie. her

knowledge of language in general, as she analyzed the place of the verb and the significance of the missing word for the sentence, while IK resorted to inferencing, or made use of his general business knowledge and the context, as they tried to make out the meaning of the EnviroScans. Both resorted to the use cognitive and communication strategies.

The above findings about the use of inferencing (Part B or C in SILL) and transfer as L2 strategies (Part B in SILL) were reconfirmed after the actual interim meeting in the L2 was over. As the participants switched over to Finnish, a more informal discussion about the L2 strategies used to make out the meaning of the L2 in the English manual followed:

AL	no nii sanakirja ...
KH	**se pitää osata juontaa siit lauseyhteydestä ja ehkä muistaki asioi ...**
AL	joo
KH	**ja käyttää hyvänä et ku sä tiedät vastaava sana jossain muualla ... tai niiku et ... et milt ... tää näyttää ihan siltä ku täs kieles tää toine sana ja sit sitä kautta niiku ...**
Al	joo
KH	**ja just siitä lauseyhteydestä ... kyl sen aika hyvin pystyy arvaamaan ...**
AL	joo
KH	**jos se ei oo todellakaa joku saksan viimene verbi .... mut senki arvaa sit niist muista lauseista et suurinpiirtein tietää mitä se tarkottaa ...**
AL	joo
IK	**sit varmaa seki auttaa ku meit on kolme jotka o lukenu aika erilaisii kursseja ni se o jolleki tullu se sana varmasti vastaa jollai kurssilla ja sitä on aikasemmi ehkä pähkitty ... mut tää nyt kumminki ... oikeestaa hyvä et tääl koulus o niin paljon englanniks kursseja tarjolla ...**

Especially KH seemed to use transfer (*et milt ... tää näyttää ihan siltä ku täs kieles tää toine sana ja sit sitä kautta niiku ...*), but she also used inferencing (*ja just siitä lauseyhteydestä ... kyl sen aika hyvin pystyy arvaamaan ...*) and a combination of the two by analyzing the possibilities of finding out the meaning (*jos se ei oo todellakaa joku saksan viimene verbi .... mut senki arvaa sit niist muista lauseista et suurinpiirtein tietää mitä se tarkottaa ...*). In analyzing, she used her mental processes (Part B in SILL). IK strongly relied on inferencing (Part B or C in SILL) and elaboration (Part B in SILL) when he referred to previous subject matter courses in the L2 helping conclude the meaning of a word (*ni se o jolleki tullu se sana varmasti vastaa jollai kurssilla ja sitä on aikasemmi ehkä pähkitty*). Furthermore, the usefulness of the knowledge of the context in the process of inferencing came out strongly in the following two statements too:

IK	**jos yks o lukenu markkinointia, toine rahotusta ja kolmas vaikka jotai management-kurssia nii se o jossai se sana tullu varmasti ... esille**
—	
KH	**me aina toimitaa sillälailla et yks ryhmästä o joka tapauksessa tietäny**

These statements would seem to imply that both IK and KH were aware that it was easier to understand the foreign expression if they already had a schema for understanding the subject matter in the native language. Besides inferencing, IK and KH also mentioned that they used cooperation as an L2 strategy (Part F in SILL).

To find out in general how the team had experienced the English element of the game, the present writer asked them whether they had learnt any English through *Strategy!*:

AL	Could I still ask you ... has *Strategy!* been a good way to learn English?
KH	**Hhhhm ... not so much I think ... it was the book that was so ...**
AL	the manual
KH	and ... well
IK	**Some phrases maybe**
AL	Aha
IK	**business phrases there ... you can learn** *them* (emphatic)
AL	Good, so you've picked up some ... some phrases
IK	yah (rising intonation)

In reply, KH felt that she had not learnt much. She evidently had found the manual too easy *(...it was the book that was so ....)*. She did not say 'easy' but from the context it can be assumed that she had that in mind. Thus she used metacognitive strategies to evaluate the level of the L2 (Part D in SILL) and a communication strategy (Part C in SILL). IK stated explicitly that he had learnt some business phrases. He was also able to evaluate his own learning (Part D in SILL). One explanation of the different viewpoints could be that, according to the background questionnaire, the students had rated their proficiency levels differently. KH rated her overall proficiency as good, if compared with native speakers of English, while IK had rated his proficiency as fair.

KH showed good evaluation strategies (Part D in SILL) by suggesting further ideas for the development of the game from the point of view of the L2:

KH	**if we ... if we had ... a foreigner in our team like here, then it would be different because then we had to speak our English all the time but now ... now we're talking in Finnish**

Having an English-speaking team member, who would have spoken English either as the L1 or the L2, would definitely have increased the input of English throughout the game and perhaps also required the use of more language learning strategies. Some lack of monitoring (Part C in SILL) was shown by KH's use of the Past Tense form *because then we had to speak* instead of *then we would have to speak.* Thus, she used a compensation strategy (Part C in SILL).

When asked specifically about e-mail messages within the context of the game, the team stated that they had tried to send two messages but without success. They did not get through because of technical problems. As for the L2 of their messages, the team said that that had not been a problem:

AL	... What about ... well you don't have the e-mail element at all because you have not ... you *did* (emphatic) send one e-mail message and ... but that was rejected then
IK	two
AL	two e-mail messages
IK	two (inaudible)
AL	What about that? **Did you have any ... problems with ... with the language there?**
IK	**No**
AL	No

IK	**No, because I ... we've been sending** (laughs) **e-mail messages to England for a ... month or two months now**
AL	on another course
IK	no it's ...
KH	**all by ourselves**
AL	Oh, by ... by yourselves! ... Ya ... you have friends there ... ya
IK	**trying to get the information from English universities**

This would seem to prove that their L2 strategies in the e-mail context were automatized. However, as the analysis of the audio recorded discussion of the first e-mail message showed, some L2 problems emerged, but they were solved successfully. As the recording showed, as discussed above, the team seemed to be familiar with common e-mail expressions, such as *Best wishes*, inspite of the arguments that they had about it.

When inquired whether the team had used the fax, or an alternative way of contacting their foreign partners instead of the e-mail, which was not successful, the reply was *no*:

AL	You didn't .. **did you send any faxes to Sunderland?**
KH	**No.**
AL	No fax messages.

This could be taken as a risk-avoiding communication strategy (Part C in SILL). This was also confirmed by a discussion that the present writer had with the CEO of the team. In passing, she told the present writer that they preferred working by themselves since the e-mail connection with the foreign partner did not seem to work. This knowledge was passed on to another game administrator by the present writer by e-mail:

E-mail message

Lähettäjä	AL
Vastaanottaja	RO
Re	Strategy! (*sic!*) / Sunderland
Lähetetty	02.11.1995 18:38

... pahoitteli, että mailin kanssa on ollut ongelmia. **Tiimi Spock, joiden partnerit ovat HM ja PB, mutta joihin eivät ole saaneet yhteyttä, oli sitä mieltä, että he pelaisivat mielellään ilman ulkomaista partneria!**

The exclamation mark at the end of the sentence was used by the writer to convey the idea of surprise at the team's decision but leaving the final decision to the team's discretion, thus respecting the autonomous nature of the game. However, it must be borne in mind that the risk-avoiding strategy was adopted in this case because of the general concept of the game, not because of any problems in the L2.

The above findings related to how the learners had experienced the L2 of the game would seem to explain why only a few L2 problems were mentioned in the log-book. The English part of the game had been found relatively easy, and perhaps for that reason the log-book did not contain any more examples of L2 problems or L2 strategies. On the other hand, the learners had had some problems with the Spanish and German parts, as well as with some English terms as well, but had not recorded them. One reason for this could be that the

main objective in *Strategy!* was to play the game and not to learn the L2. The L2 was embedded in the game. Thus, most of the L2 problems that emerged from the audio recorded data remained at an unconscious level, and the strategies could only be concluded implicitly from the data.

When asked about the general business strategies that Mr Spock had used, the team replied: *not established yet.* From the point of view of the L2, besides showing the use of elaboration and reasoning (Part B in SILL), the discussion showed the teams's sense of humour, a social-affective strategy used to reduce anxiety (Part E in SILL):

SR	OK. So... how does your strategy work, . I mean ... the playing strategy?
PA	**Not established yet** (laughter)
SR	Not established yet? Aa ...
IK	**Oh I don't know how the game works but we tried to have ... no specific strategy but it always gives the feedback "not established"** (laughter)
SR	Ooh ..
IK	**have ... have to make some very radical choices and decisions if** (humour)
SR	ahaa ...
IK	**we want to ...**
KH	but we have made ... it's like ... **we have concentrated like mass marketing and ... product development.**
SR	Ya
KH	**and almost nothing on the quality control and ... focused promotion but it doesnt't anyway ... it doesn't work**
IK	**it won't establish a strategy for us!** (laughter)
SR	so actually it's the problem of the .. the game, I mean the
AL	framework
SR	the framework of the game ...it's not your problem or the ...
IK	**don't change it please!** (humour)
	(laughter)

When describing their general strategy, the team used a formulaic expression (Part B in SILL) that they had picked up from the game (*not established*) and IK elaborated (Part B in SILL) on using the word *establish* later in his speech (*it won't establish a strategy for us!*). This was said jokingly (Part E in SILL), as the laughter showed. The team had discovered what the framework or the logic of the game was and did not want to have the framework changed in the future because it would bring in new insecure elements, as also shown by *Don't change it please!* Some of the parametres of the game had been recently changed by the Business Economics teacher, and the team had noticed this. Their exclamation meant that they would rather keep their good position till the end of the game and play it safe without having to find out "new inner rules of the game". Thus, the context had an impact on their use of elaboration and affective strategies in the L2.

Another example of the use of elaboration and other mental processes (Part B in SILL) is shown by the following extract, which also shows that the team had evaluated the framework of the game and had even further development in mind. Both PA and IK used their mental processes effectively (Part B in SILL), as their elaborate moves below indicate:

SR	So what have been the major surprises you have faced when playing?
PA	Well the toy industry was a major surprise for us.

SR	The toys (laughter)
PA	If you don't sell toys at Christmas when do you sell them?
SR	Well, there's so much unemployment and ... so many naughty children around ...
IK	I don't know any ... do you recall any other big surprises?
PA	**Well I was ... a bit surprised because the game is ... is quite simple ... I think... I thought it could be very much ... much more complicated ... it's quite easy to budget one ... one SBU at a time and ...** (reasoning and elaboration / Part B in SILL; evaluation / Part D in SILL)
AL	so you've been able to make out the strategy of the game ... you were able to make it out pretty soon
PA	I don't know that (laughter) ... I guess we have
SR	So it could be a bit shorter maybe?
IK	**Well I don't know ... maybe a ... one or two dimensions more like you can ... invest your money to money market ... or you can buy a piece of some company, not the whole ... whole industry ... and things like that** (reasoning and elaboration / Part B in SILL; evaluation / Part D in SILL)
SR	Ya, ya .. that's right.

Later on, IK also made similar suggestions in his final evaluation. The team thus showed a fairly thorough understanding of how the game functioned and how it could function even better. All this proves the use of inferencing and reasoning strategies as well as the use of good metacognitive strategies within the context of the game in general. In terms of the L2, it shows that the students elaborated on the material or tied it to a context that they were already familiar with (Part B in SILL).

The team were asked about their motivation for the game, ie. learning in general. Mr Spock confirmed that their motivation had been good and made even stronger by the success in the game. The extract also revealed the use of a number of L2 strategies:

SR	**So how has your quarter report influenced your motivation?**
PA	**What was that?**
SR	So that you are now ... er ... *Oh, you are* (emphatic) very ... doing very good ... well ... today ... so you have had your ... your down-periods and ... up-periods or how do you call those ... so how ..
PA	well yes perhaps (laughing)
SR	so how ... how?
KH	**Well we're ... we have been almost all the time on the second**
PA	(inaudible)
KH	**and ... and now we're on the first**
SR	so it's in (rising intonation)
KH	**it's ... I think it's good ... now when we're first**
IK	(smiling) **sustainable growth**
AL	Ahaa ... good (all start laughing)
SR	Very good! Yaah ...
PA	But our *toy* (emphatic) industry is making losses [lo:si:z](wrong pronunciation) ... at
SR	Toys?
PA	this ... yes at this point ... but ... **still we are in the lead ... so I think we are we have done quite well in other ...**
SR	ya
PA	**other industries ...**
SR	Actually, that ... that has been the ... best position to have ... *the second* (emphatic)... to be the second
PA	hmm ... yes yes

SR	all along
AL	**Has your motivation been ... been good ...**
KH	**Yes**
AL	**... throughout the game?**
IK	**Yah ... we want to ... win this game.**
AL	Yhm. OK. (smiles)
SR	(laughs) Yahh ... Right

After SR's initial question, PA asked for clarification (Part F in SILL): *What was that?* KH used self-correction or monitored her speech (Part D in SILL) when she said: *Well we're ... we have been ...* . She used a compensation strategy (Part C in SILL) when she said *on the second* and *on the first*, apparently because she may have been influenced by the corresponding mother tongue expressions ('toisena', 'toisella sijalla'). In the end, however, she also came up with the right expression (*we're first*), thus showing monitoring (Part D in SILL). Similarly, she was apparently affected by the Finnish 'nyt kun' when she produced *now when* instead of the idiomatic *now that*. To sum up what KH had said, IK used a context-related L2 idiom (*sustainable growth*), thus using elaboration or mental processes (Part B in SILL). PA also joined in the discussion using appropriate expressions. There was only slight evidence of lack of monitoring when he mispronounced the word *losses*, thus using a compensation strategy (Part C in SILL).

As revealed by the extract, the competitive nature of the game seemed to serve as a source of motivation for the team because there was a clear goal to be reached: winning the game. This had already come out in the very first audio-recorded session when KH said that they wanted to win the game. IK was still dubious about their chances at that point, as the extract from the taped conversation shows:

KH	**By the way ... we want to win this game**
IK	(seemingly amused) No jätetää se ... ehkä seuraavaa viestii
KH	**En ku tähä näi ... pistä se nyt siihe**
IK	No nii sanotaa et me ei osata mitää mut sit me halutaa voittaa
IK	**mut mehä laitettii toho because we do not yet**
IK	(impatiently) joo joo

When the learners switched over to the L2, they used compensation strategies (Part C in SILL).

The significance of motivation seemed to arise as one of the key factors when trying to find out what really may have been the decisive factor to affect the outcome of the game in Mr Spock's favour. Mr Spock had set themselves a clear goal and their initial ranking was also good in the sense that they could vision themselves as going upwards. At the interim meeting the team explained this as follows:

KH	**and we're all the time ... we're ... seeing that ... that Suits they're on the ... right behind us ...**
SR	*Right ... exactly* (emphatic)
KH	**somebody's right before us, so we're all the time ...**
AL	you're checking your position
IK, KH	yaah
SR	So ... how do you *feel* (emphatic) about the game (inaudible) ... at this point

	so are you a bit bored yet or ... is it OK or still going strong?
PA	**I think it's OK still.**
KH	**We just made last ... round ... some we sold ... we sold some SBUs [esbi:ju:z] too actually ...**
SR	hmm
KH	**and then we bought one ... so we ... did something ... else and now it's ... now it's again ... it's like a new start.**

As for L2 strategies in the extract, KH used circumscribing as a compensation strategy (Part C in SILL) as she was looking for the expression (*that Suits they're on the ... right behind us ...*).

Autonomy was an essential element of the game. The autonomous nature of the game was expected to require the use of various strategies, both language and other. When asked about autonomy, the team regarded it as a positive element of the game:

AL	Have you enjoyed the ... sorry ... the ... the autonomous nature of the game you know so that you've been able to work it out on your own as to when you meet and when you ...when .you ... has that been ... a good element of the game?
KH, IK	**Yeah, ya**
AL	**Would you have needed more instruction?**
KH	**No.**
PA	**No I don't think so.**
AL	**You don't want us to interfere ...?** (laughter)
KH	(laughter)
SR	**I don't think so ... they don't need us ...** (laughter)
IK	**but I guess ... but it depends a lot if you have the right persons in your team ... that's the crucial part ... because if you don't know the people you're playing with ... I think ...I think you can imagine it can be disaster ...**
KH	**or at least more difficult ...**
IK	you're arguing all the time and you ... you can't really say what you think and
KH	but on the other hand, we're all the time saying what we think and we're arguing ...(laughter)... so it might be too much ...

The team were pleased to work autonomously by themselves. They seemed to have a strong team spirit, which they considered to be important, as was also evidenced by their cooperation in playing the game, as well as in their use of cooperative strategies in the L2. This kind of learning context seemed to suit the team. IK pointed out the importance of group cohesion for this kind of learning. This confirms the use of cooperative strategies in general by the team.

Thus, it can be concluded that the evidence of the interim discussion reinforced the previous findings. Mr Spock had found the L2 of the game relatively easy. When occasional L2 problems arose, resourcing or using a dictionary (Part B in SILL), inferencing or concluding the meaning from the context (Part B or C in SILL), and learning with others (Part F in SILL) were explicitly mentioned as the main strategies used by the team. Judging from the audio and video tapes, communication or compensation strategies (Part C in SILL), such as gestures, and circumscribing were used widely. IK often used reasoning and elaboration (Part B in SILL) when he produced the L2. He pointed out the significance of the context to understanding the L2 on the basis of the previous knowledge of the subject matter. Inferencing (Part B or C in

SILL) was mainly used when the team tried to make out the meaning of the L2 in the manual. In addition, especially KH used transfer (Part B in SILL) by seeking comparisons from other languages. As for metacognitive strategies, KH and IK seemed to have good strategies for planning their learning (Part D in SILL) while PA relied more on cooperative strategies, although he too went through the learning material later. Laughter and joking were used as affective strategies (Part E in SILL). Finally, all learners enjoyed the autonomous nature of the game, which seems to point at good overall strategies, including the L2 strategies. Their intrinsic motivation for the game was high from the very beginning: they wanted to win the game, and the motivation grew because of their improved position in the middle of the game during Round 6.

5.1.5 Strategies revealed by the final evaluation form

One team member (IK) returned the final evaluation form completed. Most of the questions concerned the game in general, not just from the L2 point of view.

In the final questionnaire the participants were asked to describe the game by using one adjective only. The adjective was expected to reveal something about the general motivation experienced during the simulation. As for IK, he found the game *fascinating*, which reconfirms his high motivation for playing the game. As for the motivation of the whole team, it had been high, as was shown by the discussions at the interim meeting. Only during Round 1 were there some signs of frustration as the team was trying to establish cooperation with the foreign partner without success. This was perhaps the only demotivating factor in the game for Mr Spock. They solved the problem by deciding to work by themselves without the foreign partner. This could be regarded as a risk-avoiding communication strategy (Part C in SILL) instead of using a more risk-oriented cooperation strategy.

When asked what the participants had learnt through *Strategy!*, IK restated what he had said at the interim meeting:

Useful words in business English and trust your own opinions.

The first part of the sentence showed good self-evaluation (Part D in SILL). The latter part of the statement (*trust your own opinions*) could be interpreted to point at good metacognitive strategies to guide the learning process and at good self-esteem or wise risk-taking in general, not just concerning the L2.

When asked how he would rank the game as compared to other courses that he had taken at HelBP on a scale of 1 to 5, with 5 being the best, IK gave the course a 5 for the following reasons:

Opportunity to test our skills in practice although it is a game.

The statement shows the general use of metacognitive strategies (Part D in SILL) and the use of notetaking strategies for communication in the L2 (Part C in SILL), as in the log-book. IK left out the article *the* at the beginning of the sentence. On the other hand, he used the full expression with both the subject and the predicate for the latter part of the sentence (*although it is a game*). Mixing notetaking style seemed to be typical of the log-book entries as well.

When asked what elements of the simulation could be transferable to real business life, IK answered:

Evaluating the risk diversification.

The reply shows that IK was able to discuss the subject matter using abstract concepts at a deep cognitive level in the L2. He understood the context well and used elaboration (Part B in SILL). Thus, it seems that IK's L2 strategies were highly automatized in the domain-specific L2 at the end of the game.

When asked to evaluate the use of information technology during the game, IK lacked some monitoring in the L2 (Part D in SILL). Instead, he used compensation strategies (Part C in SILL):

The game **in IT-wise** was simple and easy to use. It **don't require** so much memory and you can also **play at home**.

IK was apparently affected by a mother tongue expression when he used the preposition in *in IT-wise* instead of just saying *IT-wise*. He also failed to monitor the verbal form in the third Person Singular (*it don't require*) and had no object after the verb 'play' (*can also play at home* instead of *can also play it at home*).

The same applies to the following statement, in which IK suggested ways of developing the simulation:

More dimensions into the game, stock and money market possibilities etc. And **option** to buy parts of the companies would be an interesting detail.

Again, the influence of the mother tongue could be seen in leaving out the article (*option*) instead of saying *an option* or *the option* (Part C in SILL)

As for the other replies on the final evaluation form, no more conclusions concerning L2 strategies could be made from them. The extracts above confirm IK's use of self-evaluation (Part D in SILL) and compensation strategies (Part C in SILL) and his use of elaboration (Part B in SILL).

5.1.6 Strategies revealed by the final evaluation session

At the final evaluation session one team member was present (IK). He told the other teams briefly about the business strategies adopted by Mr Spock during the simulation. Only a few instances of the use of second language strategies emerged during the final evaluation. Mainly, what has already been found out from the previous data was further confirmed. Here is an example of using cooperation as an L2 strategy:

AL What strategy did you use?
IK **The strategy ... do you mean the pricing strategy or the whole thing?**

To be sure what was meant, IK used questioning for clarification (Part F in SILL).

In general, the evidence from the final evaluation showed that IK used metacognitive strategies, such as evaluation and self-monitoring, as the

following extract shows. IK also used repetition (Part B in SILL) and circumscribing (Part C in SILL) to find the exact expression in the L2:

IK	**How did we win?** (repeating the question to make sure that he had understood it / Part B in SILL) **Well I guess we decided in the beginning that we really wanted to ... came second** (smiling) ... **and then ... I don't quite remember but ... I guess the point was that we tried to find out the vertical integration ...aaah ... how can you ... how you can** (self-monitoring and correcting the word order / Part D in SILL) **use them in the game ... and then have a couple of other branches in your portfolio so that the risk wouldn't be so high** (circumscribing; / Part C in SILL), **I guess that was the idea to diverse** (compensation / Part C in SILL) **the risk.**
Question	Did you have the same strategy for all the game?
IK	**Yes .. we noticed that it was a good one and ... in the long run we didn't manage the game so well at the beginning but we noticed that if we keep going we would be ... in the end we would see the results .... we had the problem that we had so much money and didn't know where to put it ... I guess others had that too**

IK used elaboration (Part B in SILL), when describing the team's business strategies. He monitored his syntax *(how can you ... how you can)* (Part D in SILL). He also used circumscribing as a communication strategy (Part C in SILL) before he used the exact expression (*so that the risk wouldn't be so high, I guess that was the idea to diverse the risk*). However, he failed to produce the exact form of the verb *diversify*, which shows some lack of monitoring. Thus he used a communication strategy (Part C in SILL) instead. To control his anxiety, when referring to their not being No. 1 in the beginning, he used smiling (*that we really wanted to ... came second (smiling)* (Part E in SILL).

The continuation of the discussion shows that the team had consciously chosen cooperative strategies in the decision-making:

AL	Did you panic at any point?
IK	**No. ..... We worked every round together ..... we thought that three heads would be better than one.**

This confirms what was revealed by a number of extracts above related to the team's use of cooperation, in view of both learning in general and learning the L2.

5.1.7 Conclusions of L2 strategies used by Mr Spock

To answer the basic research questions, in the light of the above observations based on the data analyzed, the following conclusions could be made about how Mr Spock coped with the L2 in the business game and about the L2 strategies used by Mr Spock. The framework of a strategy classification into metacognitive, cognitive and social-affective strategies by O'Malley and Chamot (1990:198-199) is used when concluding the findings:

(1) What kinds of L2 problems did learners encounter during the business game?

In general, as evidenced by the log-book data, Mr Spock did not seem to have many problems with the L2 of the game. Only four entries under "Language problems" had been made. Three of them contained L2 problems and solutions to them (*piski = doggy?; some probs with EnviroScan reports but dictionary helped out; Pool sales? We don't think it means selling billiard tables.*). In addition, for Round 3 the team had explicitly entered the comment *Non* under "Language Problems". Furthermore, when asked at the interim meeting whether *Strategy!* had been a good way to learn English, they replied that *not so much ... some phrases maybe*, implying that the English in the manual was easy for them. However, further evidence was revealed by the speech data and the final evaluation form. IK reported both at the interim meeting and on his final evaluation form that he had learnt some business English *(Some phrases maybe ... business phrases there ... you can learn them; Useful words in business English ...)*. Thus, apparently he had also used L2 strategies.

Thus, it can be concluded that Mr Spock seemed to cope well with the requirements of the L2 in the business game. Moreover, in general, there seemed to be relatively few L2 strategy tokens (eg., *er ... ennustus* or *how shall I put it ...* or *is it called dissertation?*) in all the data, which would seem to indicate that the proficiency level of the team members was sufficient in terms of the L2 requirements of the game and that their L2 strategies were generally automatized.

(2) How did the learners cope with L2 problems? In other words, what different means, ie. strategies, did they use to solve L2 problems?

As for the L2 strategies possibly used to solve the explicit L2 problems indicated in the log-book, the evidence that could be concluded from the log-book entries was that the team had apparently used translation, resourcing, ie. a dictionary, and elaboration, all cognitive strategies, together with humour as an affective strategy in the case of *pool sales?*.

When asked at the interim meeting how the team had solved any L2 problems related to the German or Mexican EnviroScans, they mentioned inferencing, or using the context as their main cognitive strategy (IK: *I guess we can guess something because this is still business language*), together with cooperation as a social strategy (*Well, she speaks Spanish and ... and German and we both speak a little German*). Two team members, KH and IK, reported that they had used a dictionary or resourcing as a cognitive strategy, and cooperation or working together as a social strategy. PA had not used a dictionary (*but I haven't*); instead, he asked the others, or used a social strategy. Moreover, KH pointed out that *Spanish sentences they have ... been very easy.* Thus, she used elaboration, or related new information to prior knowledge. For the German part, KH also apparently used transfer, or using what is already known about language to assist comprehension or production, to conclude the meaning of the unfamiliar elements of the L2 (*some verbs are missing ... there was one sentence and no ... no verb*). According to O'Malley and Chamot (1990:199), elaboration, inferencing, and transfer are cognitive strategies. Finally, the use of cooperation was evidenced as a general strategy used by the team and especially emphasized at the interim meeting (KH: *me aina toimitaa sillälailla et yks ryhmästä o joka tapauksessa tietänyt*). This was natural since

the three team members knew each other well beforehand and seemed to form a cohesive team

More detailed findings about the L2 strategies used by Mr Spock, as expressed in accordance with the O'Malley and Chamot division into metacognitive, cognitive, and social-affective strategies, are given below:

(a) The team's metacognitive strategies seemed to be well developed and efficient. The team used self-management to plan their L2 reading, before going through the manual. Skimming was used as a form of advance organizing, but KH and IK also used selective attention by going through the questions at the end of the manual to help them focus on relevant points. These could be regarded as effective metacognitive strategies from the point of view of the context and the learning goals. The team planned their learning well for they met regularly at a certain time for the decision making, and they were also able to evaluate their learning. The statement *if we had a foreigner in our team here, then it would be different because then we had to speak our English* ... shows that the team were able to judge how well they had accomplished the learning task in the L2 and that they were aware of opportunities for additional language or content input and practice, had that been possible. Thus, they used self-evaluation successfully.

When using the L2 orally or in writing, the learners sometimes monitored their comprehension and production (IK: *is it called dissertation?* PA: *What was that?*); generally, however, they used communication strategies, such as circumlocution, gestures (for instance, " ... "), or switching over to the mother tongue (*ennustus*) to overcome linguistic obstacles. Self-correction as a metacognitive strategy did not seem to be used much by the team members during the game. Only occasionally was there evidence of their correcting the L2 produced. For instance, IK corrected his syntactic form in *how can you ... how you can ...* and a preposition in *the decisions from ... for one round.*

The lack of self-correction might explain the choice of another kind of second language strategy suitable for the context: that of ignoring mistakes and using communication strategies instead. In this kind of learning context it would seem logical that the students would tend to use the L2 as a vehicle for expressing their ideas instead of focussing on monitoring the L2 very closely, as long as the L2 produced can be understood. The focus of learning was not on the L2 but on learning business through the game, and therefore the focus in the use of the L2 was not on form but on communication. Thus it can be understood why the players did not monitor their L2 more carefully. The L1 discussion recorded after the interim meeting proved this too: the native language form was not monitored either. As for the IL used in the log-books, it could also have been affected by the log-book form, in which the lack of space may have led to cable-style discourse occasionally. Freer notes in a diary form might have produced different results.

The following are examples of some lack in the monitoring of pronunciation and lexical and syntactic forms by individual students, and thus of using interlanguage forms for communication. For instance, in spoken English, IK seemed to have occasional problems with the use of the article (*don't have too big group; it can be disaster*), pronunciation (*the [ðə] exact price*), vocabulary (*diverse* instead of *diversify*), prepositions, idioms (*do the decisions*)

or verbal forms (*it didn't meant; it don't require; so what is his or her skills*). In general, however, he seemed to be able to express himself well and accurately in English. He often summed up an idea by using abstract conceptualization, thus showing the use of cognitive strategies (for instance, *sustainable growth!*). KH seemed to have some problems with the word order (*we meet always; we can see where are we standing*) and with some idioms (*and now we're on the first*), as influenced by the L1. She also used the wrong verbal form once: *if we had a foreigner in our team ... then it would be different because then we had to speak our English ...* . On the whole, however, she communicated accurately. PA also had occasional problems with the word order (*I think it's OK still*) and the use of the article (*because we're so small group*). As for his general proficiency in English, it seemed to be good as judged from the recordings. Thus, on the whole, the team's proficiency in English could be said to be adequate for the game. Although monitoring would have been needed to self-correct the wrong L2 expressions, the expressions used to overcome linguistic problems communicated well. The findings would thus seem to support the learner's own estimate of their English proficiency as stated in the background questionnaire. In it KH and PA had rated their general proficiency in English as "good", as compared with other L2 students in their class, while IK rated his as "fair".

(b) The cognitive strategies used explicitly to solve the L2 problems that the team was aware of and that were recorded in the log-book (*Piski = doggy?*, *Pool sales?*, and a word unknown) were resourcing or using a dictionary (Round 2: *some probs with enviroScan reports but dictionary helped out*), elaboration (Round 11: *Pool sales?*; '*We don't think it means selling billiard tables*), and inferencing, like, for example, when concluding the meaning of the German EnviroScan, which contained a great number of mistakes *(... lots of mistakes in it*, and further *se pitää juontaa siit lauseyhteydestä*). Implicitly, as was shown by the video and audio-recorded discussions, repetition, translation, and elaboration strategies were used. Circumscribing *(... how shall I put it)*, note taking, and summarizing were also used. The significance of understanding and relating the L2 to the context arose as a key element in the discussions: *se pitää juontaa siit lauseyhteydestä.* Thus, to produce the L2, transfer and elaboration were strategies used by the team, but especially by KH and IK. Moreover, the team used gestures, signs, and abbreviations for communication or to reinforce their verbal message: *"in real life"*, #2 for *Number Two*, and *probs* for *problems*. Other communication strategies were also widely used, as shown above. The team occasionally used codeswitching, especially in connection with the computer jargon, either a target language word instead of an L1 translation during their L1 speech, or an L1 word, when looking for an L2 word (*ennustus*). The form varied: (1) an L2 word was used as such: [*juu kei*], *folder*, *in the future*, *Best Wishes*, *Gruess Gott*; (2) an L2 word was used with the L1 syntactic rules: *dogeja*, *foulderii*; (3) an L2 word was used with L1 pronunciation: [*europe*]; (4) an L2 word was used with an L1 syntactic element and the L1 pronunciation [*kvitti*]. This kind of codeswitching could be regarded as natural in the learning context since the language used during the negotiations was mostly the L1. The log-book entry *11,3%* showed a similar form of codeswitching.

(c). As for social-affective strategies, the team showed successful cooperation both in terms of the game and when having to solve L2 problems. The social requirement of the game to work as a team might explain the abundant use of cooperative strategies. Moreover, all three team members knew each other well before the game and they had signed up as a team before the game. Therefore, it was natural for them to help each other. In general, the team worked together to make the decisions (*We worked every round together ... we thought that three heads would be better than one.*). Social strategies were thus consciously employed by the team and to a good effect. The game context also seemed to be conducive to the employment of these strategies.

In terms of different kinds of social L2 strategies, the team asked for clarification (*is it called dissertation?*) and worked together with peers (*ennustus? ... forecast*). They shared their L2 knowledge of English, Spanish, and German and asked another person (*I once asked ...*), as was shown by the statements at the interim meeting: *She speaks Spanish and German. We both speak a little German.* The learners also picked up expressions from other interlocutors, eg. *the human touch.*

The main affective strategy to reduce anxiety seemed to be humour. The team members joked with one another during the audio recorded discussions. Especially during the first audio recorded session, affective strategies, such as laughter and jokes, were important to alleviate the general anxiety of the game and to help solve L2 problems when the learners were thinking of suitable expressions for the initial e-mail message (*Best wishes / Hellurei ja hellät tunteet*). Joking was also used in the log-book: *CEO is a bit dictator* and *Pool sales? We don't think it means selling billiard tables.* From the recorded discussions it came out that KH's self-confidence or managing emotions (Part E in SILL) seemed to be better than that of the other two members. This assumption is also supported by her SILL average for Part E (4.1). IK seemed to under-estimate himself in the beginning (his score for Part E in the SILL was 2.1), for in the course of the game his self-esteem seemed to improve, as could be seen when comparing the discussion during the first session and the audio recorded part of the final meeting. This would seem to indicate that his use of affective strategies improved during the game. The whole team's strong motivation to win the game, as expressed in the first session, may also have contributed to this noticeable increase in IK's self-esteem.

Thus, the analysis of the speech and written data showed that Mr Spock used a wide range of L2 strategies, which seemed to be highly automatized. In the O'Malley and Chamot terms, they used strategies of all the three main groups, metacognitive, cognitive and social-affective strategies successfully, often combined to solve a single L2 problem. The strategies used generally produced a successful outcome, ie. the L2 problem was solved. Having a wide range of L2 strategies at their disposal meant that if one strategy was not successful, like attempting to use auditory representation as a memory strategy (a cognitive strategy) in the cases of *piski* and *ennustus*, the learners resorted to the use of a number of other strategies to produce a more effective outcome. It seems that social strategies, such as cooperation or asking each other or more

proficient users of the L2 for help, and communication strategies were generally found the most effective to solve L2 problems.

The above findings could also be supported by the findings based on the SILL overall average of the team (3.23) for Mr Spock's readiness to use language learning strategies, which would place them in the medium range, ie. the team sometimes used language learning strategies. However, the CEO of the team had a considerably higher average (3.9) than the other two members (PA 3.0 and IK 2.8) indicating that she would generally use language learning strategies. On the basis of the analysis, all three members seemed to be skilful in their use of L2 strategies in view of the game, and, as evidenced by the data, especially IK seemed to use a wide range of L2 strategies, perhaps to a greater extent than could be assumed on the basis of his overall SILL average.

(3) What was the impact of L2 strategies on the success in the game?

It is difficult to assess whether the second language strategies of Mr Spock had any influence on their ranking in the game since language was so closely connected with the actual cognitive processes of playing the game and since the players seemed to be proficient enough in the use of the L2 even at the beginning of the game. As far as could be seen from the data, Mr Spock's consistent use of mental processes, or cognitive strategies, to solve linguistic and other problems may have been a significant asset. They used elaboration and inferencing, ie. the context, successfully to derive the meaning of the L2. Their general metacognitive strategies were also effective. They had set their mind to winning the game and organized their learning well, and they monitored their position carefully. Therefore, their strong motivation to win the game was perhaps the decisive factor. Their social-affective strategies helped them overcome L2 and other problems and thus also manage successfully in the game, especially in the case of the Spanish and German elements of the game. The team also showed effective self-management, self-evaluation and good self-esteem, and they were wise in their risk-taking, ie. their risk-taking was based on reasoning. All these elements together may well have determined the outcome of the game in their favour. This, however, was most likely more due to their general business and learning strategies and their attitude (high motivation) to learning than the influence of the L2 strategies. The team found the L2 of the game easy, as stated explicitly by them, and perhaps therefore the L2 did not seem to have any impact on the outcome of the game.

5.2. The Nerds, Team No 5

The Nerds were the first team to sign up for the game as early as spring 1995, and they were highly motivated from the very beginning to play the game. The Finnish Nerds consisted of four male members, TR as the CEO and PePa, MP, and PaPo as OMs (Operational Managers). In addition, the team had six Dutch members from the Hanzehogeschool Groningen, who called themselves the Hanzenerds. Three of them joined the game at the beginning, and three from Round 3 on.

The Finnish Nerds carried on some of the decision-making discussions in English and audio recorded them at the present writer's request. Thus the Nerds

provided some audio recorded material in the L2 for this study, in addition to their audio recorded discussions in the L2, and were therefore chosen as one of the teams whose L2 strategies were analyzed. It was of interest to see if their L2 strategies were similar to or different from those used by the winning team.

Furthermore, in terms of L2 strategies, it was of interest to find if there were any noticeable differences in the L2 strategies used by the Nerds during the different phases of the game, depending on whether the team was winning or losing. For the first five rounds the Nerds were the winning team. During Round 6 they tied with Mr Spock, during Round 7 they were the second, during Rounds 8 and 9 the third, during Round 11 the fourth, and during Round 12 the fifth, ie. the last but one. Did the team's L2 strategies have any effect on the outcome of the game? To find out this, the negotiations and the other data were looked at.

5.2.1 General information on the Nerds based on the background questionnaire

Three Finnish members (TR, PaPo, and PePa) returned the background questionnaire. The average age of the three students was 22.7 years (cf. Mr Spock 23.3 years). They all spoke Finnish as their mother tongue at home, and had been learning English as an L2. The average number of years that they had been studying English was 9.3 (11, 11 and 6 years). They estimated their overall proficiency of English to be good (2) or excellent (1). As compared with the proficiency of native L1 speakers, they estimated it as good (3). It was considered important (1) or very important (2) to become proficient in the L2. The reasons for wishing to learn the L2 were:

- interested in the L2 (2)
- interested in the culture (1)
- have friends who speak the language (1)
- required to take a language course to graduate (1)
- need it for my future career (3)
- need it for travel (2)
- other: need it when going to study abroad on an exchange programme (1)

As for their overall proficiency in English, the Nerds rated themselves higher ("good" and "excellent") than Mr Spock ("good" and "fair"). As compared with Mr Spock, the reasons for wishing to become proficient in the L2 were very similar. In addition to the reasons Mr Spock had mentioned, the Nerds had "need it for travel".

All three members enjoyed learning English as L2. Besides English, they had studied Swedish, German, French and Japanese as L2. Their favourite language learning experiences had been "the time I've spent abroad" (TR) , the "whole learning process" (PaPo), and "to get to understand to foreign people" (PePa).

The above information shows that the team had a good motivation for operating in English as L2 during the game, and they seemed to have sufficient proficiency in English as a prerequisite to play the game. They were also motivated to improve their proficiency in the L2. Their motivation seemed to be both intrinsic ("interested in the L2 and in the culture"; the favourite language

learning experience being "'the whole learning process") and extrinsic ("have friends who speak the language", "required to take a language course to graduate", "need it for my future career", "need it for travel", "need it when going to study abroad on an exchange programme").

In the light of the information gained from the background questionnaire, the learner profiles of the two teams, Mr Spock and the Nerds, were very similar. Both teams seemed to have the necessary prerequisites for playing the game in the L2.

5.2.2 The results of the SILL

Two of the four team members, TR and PaPo, returned the SILL completed. They had the following scores of the maximum of 5.0:

Part / Strategies covered	TR	PaPo	General Average
A. Memory Strategies	2.7	2.7	2.7
B. Using Your Mental Processes	3.3	3.1	3.2
C. Compensating	3.1	3.3	3.2
D. Organizing/Evaluating	2.8	3.1	3.0
E. Managing Your Emotions	2.9	2.6	2.8
F. Learning with Others	2.8	3.3	3.1
The overall SILL	2.9	3.0	3.0

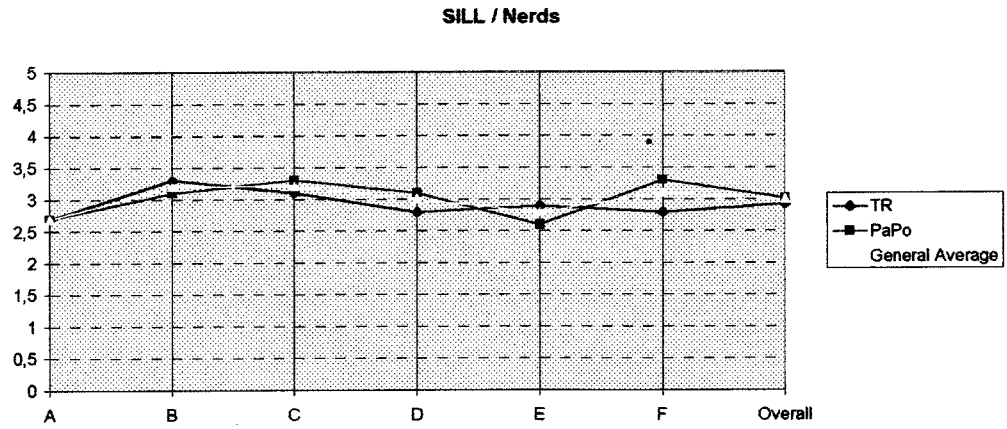


Figure 12. The Nerds: The results of the SILL.

As compared with the winning team, the score for the overall SILL of the two Nerds was slightly lower than that of the three members of Mr Spock (Mr Spock 3.23 and Nerds 3.0), meaning that both teams sometimes used language learning strategies (overall SILL between 2.5 and 3.4). The two Nerds members' individual overall scores were about the same (2.9 and 3.0). According to the students' own estimates, the SILL showed that PaPo was slightly better at compensating for missing knowledge (3.3), at learning with others (3.3), and at organizing and evaluating his learning (3.1) than TR (3.1, 2.8 and 2.8 respectively). TR was slightly better at using his mental processes and at managing his emotions (3.3 and 2.9 as compared to PaPo's 3.1 and 2.8 respectively). Thus the two members' strategic competence seemed to complement one another, but was not significantly different. Both members' strategies represented the medium range of strategy use, in terms of the SILL.

5.2.3 Strategies used by the Nerds: evidence of the log-book entries and audio recordings

The following findings are based on any explicit mentioning of L2 problems and strategies recorded in the log-book under "Language Problems", and on the evidence produced by the audio recorded discussions of the decision-making meetings from Rounds 2, 3, 6, 7, and 9 by the Nerds. The discussions were mainly carried on in the L1, but during Round 3 they were carried on in English.

The Nerds had entered only one explicit L2 problem in the log-book, the word *depreciation*, during Round 1 (or actually Round 2, which was the first round to be played by the learners). In addition, on the follow-up form given to the students to record any L2 problems and solutions it read: *No language problems during the game. We used dictionary only once. P. S. Look from the Logbook round 1.* Thus, concluding from the two explicit entries, the Nerds had only had the problem *depreciation* during the game and had used resourcing, ie. a dictionary, as an L2 strategy (Part B in SILL). Mr Spock had also used the same strategy explicitly. Both teams had also stated in their log-books that they had not had any L2 problems in general.

As for the latter entry concerning the L2 problems, another L2 problem was revealed, however. In the P.S. part of the entry, a preposition (most likely *of*) had been crossed out and replaced by the preposition *from* and the article *the*, which had been added instead of the original preposition. Thus, it could be concluded that the learners had had an L2 problem with the preposition after the verb *look* in the context and also with the use of the article but that they had noticed the problem, ie. monitored their production of the L2 in writing (Part D in SILL). Although the result communicated, it was not altogether accurate and idiomatic in the L2. A more idiomatic way of expressing the idea would have been, for instance: *See the Logbook for Round 1.* Nevertheless, the L2 expression used by the Nerds communicated the idea. The Nerds' version seemed to be a word-for-word translation of the corresponding L1 expression *katso lokikirjasta.* Thus, they had used a compensation strategy (Part C in SILL).

Accordingly, as evidenced by the log-book entries, the Nerds had had even fewer L2 problems during the game than Mr Spock. On the whole, both teams reported that they did not have any problems with the L2 in the game.

Although the Nerds had not noted down any other language problems than the word *depreciation* in the log-book, a second L2 problem was pointed out explicitly by the team during Round 7 in the audio recorded discussions. All four team members were present. The unknown word was *glut.* It came up as PaPo was reading an EnviroScan Report in the manual:

PaPo	sit voitas kattoo noitten ... kilpailijoitten tilanne kans et mitä ... miltä niilt näyttää ... Lodgi vitone ... (reading) either I am missing something or nothing has been going on ... stagnant room prices and soft occupancy [ɔku'pænsi] (wrong pronunciation and stress) rates in many areas [ǽriəz] (wrong pronunciation) of the country reflect **the glut [glʌt]** (= English pronunciation) in the [ðə] (wrong pronunciation) industry ... **glut [glʌt]** (=English pronunciation)?
TR	**anteeks?** (rising intonation)
PaPo	**[ge:æl u: te:]** (= Finnish spelling of the English word) (TR sneezes)
MP	**jotai ... kui ... mä tieä mitä *om*** (emphatic)
TR	**No sanakirjaa hakemaa joku!**
MP	**hmm**
PePa	**Mist?**
MP	**kaa kirjasta** (all laughing)
PaPo	**glut [glʌt] ... glut [glʌt]** (=English pronunciation) **in the** [ðə] (wrong pronunciation) **industry ...** kato Rest
TR	**A** (= first name of AL) (as if announcing to AL) ...
PaPo	kato Rest
TR	**tapasimme juuri vieraan sanan ... lähdemme tarkastamaan**
PaPo	Rest kakstoista
MP	**Petteril ei oo kirjaa**
TR	**Petteri nouda!**
PaPo	(reading further) The [ðə] (wrong pronunciation) increase in (*the* omitted) taxes caused the demand for liquor [likuər] (wrong pronunciation) to drop. Beer remains [ri'mains] (wrong pronunciation) popular and white stilled (should be *distilled*) liquors [likuəz] (wrong pronunciation) are still in demand but most alcoholic beverages are being replaced by non-alcoholic drinks.
TR	No vähä product [produkt] (= Finnish pronunciation) developmenttii [di'velopmentti:] (= English and Finnish pronunciation) sinne ja
MP	hhm
TR	tällast
PaPo	tuplataa product [prɔdʌkt] (= English pronunciation) develo ...lopmenttia (English and Finnish pronunciation)

Again, the explicit strategy used was resourcing (Part B in SILL), but indirectly, the discussion revealed the use of several other L2 strategies. PaPo's first strategy was to repeat the word *glut?* (Part B in SILL), indicating with his intonation that it was a problem and thus asking for help and clarification by turning to the other members of the team (Part F in SILL). He then tried to help TR decipher the word by spelling it out, using the Finnish spelling as a communication strategy: *[ge:æl u: te:]* (Part C in SILL). By doing this, he tried to break the word into recognizable parts (Part B in SILL) so that the others would understand quickly what he meant (Part F in SILL). The spelling did not help, so TR quickly chose another strategy, resourcing, or using a dictionary or a book (Part B in SILL): *No sanakirjaa hakemaa joku!* Thus, resourcing was the explicit strategy used, as TR's announcement showed: *A ... tapasimme juuri vieraan sanan ... lähdemme tarkastamaan.* TR was aware that they had met

with an L2 problem (Part D in SILL) and asked PePa to go and look up the word in a dictionary. Furthermore, as PaPo kept on reading the manual aloud (Part B in SILL), sometimes mispronouncing words (Part C in SILL), the rest of the team used inferencing and other mental processes (Part B in SILL) to conclude the meaning. As a result, TR soon summarized the action to be taken in the game: *vähä product developmenttii sinne ... tällast.* Apparently PaPo was also able to follow the meaning since he continued by saying: *tuplataa product developmenttia.* Both TR and PaPo used compensation strategies (Part C in SILL). Interestingly, PaPo used the L2 pronunciation for the word *product* but pronounced the word *development* combining the L2 and L1 ways (Part C in SILL) while TR pronounced both words in the L1 way (*product developmenttii*).

Although the team had made out the overall meaning of the text, the actual L2 problem with the word *glut* still remained unsolved, until PePa arrived with the dictionary and the conversation continued, as follows:

(PePa comes back with a book)

PaPo	**glut [glut]** (= Finnish pronunciation) tossa
PePa	**ylitarjonta**
PaPo	**ylitarjonta ... ahaa!**
TR	**ai et alalla vallitsee ylitarjonta** ... siis toi o ihme toi loppu siel ei o *yhtään* (emphatic) positiivista kierrosta ollu (laughs)
MP	kato onks niis loppu ... (laughter) (inaudible)
TR	mei ois pitäny merkata mitä m'ollaa käyty läpi sieltä jo et
PaPo	**the glut [glʌt]**(= English pronunciation) **on ylitarjonta** siis venaas nytte
PePa	no ei siin mitää muut ko taas pistetää markkinointii
PaPo	(reading in the manual) **stagnant [stagnant]** (= Finnish pronunciation) **occupancy rates in many areas [a're:z]** (wrong pronunciation) **of the country reflect the glut [glʌt]** (= English pronunciation) **in industry**
PePa	**ylit...**
PaPo	**ylitarjontaa on siel**
PePa	pakko mein on pistää markkinointii tai myydä tai taas takkii
MP	... takkii joka tapauksessa

The above passage reveals that the team used a number of additional strategies besides resourcing to solve the L2 problem. PaPo first said the unknown word using the Finnish pronunciation (Part C in SILL). PePa helped him look up the word, so they cooperated (Part F in SILL). PePa announced the Finnish meaning to everybody: *ylitarjonta.* Thus, he used resourcing and translation as strategies (Part B in SILL). PaPo then used repetition (Part B in SILL) (*ylitarjonta ... ahaa!*) and translation (*the glut [glʌt] (= English pronunciation) on ylitarjonta*) (Part B in SILL). Soon, TR started putting the word into the context and tried to conclude the meaning of the whole sentence, thus using elaboration: *ai et alalla vallitsee ylitarjonta* ... (Part B in SILL). Still, the meaning did not seem to make sense, and PaPo tried to conclude the meaning of the whole sentence by reading it out loud once more (Part B in SILL). In the end, PaPo concluded (Part B in SILL) that 'the supply exceeded the demand' by using repetition *(ylit ... ylitarjontaa on siel)* and PePa suggested that they should invest more in marketing or sell the industry. Thus they had solved the L2 problem by using their mental processes together with cooperation (Parts B and F in the SILL). Compensation strategies were also used (Part C in SILL).

The analysis of the above two explicit L2 problems shows that although it seemed at first glance that there was only one implicit strategy that was used to solve the L2 problem, the speech data revealed that, in fact, a wide range of L2 strategies was used by the Nerds. In this respect, the findings resembled those of Mr Spock. For instance, to solve the L2 problem of *piski*, they had also used a wide range of strategies.

As judged from the audio recorded discussions, a special characteristic of the language used by the Nerds in their decision-making discussions emerged: the players used L1 and L2 expressions intermingled. They occasionally used Finnish expressions while speaking English, but especially English expressions when speaking Finnish, ie. they used codeswitching as a compensation strategy (Part C in SILL). Thus, during the negotiations, the Nerds seemed to develop their own game jargon, which they seemed to use more and more fluently towards the end of the game. It was characteristic of this jargon that they borrowed L2 concepts for communication purposes when it seemed more convenient to do so instead of translating the L2 terms into Finnish. They also used translations of the same concepts (Part B in SILL) at times, or they coined their own, often humorous-sounding L1 terms resembling the original L2 concepts (Part C in SILL). The coinages were perhaps not made up so much to compensate for missing L2 knowledge as to create a positive feeling to lower anxiety through humorous language (Part E in SILL). The pronunciation of one and the same expression could also vary: the concept could be pronounced (1) in the L2 way. (2) in the Finnish way, or (3) in the person's own way. The extracts below will illustrate the use of these strategies more closely.

The jargon words included the key business concepts of the game, needed constantly during the decision-making discussions. In the following two extracts from the same round, TR used the original English expression *asset value* as such, each time with an English pronunciation. He also used three different ways of conveying the idea of the word *profit*: (1) a Finnish coinage (*profitti*); (2) the Finnish translation (*tuotto*); (3) the English term as such (*profit*), also with a Finnish case ending (*profitit*). In terms of strategies, in cases one and three, he used compensation strategies (Part C in SILL), and in the second case he used a translation, or his mental processes (Part B in SILL). In the latter extract PaPo used the L1 coinage (*profitti*) and a changeover (*asset valuekin, net*) as compensation strategies (Part C in SILL):

TR	ei ole... **asset value** (English pronunciation) on noilla muilla ... parilla korkeempi ... kahella henkilöl ... kato ne o tehny saman ratkasu ... ei oo *voinu* (emphatic)
PaPo	tä?
TR	... niitte **asset value** (English pronunciation) on noussut saman verra tuolla mut niitten tota **profitit** on ... (laughs) noin paljon eroo ... samate myynneissä
TR	nehä on investoinu jotai iha ihmeellistä to ... tsekkaa ... niil o myynti noi paljo ... melkein kolme tuhatta enemmän ku ... meil toisilla ...
PaPo	hmm
TR	silti niitte **profitti** on ... näin paljon pienempi ... **asset value** (English pronunciation) o täsmällee sama ... **elikä ... tuotto** on noin paljon pienempi ...
PaPo	n'on sijottanu johkii ihan ...
TR	mä en tajuu mitäköhä ne on tehny ...

TR ja **profit** ... kato minkä **profitin** se on tuonu ... haloo ... ja **[æsit vælju:kin]** (= English pronunciation of *asset value*) meil o aika hyvä

PaPo **net profitti** kuuskyt (laughter) kaheksatuhatta yheksäsataa

The physical learning environment would seem to provide some explanation for the use of the changeover commonly. When making the decisions, the students were sitting at a computer and keying in the decisions onto the diskette. The framework of the game was in English. Apparently the students found it easier to use the L2 *asset value* and *profit* as such rather than translate the terms into the L1 since the terminology on the screen was in the L2. This seemed to be the case throughout the game, as was evidenced by the recorded Finnish negotiations.

Furthermore, on a closer analysis of the strategies used above, the form *profitit* could either be the Finnish Plural form of the original English term *profit*, but it could also be the Finnish Plural of a Finnish coinage *profitti*. In either case *profitit* would fall under Part C in SILL. On the other hand, when TR used the L1 translation *tuotto* for *profit*, the reason for this could have been that he used the L1 as he analyzed and reasoned what had happened, and therefore, as the ultimate conclusion, stated things clearly in Finnish (*elikä ... tuotto on noin paljon pienempi*). The Finnish word *elikä* reveals that he summarized the whole idea in the end (Part B in SILL). Moreover, the latter example shows that L2 terms and coinages were used to a special effect, ie. to reduce anxiety or for the sake of humour (Part E in SILL). Thus, the situation, or the context, seemed to influence the use of different strategies for the same L2 concept.

Syntactically, in the following example, PaPo seemed to use the English form of the term *sales revenue* with the Finnish syntax, and the word *profit* as such, following the rules of the L2 syntax:

PaPo nii mut kato turhaa ... mennää suoraa **sales revenuehu [seilz revnjɔhɑ]** (=English pronunciation of 'sales revenue') ja lyödää **sales revenue [seilz revnjɔ]**(=English pronunciation) tonne sataa kolmeekymmenee tuhantee ... noin ... sillon tuli **profit [profit]** (=Finnish pronunciation)

The interesting thing was that, contrary to first having used *sales revenue* with the Finnish syntax, PaPo used the word *profit* in its L2 form as such, not following the Finnish syntactic rules, which would have produced *sillon tuli profitia* with the Partitive Case ending. The basic form of the word was apparently easier to say and communicated the meaning sufficiently (Part C in SILL).

Another interesting example of the mixing-up of the L2 and L1 terms and forms side by side is the conveyance of the idea of the compound *total costs* in the following extract. In it TR used the original L2 term *total* (Part C in SILL) followed by an L1 translation *menot* for *costs* (Part B in SILL):

TR paljo mein **total** (English pronunciation) ... **menot** o tähän mennesä ... viititkö laskee ... onks sul laskukone ... se on sul siel ylhäällä ... ylälokerossa

As illustrated by the above examples, the general trend seemed to be that the Finnish negotiations abounded with a number of instances of using the L2

forms of the key concepts of the game, often side-by-side with corresponding L1 translations (Part B in SILL), following the grammatical rules of the L1 as quick means of solving communication problems, not so much as a sign of missing knowledge but as a shortcut for communication (Part C in SILL). The following extracts from different rounds are further examples:

PaPo meil on kaksataa neljäkyt tuhatta ... ei ku siis sata neljäkytkaheksa tuhatta viel **cash [kæsh]** (= Finnish pronunciation of *cash*) ...

PaPo ja meil oli kaksataa viiskytkuus tuhatta **[kæʃiæ]** (= Finnish pronunciation of *cash*)

TR miten noil on noi paljo **rahaa**?
PaPo **cash [kæʃ]** (= English pronunciation) ... **cash [kæʃ]** (= English pronunciation)
TR kato viel [pʌpətseil] (= Puppets) o hirveesti **rahaa**

PaPo Eli sit taas pistetää iha sikana (laughs) **rahaa** ... **[foukust pro'mouʃə nseihi]** (=into Focuced Promotion; English pronunciation)

PaPo **Quality development [kwoliti dive'loupmənt]** (wrong pronunciation and stress) oli kymppittonni neljätuhatkuuskytä
TR pitäskö mein hei vähä suunnata tota **massamarkkinointii** tosta tost **fokuksesta** enemmä ... koska meil o aika huonosti varattu täällä **rahaa** siihe kato ... ni ollaaks me liian keskitytty tähän **zuumattuun markkinointiin** ... jos siirretään tästä vaikka kaks tonnii tähä eli viis ja kolme niin päin nää summat pantais
PaPo nii tai jos pistetää sillee että ... **mass [mæs]**(= English pronunciation) **marketing** (= English pronunciation) tulee noin kakskytyks tonnii yhteensä ... **mass [mas]** (= Finnish pronunciation) **marketing** [= English pronunciation) viistoista ja **focused promotions [fəukəst prə'məuʃənz]** (= English pronunciation) kuus

TR no se on ... **total [total]** (= Finnish pronunciation) **[ikspenseis]** (= English and Finnish pronunciation) kakstoist tuhatta kuussataa kaheksakytneljä markkaa

TR aika pienellä selvittii **total expenseissä [total ekspenseissæ]** (= Finnish pronunciation)
MP **total exp** ... **[total eksp]** (= Finnish pronunciation) (keying in)

PePa **quality control [kvaliti kontroul]** (= Finnish pronunciation)?
TR no tota ... se on suhtees **[produktiviti:]** (=Finnish pronunciation) aika hyvä ... on tää nyt must tosiaa

TR noin ... ja sitte ... toi ... **gross margin [gros margin]** (= Finnish pronunciation) ni ei varmaan o viiskymmentä

PaPo **sales [tseils]** (wrong pronunciation) **revenue [revnjə]**(=English pronunciation) ... mein pitää nyt käydä eka nostaa toi
TR pannaa sinne nyt toi kaheksatoist tonnia ainakii

As for the pronunciation of the L2 terms, the above extracts abound in examples of the use of either L1 or L2 pronunciation of an L2 term. Mispronunciation, for instance [*tseils*] and [*seilz*], also appeared, in addition to the contamination of L1 and L2, for instance, [*produktiviti:*]. Mispronunciations were often used for the sake of humour or to alleviate the anxiety of the game

(Part E in SILL). No general patterns as to when different kinds of pronunciation occurred could be discovered. For example, in the above example, PaPo first used the L2, and then the L1 pronunciation for the word *mass*, but an L2 pronunciation for the word *marketing* and the L2 expression *focused promotion* in the same speech act.

In general, the Nerds seemed to know the correct pronunciation of the key L2 terms except for the word *gross* in *gross margin*. The word *gross* was either pronounced [*grɔs*] or [gros], similarly to the L1, as evidenced by the recordings. When the decision making became more hectic, like in Round 9, more changeovers to the L1 pronunciation of the L2 terms seemed to occur; thus less monitoring was practised and compensation strategies were used instead (Part C in SILL). The different players also seemed to use different strategies: TR seemed to use L2 pronunciation more than PaPo, who often seemed to resort to L1 forms. However, no exact pattern could be traced, as shown by the following example:

PaPo	onks se siis tää **total [tɔutl]** (= English pronunciation) on periaatteessa
TR	**total [total]** (= Finnish pronunciation) on **käteisen** ja
PaPo	**assset [æset]** (= English pronunciation)
TR	**pääomien**
PaPo	**yhteen ...**
TR	tai ... **yhteissumma**

The other two players, MP and PePa mainly used L2 pronunciation. The pronunciation seemed to reflect the learners' general proficiency in the L2, as judged from the audio recordings and as can be concluded from many of the extracts below. As for the meaning of *total*, they concluded it on the basis of the context together and rendered the idea in the L1. Thus they used mental processes (Part B in SILL) and cooperation (Part F in SILL).

Similarly to using L2 in between the L1 for the key business terms, the Nerds used the English acronyms (for instance, *REST, LODG, VEND, MAQU, GRO, HLTH*) for the various industries, which appeared on the screen and in the manual, often relexicalizing them to sound more like Finnish (*Resti, Nerdstuffi*) , or coining their own expressions like *Vendari, Magu*, and *Grossi*, apparently for fun (Part E in SILL) and convenience (Part C in SILL):

PePa	meilt jäi **Restí** (= the Restaurant Industries) välii
TR	mut hei ... nii **Resti ja plus Vendari** (= the Vending Industries)
PePa	tää?
TR	joo ... mut kato nyt on ... **industry reportteja** ... no ... ni ... otappa se **Magu** (= the Maquiladora Industries) tost
PaPo	**Grosshandelii** (= the German Grosshandel)
TR	**Grossii ... Nerdstuffii** ... siel o ollu kova myynti

Interestingly, as shown above, for *the Mexican Maquiladoras of Electronics* the Nerds used *Magu* although the acronym was *MAQU*. *Magu* was perhaps easier to pronounce in the L1.

Concerning the pronunciation of the English acronyms of the names of the different industries, several variations occurred. The different ways were to use the L2 abbreviation for the industry as such with the Finnish sound system (for instance, [*sell*] for *CELL* or *the Cellular Phones*), or to add a Finnish

ending to it and to pronounce it in the Finnish way (*selli*) or to use their own coinage (*tselli*). Thus, the team resorted to compensation for the sake of brevity (Part C in SILL) and humour (Part E in SILL):

PaPo hei **[tselli]** ... **[sellis]** (= Finnish pronunciation of *CELL* or the Cellular Phones) käydää kattoo nyt tää sanoo siis niiku että can hardly keep up with the demand now ... ni siel on inventories ['invent ri:z] (wrong stress) are at their lowest now'

For *the Lodging Industry* (*LODG*) they used [*lodg*] and [*lodgi*], ie. L1 pronunciation (Part C in SILL), and the full L2 expression as such:

PePa (impatiently) let's proceed ...
TR industry reports (English pronunciation of *industry reports*) ... first of all . we have to check the situation what is ... tsekkaa **[lodgi]** (= Finnish pronunciation)
MP **[lodg]** (Finnish pronunciation) (inaudible) **Lodging Industries** (English pronunciation)
TR eight ... number eight
PePa What's the situation in **[lodg]** (Finnish pronunciation) o [əu] eight (=08)

For *the Nerdstuff Industry*, which industry and name they had created themselves, they used *Nerdstuffi*, with an English pronunciation of the word *Nerdstuff*, but with the L1 syntax:

TR **[grossi:]** (=Finnish pronunciation) ... **[nɜ:dstʌffi:]** (= English and Finnish pronunciation) ... siel o ollu kova myynti

As for *ACME Industries*, another creation by the Nerds, the name *ACME* was pronounced in the L1 way while *industries* was pronounced in the L2 way:

PaPo **[akme]** (= Finnish pronunciation) **Industries ['indʌstri:z]** (= English pronunciation) ... mehä oltii ylivoimasii
TR mehä oltii parhaita siinä ... ehkä me ei luovutakaa siitä
PaPo **[akmesta]** (= Finnish pronunciation of 'ACME')) ei ...

For the German Sub Unit, *the German Grosshandlers of Appliances*, the Nerds had a number of variations, both in terms of form and pronunciation. Besides the coinage *Grossi* [*grossi*], which was commonly used by all Nerds, PaPo, who apparently knew no German, called the German SBU *German Grosshandel* (with the L2 and L1 pronunciation, as shown below) and [*groshandeli:*] (Part C in SILL):

Round 9:
PaPo ei täs nyt o kato nyt ... muuta ku **German [dʒerman)** (= English and Finnish pronunciation) **Grosshandel [groshandel]** (= Finnish pronunciation) sitte
MP nii
TR ja matkapuhelimet (inaudible)
PaPo no niihin ei kauheest kannata panostaa ... sielt tarvitaa rahaa **[groshandeli:]** (= Finnish Pronunciation)

Later, during the same round, PaPo invented further versions: *[dzermans groshandeli]*, *[dzermans groshandl]* and *[dzermanni]*. This was after there had

been a drastic change for the worse in ranking, and the team was taking great risks to save what they could:

PaPo sitte lyödää viiskytä tonnii ainakii siihe **[*dzermans groshandeli:*]** (emphatic and excited)

PaPo mä pistän toho että riski **[dzermans groshandl]**

PaPo **[dzermanni]** oli viis tonnii joo

It seemed that PaPo became more venturesome in his risk-taking in the L2 towards the end of the game when the Nerds' ranking started to fall. Thus, the outcome of the game seems to have been reflected on his inventive use of the different L2 expressions for *the German Grosshandler*. The new coinages (Part C in SILL) sounded humorous and were apparently used to alleviate the anxiety created by the worsening situation in the game (Part E in SILL).

As for common business acronyms used in the game, both L2 expressions (Part C in SILL) as well as translations (Part B in SILL) were used. For instance, for the business concept *ROA*, which appeared on the screen, TR used the full expression in English. He also pronounced it in the English way:

TR **return on assets** (English pronunciation) ois aika kiva jos tää toteutuis

and

TR [ruumsissa] (= ROOMS or the Bed & Breakfast Lodging Industry) ... (laughter) **return on assets** (English pronunciation) miinus sata nelkytyks (laughter)

The acronym *ROA* was apparently difficult to pronounce in the Finnish way and therefore TR preferred saying the full expression in English, thus resorting to the use of an L2 expression for communication purposes (Part C in SILL).

On the other hand, in the following extract, the abbreviated form *maks* was used for the Finnish *maksimi*, or the English *max.* (= *maximum*), to communicate the meaning (Part C in SILL):

PaPo viis tonnii ... kolme tonnii (TR is keying in the figures) ... tonni (TR keys in)
TR se ei ota sitä ... enempää ...
PaPo ni ellei me nosteta myyntii lisää
TR niin mut ko se ... sehän ... tuo ohjekirjaha sanoo et se myynti ei tuu toteutumaa ... se antaa ton sata tonnii meille myyntiin **[maks]** (= Finnish pronunciation; short for 'max' or the Finnish 'maksimi')

In the same way, *Inc* was used as an abbreviation for *Incorporated* and pronounced in the L1 way. This was apparently done to compensate for missing knowledge or for the sake of brevity (Part C in SILL):

TR tais mennä ohi jo ... n'ei se sit ookkaa ... siin o Vend
PaPo Drink-a-Cola **Inc [iŋk]** (= Finnish pronunciation) (inaudible) is **attempt** to sell more soft drinks in **the [ðə]** (wrong pronunciation) office place. Corporate **executives [eksekutivs]** (wrong pronunciation) believe this **idea [idea]** (= Finnish pronunciation) will be a big hit in the workplace. Figures show that ...

	heavy promotion could have **a positive effects [efekts]**(wrong stress) on this niche in the market.
TR	No ni!
PaPo	Eli ... sit taas pistetää iha sikana (laughs) rahaa ... **[foukust pro'mousenseihi]** (= Finnish pronunciation)

Several mispronunciations and the omission of the indefinite article in front of the word *attempt* as well as the misuse of the indefinite article in *a positive effects* also indicate the use of compensation strategies (Part C in SILL).

Furthermore, to illustrate the mixing of the L1 and the L2 syntactically in the jargon, for the names of the computer function keys the Nerds used the L1 syntax, when saying the L2 names of the keys (Part C in SILL), as was also the case with Mr Spock:

TR	**[enteriä]** (=Finnish pronunciation indicating 'Press ENTER')
TR	**[eski:]** (= English or Finnish pronunciation meaning 'Press ESC') vaa ... täs säästettii vähä rahaa ... tää oli hyvä siitä

The Nerds also used the English terms with the L2 pronunciation, as evidenced by the recording.

Furthermore, when making the decisions, for the game command *double assets* the Nerds used both a compensation strategy (Part C in SILL) and a translation (Part B in SILL):

PaPo	Vedä kaikki ***double*** **[dʌbl]** (=English pronunciation of 'double') ... se on siinä
TR	(keys in) ei ... ei ehkä focused [fəukəst] (= English pronunciation) **[dʌbli:]** (= English pronunciation of 'double') mut
PePa	no ***[dʌbli:]*** (= English pronunciation of 'double'; emphatic) kaikki
TR	hhm

PePa	**pistetää tuplat**
PaPo	ei mut .. näähä me joudutaa **tuplaa ...** ko ne o pumpannu tyhjäks sen

Above, the L2 word *double* was first borrowed as such, and then the L2 word was used with the L1 syntax *[dʌ bli:]* but with the L2 pronunciation. The translations *pistetää tuplat* and *näähä me joudutaa tuplaa*, on the other hand, represented colloquial forms of the L1, instead of using the standard expression *kaksinkertaistaa*. The excitement of the game situation seemed to trigger off the use of inventive language forms in both the L1 and L2.

As pointed out earlier, a special characteristic of the Nerds' jargon was also that it consisted of a number of the team's own coinages (Part C in SILL) of the basic business concepts, which often sounded humourous and most likely helped reduce some of the anxiety of the game (Part E in SILL). Besides talking about *asset value* or *assets*, the Nerds invented the terms *ässäri*, or *ässä*, which were shorter and quicker to use amidst the hectic decision-making than the original L2 terms or a translation. Similarly, they also invented *massa* for *mass marketing*, and *proffa* or *roffitit*, a dialectal L1 form, for *profits*. For *the Health*

Industries they invented the term *Helttari*. Grammatically, the coinages followed the L1 rules and were easy to use within the L1:

MP	kaksataa kol ...
TR	ja **ässäri** on kaksataakolkyttuhatta seittemä sataa kaheksakytviis ...
TR	otetaa löysät pois
PaPo	joo ... **ässärit** pitää kerätä
TR	sit tota nosta ... paa se ... kuussataaviiskymppiä tonne **ässäreihi** ... kokeile enemmän ... paa kymppitonni tenemmän ... syötä ... hyväksyyks se
MP	kevyesti
TR	paa lisää vaa ... toinen kymppi ... ja vielä vaa ... noijen on pakko nostaa noita **ässäreitä**
TR	**ässäri ja myynti** ... sata kolkytyks ... ja sitte **proffaa** ... kuuskyt tuhatta viissataa seittemä

MP	mun mielest mein olis kannattanu ... se **Helttari** (= the Health Industries) *pitää* (emphatic) ... se oli niin kipee ... s s'oli ... se po ... porskuttais yksin tuol
---	
TR	jumalauta ... meil on ... yli nelkyt ... pros ... *markkinaossuus myynneissä* (emphatic)
MP	no se ei paljo auta jos ei
TR	ja ***roffiteissa*** (emphatic) kato ... kolmesataa kuustoist tuhatta eiks ni?
PaPo	meiä ***roffitit*** (emphatic) oliii ...

The following extract illustrates the use of the jargon further during Round 9 in the game. Coinages and the use of L2 terms with the L1 syntax and pronunciation had become part of the "inside" language of the game used by the Nerds:

MP	**Nörtti**. Kierros ... mikä tää on?
MP	Yheksä
PaPo	Ysi ... kokouspaikka?
TR	Yllätys!
PaPo	no nii ... katottii ... ollaa vähä tiputtu jotenka ryhdymme toimenpiteisiin. Tavoitteita ei ole kuin yksi...
TR	**Roomsissa** (= English pronunciation of 'ROOMS'; part of the Bed & Breakfast Lodging Industry) ... (laughter) **return on assets** [= English pronunciation) miinus sata nelkytyks (laughter)
PaPo	ei pysty
TR	ei tää nyt ... ei tää nyt *niin* (emphatic) hälyttävä o vielä tämä
PaPo	no *on* (emphatically)
TR	onha sekin ikävä toki
MP	mikä o hälyttävä?
TR	tsekkaa!
M	aaahh!
MP	siis satanelkytyks **prossaa** tullu ... nettoo (inaudible)
TR	mut kato **rahvat** ... viiskytneljä tonnii ... mis se toine ... McNerds [mæk'nɜ:dz] (= English pronunciation)
MP	hei ... myydää pois se
PaPo	ei me ... ei me voida ... tehhä enää mitää ... tollasii ... **likvidointei** tai ... pitää vaa pelata sil mitä o
TR	meil o kato täs ... siis **Nerdstuffissaki** (English pronunciation of 'Nerdstuff') ... o niin kovat **ässarit** ... et jos tän (inaudible) ottaa kätee ja ... sata

	viiskyttuhatta
	... hyvä jos sitäkää
PaPo	ei ... ei sitä voi enää
TR	ei o mitää järkee
MP	se on kyllä totta
PaPo	mutta ... katsotaan tilanteet ja sit ... aletaa analysoimaan taas
TR	meil on kovat **ässät** meil on loistavimmat **ässät** (inaudible)
PaPo	hm (laughs) mein **käshit** on vähän niiku kolahtanut ... sen takii kato ku ... periaattees kaheksakyt tonnii palo niiku iha

Thus, communicaton strategies (Part C in SILL) were used throughout the extract for the special terms of the game, mostly with the L1 syntax: *Roomsissa*, *Nerdstuffissa*, *likvidointei* for *liquidation*, *ässärit* and *ässät* for *assets*, *käshit* for *cash*. In the case of the term *return on assets*, an L2 term was used as such without the L1 syntax. The term *liquid assets*, on the other hand, was translated using an L1 coinage *rahvat* for *rahavarat*.

For *focused marketing* and *mass marketing*, the Nerds used the English forms as such as set concepts, or they used the English forms in the Finnish way or with L1 pronunciation, and the coinages *fokus* and *massa* (Part C in SILL):

Round 9:	
PaPo	nyt sen vois laittaa sit tota focus ... mitä se sano nyt ... siin oli se se
TR	siin oli se et ... että
PaPo	jenkkii
TR	do ... dollari hinnat maailmamarkkinoil ... dollari heikkenee
PaPo	**massamarkkinointii** sillo
TR	amerikkalaiset ... amerikkalaiset o kiinnostunu saksalaiste tuotteista
MP	osta ... buutsii vähä ... katotaa hinta
TR	et sä sielt pysty
PaPo	ei me voida muuttaa
MP	(inaudible)
PaPo	nii nii mut kato ... pitäskö mei nyt panostaa **fokusii** vai **massaa** ko se o niiku jenkkeihi?
TR	must **massaa**
PaPo	no pistetää **massaa** ...
TR	vai onks se **fokusta**?

For *mass marketing*, they also used the L1 translation (Part B in SILL):

PaPo	**mass marketing** (Finnish pronunciation of both words)
TR	**massamarkkinointiin** ... ei nyt tuplata ... pannaanko kahteenkymppiin

In the following extract TR gave the exact Finnish term of another business concept (Part B in SILL), apparently to make sure that everybody in the team knew exactly what was implied in terms of business decisions:

PaPo	and maybe we can a little bit the **gross [gros]** (wrong pronunciation) **margin [ma:ʒin]** (wrong pronunciation) ... maybe it's higher a little bit because it's now forty-five **pro cent**
TR	**also known as myyntikate**

In the above extract, PaPo failed to monitor his speech and used compensation or communication strategies (Part C in SILL) by skipping a verb and using the L1 word order (*maybe we can a little bit the gross margin*). He apparently

meant that *maybe can reduce the gross margin a little bit*). The word *margin* was also slightly mispronounced. Moreover, he was influenced by the L1 form *prosentti* when he said *pro cent* instead of using the correct L2 expression *per cent.*

Similarly, for their English team name, the Nerds sometimes said *Nerds* in the English way, sometimes *Nerds*, also with Finnish pronunciation (Part C in SILL), or they used the Finnish computer jargon expression *Nörtti* and *Nörtit* (Part C in SILL), as in these examples:

PaPo	meiän myynnit ... **Nerds (English pronunciation)**
MP	joo **Nörtit** on taas takasi ... kierros?
TR	er ... seiska
MP	seiska ... paikalla kaikki
TR	eiku kasi ... mikä tää on
PePa	seiska
MP	onks tää seiska
PaPo	on joo
TR	tuol lukis mut onks tää niiku viime kierroksel ... emmä tiedä ... no sama se
---	
MP	**Nörtti**. Kierros ... mikä tää on?
MP	Yheksä
PaPo	Ysi

It seems that the coinages were used for the sake of humour or to reinforce good self-esteem (Part E in SILL). During Round 3 the expression *the Nerd herd* was used to the same effect, as a form of self-talk:

TR	Third round ... we're still leading
PaPo	competition is tough
TR	competition is hard ... the other ones are closing us ... but
PaPo	two points behind ... we are still leading
MP	**the Nerd herd is back**
PaPo	there are some team which are losing their game already
MP	Predators [predɔtɔz] (= English pronunciation)
TR	for instance Predators [predɔtɔz] (= English pronunciation) ... Profit [prɔfit] (= English pronunciation) ... and Puppets [pʌpits] (= English pronunciation) they have all lost the game ... well
MP	perhaps Mr Spock (English pronunciation) ... Mr Spock (English pronunciation) ... only two points behind us

As can be seen from the above extract, the names of the other teams were pronounced in the L2 way during the English discussion. During the Finnish discussions, the Nerds usually pronounced the names of the other teams in the L1 way (Part C in SILL). For the team *Puppets* the Nerds used both the L2 and L1 pronunciation in their coinages (Part C in SILL):

TR	millä perusteella se laittaa kato meil on ... *kolmel* (emphatic) o sama myynti ...
MP	kellä kolmella?
TR	**[predatorseil]** (= Finnish pronunciation of 'Predators') ... meiän [mæk'nɔ:dsillæ] (=English pronunciation of McNerds) ja noilla kahella ... monta kymmentä ...

MP	me tehtiin voittoa ...
TR	(laughs)
MP	noi otti muut vähä ... pata pataa
PaPo	(inaudible)
MP	[mai] (=English pronunciation of MYREST) (inaudible) toi **[suitsit]** (= Finnish pronunciation of 'Suits') (inaudible)
TR	kato noil **[pʌpɑtseil]** (= English pronunciation of 'Puppets') o hirveesti rahaa
TR	ei noil o kovin korkee noil **[pupeteila]** (= Finnish pronunciation of 'Puppets')
TR	tos o pikkasen pienempi ko **[puppeteilla]** (= Finnish pronunciation of 'Puppets') ... niinku myynti

Especially TR seemed to like to play with the name of the team *Puppets* (Part E in SILL).

The Finnish negotiations also contained some L1 jargon words, such as *fyge* and *paalu* for 'money', and *fläbä* meaning 'an EnviroScan report in the manual'. These also indicate the use of compensation strategies (Part C in SILL) instead of more standard L1 expressions:

PaPo	paljo meil o nyt fygee jäljellä? ... täällä ... mun kirjanpidon ... paljo meil oli alunperin ... tääl o nyt kolkyt ... kaks tuhat viissataa plus kaks kolkytneljätuhat viissataa mun läh...(inaudible) mukaa
TR	on menny
PaPo	nii

PePa	tässo hirveet myynnit tässä ... Grossissa
TR	Jaha ... yhteistoiminta tällaseen (emphatic) ... Keikkilä Oy:n kanssa Suomesta on alotettu ... (laughter)
TR	ja se on tällanen myyntiväylä Skandinaviaan ja ... ja Venäjään
PePa	(laughter)
TR	ei sanota mitään muuta elikä todennäkösesti lupaa aika paljon
PePa	törkeesti **paaluu** (laughter) ... Keikkilä Oy aus Finnland (laughter)
PaPo	mut kato tääl on tää ... ei se nyt periaattees siis sinänsä ... se on se minkä se kone antaa
TR	eiks se kuule eiks se ... eiks se **fläbä** kerro sitte tota nii että massamarkkinointii
PaPo	kato ku se ... tässä just kehottaa näin että ...
TR	room prices and ... mikä ... mikä se oli Lodg [lodg] (= Finnish pronunciation)
PaPe	se oli toi room prices (English pronunciation) ... kaheksantoista

The meanings of the L1 jargon words above were confirmed by TR and PaPo later, when asked by the present writer.

To explain the use of the game jargon that the Nerds developed, it would seem that it resembled what Halliday (1984) calls an antilanguage, with the exception that there does not seem to be any anti-social dimension in the Nerds' jargon. Similar to an antilanguage, as pointed out by Halliday (1984:180), the Nerds used theirs casually and as "powerful manifestations of the linguistic system in the service of the construction of reality" (Halliday 1984:181). In this case, it was the reality of the game, not the actual reality. The Nerds' jargon was rather the language of a 'closed circle', or of a small cohesive group, which

started using its own language, or a special register, within the learning context to keep up the group spirit and perhaps to lower the anxiety caused by the competitive nature of the game. Thus, in Halliday's terms, the reasons for the Nerds creating their own language might have been as follows:

> Other examples (of an antilanguage) are provided by verbal contest and display. Here the foregrounding is not a sign of the system coming into being, but an effect of the particular functional orientation within the system, and the special features that arise in a context where a speaker is using a language just in order to secure for himself the rewards that accrue to prowess in the use of the language. (Halliday 1984:180)

In the Nerds' case, it was perhaps more "the functional orientation" than "securing for himself the rewards that accrue to prowess in the use of the language" that made the Nerds use their own jargon. They seemed to resort to it for personal liking and for group cohesion, or when trying to boost their confidence, rather than as an attempt to seek individual acclaim within the group. It was used more perhaps as a group acclaim, to secure for the group "the rewards that accrue to prowess in the use of the language". Thus, it seems that the Nerds used their jargon to enliven the working atmosphere (Part E in SILL) and to promote cooperation among the team (Part F in SILL).

Halliday (1984:165) also argues that "it should not be assumed that it (ie. antilanguage) always arises by a process of fission". Rather, it seems that since there were a number of business terms that the team had to employ recurringly throughout the game, instead of always using the 'proper' L1 or L2 terms, the Nerds used their inventiveness and created new, often humorous-sounding relexicalized forms of these terms for the sake of brevity or change. Relexicalization in this case could simply be seen as "the technical and semitechnical features of a special register", rather than as an antilanguage. Thus, the functional, the interpersonal or social, and the textual or message reasons for creating an antilanguage, mentioned by Halliday (1984:166), seemed to be the most outstanding in the Nerds' case.

Like many antilanguages, the Nerds' jargon was created for closed communication and verbal art. It could almost be seen as verbal contest and display, which Halliday (1984:180) also mentions as one reason for the upcoming of an antilanguage. For instance, the different jargon versions used by the Nerds for one and the same idea, such as *ässä* and *ässäri* for *asset value*, as evidenced above, were not semantic variants, but were used interchangeably at the spur of the moment. What Halliday (1984:165) says about the lexical elements of an antilanguage would seem to confirm this assumption:

> The simplest form taken by an antilanguage is that of new words for old; it is a language relexicalized. ... Typically, this relexicalization is partial, not total. ... The principle is that of same grammar, different vocabulary only in certain areas, typically those that are central to the activities of the subculture ...

This seems to apply to the Nerds. They used relexicalization only in certain areas which were central to the activities of the game, but within the same grammar, ie. the grammar of the L1. The relexicalized forms were connected to the basic concepts within the framework of the game, such as *asset value*, *profit*, *mass marketing*, and the names of the various industries that they

operated in when they made their decisions during the different rounds of the game. As shown by the above examples, there seemed to be no general rules either, as to when they used the relexicalized forms; they were used randomly and spontaneously. The proper L1 or L2 terms also often occurred side-by-side with the relixalized forms, as evidenced above. The Nerds' jargon was thus a typical example of the partial relexicalization that Halliday speaks about: same grammar, different vocabulary only in certain areas. The use of L1 slang terms (*fygee*, *paaluu*, and *fläbä*) related to the business context of the game also prove this.

With regard to the negotiations carried on in Finnish, besides the actual business jargon related to the game, the team sometimes also resorted to the use of English on other occasions, ie. switched over to the L2 temporarily (Part C in SILL). An instance of this was when during Round 6 the team had been working for a long time at a computer and PePa was growing tired and suggested a break. He said it twice in English (*need a break*):

TR	paljo mein total (English pronunciation) ... menot o tähän mennesä ... viititkö laskee ... onks sul laskukone ... se on sul siel ylhäällä ... ylälokerossa ...
PePa	**need a break!**
TR	sun tarttee vetää se päälle sielt yläreunast ... vasemmasta
MP	*aivan* (emphatically)
PePa	no nii hei ... **need a break!**
TR	nii kaikkien kaikkien
M	no niin pitäkää breikki mä saan nopeest tulostaa tän nyt ... pääsee himaa ... lukee tota keissii
PePa	heitä hitti voltti
M	teen sen valmiiks
PePa	no varo varo varo ... vitu hullu!
TR	ei kiroilla ... menee nauhalle
M	teen sen valmi*iks* (emphatic; angry) ... siin ei me 'ku minuutti
PePa	meil ei me ku puol tuntii enää

From the context it is obvious that PePa used the L2 expression to manage his anxiety and emotions (Part E in SILL). The CEO did not seem to note PePa's remarks but continued giving instructions to MP. Therefore PePa repeated his request. After PePa's second request, an unidentified male student, who apparently was waiting impatiently to use the same computer as the Nerds, became indignant and said *no nii pitäkää breikki*. His interference started an argument between PePa and the unidentified student and PePa lost his temper. The whole incident shows that the L2 expressions were used as compensation strategies, as also in the case of TR when he said *total* and *breikki* (Part C in SILL) in the midst of the L1, but especially to control the anxiety (Part E in SILL).

There is a similar example from Round 9 when the team was under great pressure because of the overall situation:

PaPo	tot ... kokeillaa ... kato ko ei meil o täs vaihees meil o mitää sillee periaattees ... vedetää toi kakskytyks tonnii imetää näist kaikist pois ja laitetaa se suoraa fokusii katotaa mitä kone sanoo siitä ... **siis se o niiku nyt ... all or nothing**

PaPo summed up the situation in *all or nothing*, a formulaic L2 expression (Part B in SILL) used in the midst of the L1 (Part C in SILL).

Similar examples of switching to an L2 in the midst of the Finnish conversation (Part C in SILL) are the following:

PaPo	tai pistetää kuus viis ... kuus viis ku se lupaa **great news** (typing)
TR	sit ois Grossi
PaPo	se on sun hommias
TR	**Vielen Dank!**
TR	**about** (English pronunciation) mis luokas liikutaa?
PaPo	no katotaa sitte ... tämä meidän murheenkryynimme (laughs) Lodgi [lodgi] (= Finnish pronunciation) ... siis **please** yks hyvä kierros sinne nyt (humour)

The L2 expressions, with L2 pronunciation, were apparently used for the sake of humour to help cope with the anxiety of the game. Another reason could be that the learners were accustomed to using similar L2 expressions in the midst of their L1 in general.

The above assumptions could be supported by a similar instance of using the following idiom, which was made up of both the L2 and L1. The expression was used during Round 9 when the situation was getting hopeless:

TR	siis ei me olla tällee budjetoitu tällasii .. ei meil o näitä budjetoitu ... ei varmana olla
PaPo	voi sanoo ihan että **no [nəu]** (= English pronunciation) **haju**

What PaPo apparently meant was that he had *no idea* of whether they had budgeted for the items or not. He used the English negation word *no* and the Finnish word *haju* together for communication purposes (Part C in SILL). The expression was most likely borrowed from the L1 because similar expressions, eg. *no* [*nəu*] *hätä*, are used colloquially by young people in the L1.

During the negotiations that were carried on in English during Round 3, only occasionally did a Finnish word slip into the conversation (Part C in SILL). Here is an example:

PaPo	so ...
TR	it doesn't seem to
PaPo	but if we found it now
TR	promising business
PaPo	found it now ... so perhaps maybe the next ...
PaPo	**nii** ... because it's not going to show anything because ... only ... little bit profit
TR	let's do it ...let's create one SBU ... Lodg
PaPo	so we make a buy ... buying decision yesterday ... it was ... to buy the Predators' Cellular Phones company ...

The extract shows that PaPo had some problems with monitoring the English: *if we found it now* instead of *if we founded it now*, *little bit profit* instead of *a little bit of profit* and *we make* instead of *we made*. These would seem to indicate lack of monitoring the L2. The L1 *nii* was apparently the result of similar lack of monitoring (Part C in SILL).

Likewise, some Finnish slipped in (Part C in SILL) while the team were having fun as they were thinking of a name for a new SBU. The team joked and came up with different L1 coinages of possible names for the SBU:

TR	and now create another one ... create an SBU ... OK? ..... enter the SBU's name ... well we had **Eric Motono** (Finnish pronunciation) I suppose we could have a ...
PaPo	**Motoekono** (Finnish pronunciation) (laughter)
TR	**no nn** (= 'well', in Finnish) ...
MP	**Eric Junior Motono** (Finnish pronunciation) (laughter)
TR	**Eric Motono Junior** (Finnish pronunciation) (laughter) ... no [nəu] ... **Motoeri** (Finnish pronunciation) **... no** (= Finnish pronunciation of 'Well,') ***Erimoto*** (emphatic; Finnish pronunciation, stress on 'Eri')
PaPo	**Erimoto** (Finnish pronunciation) (laughter) **ykkõne** (laughter) (both words stressed in the Finnish way) ... it's same ... something

Similarly, on another occasion, as the team were keying in the results in a computer room, PaPo changed into Finnish in between the English discussion to point out that they would have to leave the room since a class was coming in. He used the mother tongue expression (Part C in SILL) as an extra remark outside the actual game, to draw the others' attention better to what he was saying:

TR	and we had asset value ninety-nine thousand ...
MP	okay
TR	write these down ... one ninety one
PaPo	**tääl alkaa muuten tunti**
MP	okay

Sometimes formulaic L2 expressions (Part B in SILL) and L1 expressions (Part C in SILL) were used during an English negotiation for the sake of humour (Part E in SILL), as the following extract from Round 3 shows:

TR	why did I put my pen into your *pencil* (emphatic) ...?
PaPo	I think we're quite a bit ... need a coffee ... **I need a break like our company says**
TR	OK. I still would love (emphatic) to
MP	Can I ... can I have a ...?
TR	please do ... calculator
MP	yeah! some ? (inaudible)
PaPo	What was ... your interest?
MP	it's in the small ... small pocket
TR	oh it ... oh it's in the *small* (emphatic) pocket I shall see ... try to find it ... which one is it is it this ... this one
MP	hmm ...
TR	I w... (inaudible)
PaPo	(yawning) I think weee
TR	**ei olla täällä**
PaPo	we (yawning) ... coffee
MP	**ei olla?**
TR	there *is* (emphatic) no calculator in here ... there's only a calendar (stress on the second syllable) **...**
MP	OK. Put it back ... put it back ... put it back

The L1 expressions *ei olla täällä ... ei olla?* in broken Finnish sounded humourous and were perhaps used to alleviate the stress resulting from the team getting tired, as was shown by PaPo's yawning and his words: *I think we're quite a bit... need a coffee ... I need a break like our company says,* and I *think weee ... we ... coffee.*

Thus, on the basis of the above examples, it seems that the Nerds used compensation or communication strategies to change over from the L1 to the L2 and vice versa (Part C in SILL) for a special purpose, ie. to cheer up the team and to control the anxiety of the game (Part E in SILL), and to keep up the group spirit (Part F in SILL). Laughter and humour were used for the same purpose during the lengthy negotiations, which lasted between one and two hours, as judged from the recordings and confirmed later by the team at the interim meeting.

Here is another example of how TR recalled some formulaic L2 expressions and elaborated on using them (Part B in SILL) for the sake of humour (Part E in SILL). He also imitated the way native speakers talk (Part B in SILL):

PaPo	... would you like to have a tea? (falling intonation)
TR	**would you care ... I would *love* (emphatic) a cup of tea ... thank you** (imitating native British accent) ...
PaPo	(laughs)
TR	**shall we leave this planet immediately...** (imitating native British accent; falling intonation) ...
PaPo	**let's go to Jupiter [dʒupita:r]** (funny pronunciation) (laughter)
TR	(laughs)
MP	Fine, fine ...
TR	(laughs)

The passage also shows the use of cooperation (Part F in SILL) when PaPo picked up the idea of using formulaic L2 expressions and imitated the British accent (Part B in SILL) to cheer up the team (Part E in SILL).

Compensation strategies (Part C in SILL) were used in another way too: the players did not always monitor the L2, as many of the examples quoted above show. However, the Nerds sometimes used self-evaluation (Part D in SILL). There seemed to be differences between the individual players in this respect. TR seemed to monitor his English more carefully than the others, but sometimes he seemed to monitor and not to monitor even the same expression. During Round 3, TR used the word *pro cent* instead of saying *per cent*, ie. he was influenced by the mother tongue expression 'prosentti' (Part C in SILL).

TR	we got more than twenty-five **pro cent** (stress on 'pro' like in Finnish) of the total selling

However, later during the same round he corrected himself, thus showing effective self-evaluation (Part D in SILL):

TR	So it's six point six **pro cent** ... **per cent**

Somewhat later he produced the correct English form:

TR by increasing our asset value it increases our total expenses by six point six **per cent**

Later, however, when the group was getting tired towards the end of the session, he went back to using the Finnish *pro cent* although he obviously knew the correct English form.

On another occasion at the end of Round 3, TR corrected an expression that he noticed he had mispronounced (Part D in SILL):

TR There we have to **cut our cost** (wrong pronunciation) ... **cut our costs**

During the same round, he also corrected a grammatical form (Part D in SILL):

TR What is our total expenses? ... what ***are*** (emphatic) our total expenses

The fact that TR was aware of the research purpose may also have influenced his need for self-correction.

Furthermore, TR sometimes corrected PaPo's pronunciation of a word in passing. Thus TR used both evaluation strategies (Part D in SILL) and cooperation (Part F in SILL):

PaPo memberships are **steadily [sti:dili]** (wrong pronunciation) growing
TR **steadily [stedili]** (correct pronunciation] growing ... well it sounds good
PaPo quality control (English pronunciation) ... **human resources** (English pronunciation)... what about the **human [human]** (= Finnish pronunciation) **resources** (English pronunciation)
TR but **human resources** (correct pronunciation)

Helping PaPo with his pronunciation was a conscious strategy on the part of TR, as was pointed out by him in an ad hoc conversation between the present writer and TR after the game. However, PaPo often also knew the correct phonetic form of a word, like in the case of *human resources* above, but did not always monitor the form in the game context.. Therefore, TR did not feel it necessary either to correct PaPo's mispronunciation of an expression every time (Part C in SILL), as evidenced below:

PaPo Pitäskö tiputtaa tuolt **human [hu:man]** (wrong pronunciation) resources [ri'sɔ:siz] (= English pronunciation) ja noist ... jotain?
PePa mut sehä o tärkee et (inaudible) o kilpailuu
TR se ei sisällä työvoimaa ...

One reason for not correcting the pronunciation this time was most likely that the team were negotiating in Finnish, and the team seemed to use and accept forms influenced by the L1, as long as they communicated.

Although TR's pronunciation of the L2 seemed to be good on the whole, the word *delete* was unfamiliar to both him and the other team members. The phonetic variations that occurred were interesting:

MP	... cancel the order
TR	dist .. **delete [dilet]** (stress on the first syllable) our act ... transactions [trænsækʒənz] (exaggerating the pronunciation of the sound [ʒ]; TR and PaPo laugh) ... **delete [dilet]** (stress as before) where is it ... **delete [dilet]** (stress as before) transactions ...
MP	how much
TR	I don't want to **delete [dilet]** (stress as before) all of them
MP	how much cash we have
TR	(reading in the manual) **delete [dilet]** (stress as before) transactions (continues reading) ... *which* (emphatic) tran*sactions* [trænz'ækʃənz] (emphatic) (all laugh) do you want to **delete [di'le:t]** (stress on the second syllable) ...
PaPo	number one
MP	number one
PaPo	yes that's
TR	**delete [delet]** (stress on the first syllable) ... press enter

TR first pronounced the word *delete* in a way which showed phonetic resemblance of both the L2 and the L1: [*dilet*]. The stress pattern followed that of the L1, ie. the first syllable was stressed. Thus he used the resources of the mother tongue momentarily to communicate (Part C in SILL), but apparently he also used his mental processes (Part B in SILL) for pronouncing the prefix *de-* in the L2 way in accordance with his previous knowledge of the L2, as, for instance, in *development.* Later, his pronunciation of the same word changed more towards the correct L2 form, as the word occurred in the English text that he was skimming through. Thus, he was aware of the L2 problem and had assessed his performance (Part D in SILL) when he stressed the word on the second syllable, as is the case in the L2: [*di'le:t*]. Still, it was not quite correct but it communicated the meaning (Part C in SILL). However, subsequently, he again pronounced the word in the Finnish way, but this time the prefix was also pronounced in the L1 way, [*delet*], thus indicating that he used a compensation strategy (Part C in SILL). The other team members did not correct any of the mispronunciations, as shown by the extract. Thus, it seems that the Nerds were familiar with the meaning of the computer term *delete*, but were not aware of the correct L2 pronunciation of the word, and TR was not able to conclude the right pronunciation either, inspite of several attempts.

As for the pronunciation of the word *transactions* in the above extract, when it occurred for the second time, TR exaggerated the sound [ʒ] in the middle of the word for the sake of humour. The reason for this was that somewhat earlier PaPo had had a similar problem with the pronunciation of the initial sibilant in the word *suggest* :

PaPo	can I **[tsa] ... [ʃad] ... suggest [sə'dʒest]** (emphatic) something
TR, MP	(start laughing at PaPo's attempt to pronounce the word)
PaPo	**[ʃ] ... [ʃ] (mispronouncing the -s- jokingly)** ***something*** **(emphatic) ...** all right
TR	**please [pli:ʒ] do (laughing)**
PaPo	all right ... because the cellular companies are going to grow up quite largely in this round ... I think they are not going to sell us that ... their company

PaPo attempted to pronounce the word *suggest*, but the initial sound did not come out right and he realized it himself (Part D in SILL), so he began to laugh and pronounced the word exaggerating and emphasizing the sound [ʒ] in the

middle of the word too. PaPo's play with the different combinations of the sibilants created great amusement in himself and among the others, and this induced him to carry on the amusing pronunciation to the next word containing a sibilant, the word *something*. This he did for fun and thus controlled his anxiety about the initial difficulty with pronunciation (Part E in SILL). TR carried on further with the fun and also mispronounced *please* [pli:ʒ], using the same sound at the end of the word as PaPo had used in *suggest*. After that PaPo became serious again and explained his point of view about the SBU they were working on. Thus, both PaPo and TR used self-evaluation (Part D in SILL) and humour (Part E in SILL) as L2 strategies when they played with the mispronunciation. MP also joined in the fun when he laughed at PaPo's production, so he knew that it was a mispronunciation. The same play with the pronunciaton of the sibilants was carried on by PaPo to the word *transaction* in the next speech act, as shown by the previous example above (Parts D and F in SILL). Thus, this speech act contained an example of both good self-evaluation and monitoring pronunciation (*transactions*) (Part D in SILL) as well as of compensating for the pronunciation of the word *delete* (Part C in SILL).

As for syntactic forms, either unawareness of the correct L2 forms or lack of monitoring occurred with some prepositions. During Round 3, TR said *in some extent* instead of *to some extent*, *invest to* instead of *invest in*, and *discuss about the situation* instead of *discuss the situation*, most likely because of the influence of the corresponding L1 expressions *jossain määrin*, *sijoittaa johonkin* and *keskustella jostakin*. The inaccuracies did not hinder communication, however:

TR	I really don't think that the Dutch ... N(= first name of the Dutch CEO) and others are going to **invest** all that much money **to** this SB....
TR	but we can see each other then and **discuss about** the situation

Since the same prepositions also occurred in the log-book, as will be evidenced later, this would seem to indicate that the learners were unaware of the correct L2 forms and used compensation for missing knowledge (Part C in SILL). The L2 forms were influenced by the L1 syntax.

Similarly, TR was influenced by the L1 lexis (*kilpailu on kovaa*) when he used the word *hard* instead of the more idiomatic *tough* or *keen* (Part C in SILL) as he confirmed what PaPo had said:

TR	Third round ... we're still leading
PaPo	**competition is tough**
TR	**competition is hard** ... the other ones are closing us ... but
PaPo	two points behind ... we are still leading

MP seemed to have problems with the question forms in the L2. Thus, the L1 syntax was used instead of the L2 way of asking questions (Part C in SILL):

MP	how much ... **how much money we have in dealing ...?**

Furthermore:

MP **how much ... that cost?**

MP **how much we had? ... how much we had in the beginning?**

However, later MP used the correct word order for an L2 question, which shows that he knew the syntactic rules of question forms in the L2, but did not always monitor his performance (Part D in SILL):

MP **how much was it?**

PaPo seemed to be accustomed to speaking English, although he used circumlocation (Part C in SILL) before he found the exact expression, as shown by the expressions *yes ... but, because, so, I think,* and *it's not so ...* in the following extract. He also paused occasionally or said *err,* as if looking for a word. In addition, he seemed to have some problems with monitoring the syntax in the L2 (Part D in SILL):

TR	but ... this transaction means that the competition is getting harder although we're all working in the same field
PaPo	yes ... *but* (emphatic) we have ... because err ... that was **same** in the CELL industry ... it ...the demand is going to be very high ...
MP	hm
PaPo	so ... we have three companies now
TR	yhm
PaPo	and I think two are going ... to be err ... quite a ... big profit ... net profit ... and this one is going to be er ... some profit because we just **found** it ... it's not so ...

PaPo	but there is going to be a round when we have to ... cut *all* (emphatic) our err... expenses in this ... area in Cellular Phones ... *and* (emphatic) the Mexican company because I think it was o-four (=04) or something it ... **it's going it down** and

PaPo used the grammatically incorrect forms *same* instead of *the same, found* instead of *founded,* and *it's going it down* instead of just *it's going down,* which show lack of monitoring or self-evaluation. Still, the forms communicated, or were thus used to compensate for missing knowledge (Part C in SILL).

In the following extract PaPo also used compensation strategies (Part C in SILL):

PaPo	but we're going to get an...other sixty-five thousand more plus ... these two are going **to up** in the next round
TR	(laughing) hopefully
PaPo	No. They are going to ... **according** this book

PaPo used *to up* as a verb instead of saying *to go up,* and *according* instead of *according to,* thus showing some lack of monitoring. However, his message communicated well, as TR's laughter and *hopefully* showed.

Likewise, in the following extract PaPo used *raise* instead of *rise,* and the meaning communicated (Part C in SILL). None of the others corrected him:

TR	hey ...what .. our asset value ... what are our asset values going to be
PaPo	I-I-I don't know ...

TR let's go and check
PaPo I think it's going to **raise [reiz]**... but it's ...

PaPo also had problems with prepositions in the following:

PaPo I have ... **four hours French** ... **for eight to ten** ..(cf. four hours **of** French ... **from** eight to ten ...)

These would seem to indicate the influence of the L2 and lack of monitoring, and thus the use of compensation (Part C in SILL). His speech in the L2 seemed to be characterized by compensation strategies.

As for the pronunciation of the L2, PaPo seemed to have some difficulties, especially when reading the manual in English, as will be evidenced by many of the extracts below. On several occasions, he also mispronounced the definite article followed by a word beginning with a vowel. For instance:

PaPo **the [ðə] only** simple reason ...

As for PePa, cooperation (Part F in SILL) and lack of self-evaluation characterized the following example related to problems with the pronunciation of an L2 word. PePa encountered the word *quit*, whose pronunciation in the L2 was apparently unknown to him. It appears from the recording that at the time PePa was keying in the results at the computer and reading the English text on the screen and reporting it to the other team members present. As he read the English words, he pronounced the word *quit* in the Finnish way [*kuit*], using the L1 pronunciation for compensation (Part C in SILL). The unidentified male student, with whom PePa had had an argument earlier about the use of the computer (see p.141), poked fun at PePa and repeated the word *quit*, first using the same L1 pronunciation as PePa had used and then correcting PePa's pronunciation. PePa quickly picked it up from the more proficient speaker of the L2 (Part F in SILL) and repeated it twice (Part B in SILL), insisting that he had said it correctly himself in the first place: *quit [kwit] ... quit [kwit]*. The other student still found the incorrect pronunciation amusing and joked by repeating the mispronounced word three times, to annoy PePa. Thus, the argument that had started earlier seemed to continue. The whole conversation ran as follows:

PePa pistetääkö **write [wrait]** (wrong pronunciation) results to disk?
TR ei ... missään nimessä
PePa **quit [kuit]** (= Finnish pronunciation!) and exit [eksit] ylös?
TR aivan
M (laughing) **quit [kuit]** (= Finnish pronunciation)
PePa **quit [kwit] ... quit [kwit]** (right pronunciation) **mä sanoin**
M **quit [kuit]** and exit [eksit] ...
MP ta taa ...
M **quit [kuit]** and exit [eksit] (imitating wrong pronunciation; amused) ...
MP ta taa ... ta taa (keying in)
M **sano [kuit]** (= Finnish pronunciation) ... pistä [vin] (= Finnish pronunciation)

Although PePa used cooperation as an L2 strategy, it seems that he was not fully aware of the L2 problem, which indicates some lack of monitoring (Part D

in SILL). He also used a number of compensation strategies (Part C in SILL) by switching momentarily to the L2 when he asked TR: *pistetääkö write results to disk?*, and pronounced the silent letter *-r-* at the beginning of the word *write [wrait]*, thus most likely imitating the L1 sound system. This would seem to indicate that he unconsciously pronounced *quit* in the L1 way in the first place. This time, TR did not correct a fellow player's pronunciation either, although he knew the correct pronunciation of *quit*, as is shown by an extract from another round:

TR	kato ku tää pitäs mennä sen **quit** [kwit] (English pronunciation) **and [eksitin]** (= English pronunciation of 'exit') kautta ...

The reason may have been that the unidentified student had already corrected PePa's pronunciation and TR did not want to provoke the situation any further.

In general, PePa did not always seem to monitor his speech very carefully. His general fluency in English seemed to be good, however, as judged from the audio recordings. Occasionally, he resorted to compensation strategies (Part C in SILL), as was the case with the L1 word order for a question below:

PePa	next time when we try to start at ten o'oclock so
TR	P (= first name of PePa) ... I'm ... sorry to tell you but you have to reservate the time for this
PaPo	yes
TR	make your schedule
PePa	I made my schedule ... so we were supposed to start at ten o'clock
TR	but one hour is not enough
PePa	so **when we do it again?**
PaPo	in the next week

To help understand the entire situation, as evidenced by the audio recordings, PePa had had some problems to attend all the decision-making meetings because of his busy schedule. This time too, he apparently had another appointment and he complained that the decision making was taking too long because TR, PaPo and MP had been joking at the beginning of the session. He had also said then *Let's proceed!*, indicating that he was in a hurry. As the CEO, TR politely suggested that PePa should monitor his time more carefully so that he could attend the meetings (*I'm ... sorry to tell you but you have to reservate the time for this*). PePa asked *when we do it again ?* meaning *when do we do it again ?* or *when shall we do it again?*. Thus, he failed to monitor his speech syntactically (Part C in SILL). As for his metacognitive strategies in general, he said that he had reserved the time for the meeting (*I made my schedule*), thus showing that he had made overall plans for his learning (Part D in SILL). A new schedule was made, as was evidenced by the recording, and the matter was settled cooperatively (Part F in SILL).

The above examples indicate, in general, that the inaccuracies used by the learners in the L2 did not seem to affect the understanding of the L2. The context helped. If a team member had difficulty or could not find a way of communicating his idea in the L2, compensation strategies were used (Part C in SILL). Sometimes, however, the speaker monitored his own speech and corrected his mistake and thus exercised self-evaluation (Part D in SILL), or another team member helped the speaker overcome an L2 obstacle (Part F in

SILL). An interesting discovery was that especially TR seemed to monitor his own and others' production (Part D in SILL) more than PaPo or the other team members, as shown by the examples above (for instance, *per cent*, *steadily*, *human resources*). Thus, on the part of TR, the findings would seem to be somewhat in contradiction with the findings of the SILL survey, in which TR's score for Part D (2.8) was lower than that of PaPo (3.1). However, the difference in the SILL scores is insignificant, for both TR and PaPo fell into the medium range of using metacognitive strategies indicating that they sometimes organized and evaluated their learning. Nevertheless, on a closer look at the items on the SILL related to self-evaluation, the results of the speech data were contradictory to the results of the SILL: for Item 62 on the SILL (I try to notice my language errors and find out the reasons for them.) and Item 63 (I learn from my mistakes in using the new language.), PaPo had 4 for both and TR 3. Further evidence of TR exercising metacognitive strategies more effectively than PaPo was provided by the extracts related to reading the manual.

The extracts related to reading the manual also provided more evidence of the use of compensation strategies(Part C in SILL) and cooperation (Part F in SILL) as the main L2 strategies used implicitly. Moreover, these instances gave further evidence of the Nerds' use of other metacognitive strategies, such as planning for opportunities for learning and evaluating their learning, as well as of the Nerds' use of mental processes (Part B in SILL) to make out the meaning of the L2 and how to act accordingly. Furthermore, the extracts shed more light on how the team managed with the L2 when they started to play the Spanish and the German SBUs after Round 6.

When the team read the English EnviroScans, the division of work seemed to be that PaPo usually did the reading while the others tried to follow the idea and infer the meaning (Part C in SILL). Here is an example from one of the early rounds of the game:

PaPo	(reading) **failure ['feilɔr]** (wrong pronunciation; stress on the first syllable) and **success ['sʌksɔs]** (wrong pronunciation; stress on the first syllable) **tääl lukee näin ... in the global market place standards are being established for foreign services and some trade agreements have been signed [sainid]** (wrong pronunciation)
TR	**elikä se lupaa hyvää**
PaPo	**eli sillon pitää sit panostaa markkinointii vissii viel focused [fokust] [promouʃɔnsi:]** (= English and Finnish pronunciation)

As Papo was reading the EnviroScan in the L2 (Part C in SILL), TR listened and reasoned simultaneously as to what should be done (Part B in SILL). He then summarized the meaning of the passage in Finnish: *elikä se lupaa hyvää* (Part B in SILL). PaPo elaborated even further when he suggested that they should perhaps invest more in focused promotions (Part B in SILL). While reading the text, PaPo pronounced some of the terms using the stress pattern of the L1 [*'feilɔr*], [*'sʌksɔs*] and pronouncing some of the words combining the L2 and L1 ways [*fokust promouʃɔnsi:*] or incorrectly [*sainid*]. These devices were used to compensate for missing knowledge in the L2 or as a shortcut for communication (Part C in SILL).

Here is another example of an analysis of L2 strategies related to the Nerds reading the EnviroScans in English:

TR	**elikä mitä se sano se** (cooperation / Part F) **Restti** ... **Rest** (jargon and L2 expression / Part C) (inaudible) **o se tilanne** (cooperation / Part F)
PePa	**tuotekehitystä ja muuta ... uusii lakeja** (skimming and translation / Part B, inferencing / Part B or C)
MP	**uusia** (skimming and repetition / Part B)
TR	onks mankka päällä
PePa	joo
TR	onko
MP	**uusii lakeja tulee** ... **ja se tota** (translation / Part B; inferencing / Part B or C)
PePa	**kaikkii uusii ideoita** (inferencing / Part B or C)
MP	**vähentää tota ... noitte asiakkaide liikkumista ... hotellit tarvitsee uusii ideoita ... ihastuttaakseen asiakkaita** ...(word-for-word translation / Part B)
PePa	**suuta kostuttavia ... aterioita ... ruokalajeja** (word-for-word translation / Part B; self-evaluation / Part D)
MP	**nii** (cooperation / Part F)
PePa	**mut kuitekii kesäl tulee asiakkaita enemmä** (translation / Part B) ... **elikkä** (reasoning / Part B)
TR	**eli pokkana** (reasoning / Part B)
PePa	**mass marketing** (L2 expression / Part C)
TR	massamarkkinointiin ... ei nyt tuplata ... pannaanko kahteenkymppiin?

The extract shows that the Nerds translated the ideas freely into Finnish (Part B in SILL). To do this they used skimming and scanning, logical reasoning, and translation (Part B in SILL), as well as inferencing (Part B or C in SILL). They also cooperated with each other (Part F in SILL), and corrected themselves (Part D in SILL), as the translation of *mouth-watering meals* shows (*suuta kostuttavia aterioita ... ruokalajeja*). An L2 expression (*mass marketing*) was used as such to communicate the idea (Part C in SILL).

As for the English elements of the manual, while working on making the decisions with the help of the manual, TR's reactions or suggestions were quick, which showed that he was able to follow the English manual without any difficulty. In other words, his receptive L2 strategies were automatized. On the other hand, although PaPo seemed to have some difficulty with the pronunciation, when reading the text, he seemed to understand what was said in the text. This would seem to refer to the good use of mental processes, such as elaboration, reasoning, concluding, and summarizing (Part B in SILL), but, above all, to inferencing to understand the overall meaning and not necessarily every single word (Part B or C in SILL). Here is another example of PaPo's use of reasoning strategies (Part B in SILL); the word *eli* especially points at the use of reasoning to reach a conclusion:

TR	mä en tajuu mitäköhä ne o tehnyt ... katos Vend nolla kolme (=VEND03) mitä se sanoo meiän
PaPo	Vend
TR	Vend nolla kolme ... mitä se sanoo meiän ... tilanteesta
PaPo	(going through the pages of the manual)
TR	tais mennä ohi jo ... ne sit ookkaa ... siin o Vend
PaPo	**Drink-a-Cola Inc [iŋk]**(= Finnish pronunciation) **corporate executives [eksekutivz]** (wrong pronunciation) **believe this idea [idea]** (= Finnish pronunciation) **will be a big hit in the workplace. Figures show that heavy promotion could have positive effects ['efekts]** (stress wrong) **on this niche in the market**
TR	**no ni**

PaPo eli sit taas pistetää iha sikana rahaa focused [fokust] (= Finnish pronunciation) [promousenseihin] (= Finnish pronunciation)

Later on a similar situation occurred. This time PaPo asked for verification (Part F in SILL). He also misread one word as *exception* instead of *exemption*, which must have caused some misunderstanding of the text:

PaPo so you have it situated as Vend-o-five (= VEND05)?
TR yhm
PaPo so Vend-o-five says ...Vending Machine operators receive **an [ik'sepʃən]** (wrong pronunciation; should be 'exemption') to the proposed Senate Trade Bill for imported practical joke articles ... confetti (wrong pronunciation) ... ('paper' omitted) spirals (wrong pronunciation) ... and streamers ... party party party... that's all that vendors want to do ...just join the ... bandwagon and ... reap the re*wards* **[ri'wo:dz]** (pronunciation slightly incorrect; emphatic). **... so ... did *you*** (emphatic) **understand it?** (falling intonation)
TR May I read it myself ... thank you ...

Apparently, because some words (*confetti paper spirals, rewards*) were unfamiliar and mispronounced (Part C in SILL), PaPo realized himself that the passage was difficult (Part D in SILL) and asked TR for help (Part F in SILL): *so ... did you understand it?*. TR could not follow what PaPo had read and wished to read the passage himself: *May I read it myself ... thank you ...* .Thus, he cooperated with PaPo (Part F in SILL) and also used a polite formulaic expression (*Thank you.*) (Part B in SILL).

When reading the EnviroScan, PaPo sometimes used repetition (Part B in SILL), apparently because an L2 word was less familiar to him:

PaPo ' fast food restaurants have received ... er ... favourable ... reviews ... due ('to' is missing!) the new food items [items] (= Finnish pronunciation) and higher prices ... fast food [fud] (wrong pronunciation] owners are [inaudible] in low margins and **moder ... moderate** gains ... these symptoms [symptoms] (= Finnish pronunciation) have ... caused increases in the number of franchises around the nation ... so we have **to lest our**
TR **cut our costs**
MP ya
TR heavily

The passage also shows the use of other L2 strategies. For pronunciation, PaPo used compensation strategies (Part C in SILL). To the same effect, he used the verb *to lest* (Part C in SILL), apparently as influenced by the L2 word *less* (for the Finnish 'vähemmän') and the corresponding L1 verb 'vähentää', to mean *to reduce* or *to cut the costs*. TR noticed that PaPo did not use the right verb and introduced the correct L2 verb, as he continued the discussion (*cut our costs*) (Part D in SILL). This shows good cooperation by TR and by the whole team (Part F in SILL), for they picked up PaPo's idea and carried on the conversation.

For the decisions based on the EnviroScans, repetition (Part B in SILL) was also used by PaPo as he was looking for an L2 expression:

PaPo we make a **buy ... buying** decision ... we make offer... and are waiting for their answer

PaPo	no no ... we have to **first** ... **first** check all the market situations ... because then ... we know what we have to do

The repetition gave him time to think about how he would formulate what he was saying.

In the following example, however, repetition did not help:

PaPo	but if we make the decisions now ... and with ... no ... you check because I'm not here tomorrow ... you check those ... **Holland ... Holland** decisions ...
TR	**Dutch**
PaPo	decisions ... and ... if they are making some ... for ... for example Cellular Phones so ... keep it there and

PaPo was looking for the adjective *Dutch*, but apparently could not locate it in his semantic memory right away (Part A in SILL). He therefore first said the word *Holland*, which resembled the L1 adjective 'hollantilainen', and thus he used a compensation strategy (Part C in SILL). After he repeated *Holland* (Part B in SILL), TR gave him the right adjective *Dutch* (Part F in SILL) and the problem was solved.

MP also used repetition to understand what was meant by an L2 expression:

PaPo	Here is something ... where's the Vend-o-five (=VEND05) (reads through) ... and **reap the rewards**
MP	(repeating to himself) **rr** ... **the rewards**
TR	I have a suggestion to make.
MP	Go ahead

In the above example, MP tried to make out the meaning by repeating a word that was apparently unfamiliar to him, ie. the word *rewards*. Thus he tried to conclude its meaning (Part B in SILL) by repeating the sounds of the word (Part A in SILL). However, he never verified the exact meaning of the word, as the general meaning of the passage was understood and a decision could be made (Part C in SILL).

On two other occasions MP resorted to the use of repetition, when trying to recall an L2 word (Part B in SILL). However, repetition did not help solve the problem, and cooperation was used instead:

PaPo	so we make a little bit more profit in this one
TR	but we have invested five thousand
MP	**well I think we ... we should we should ...**
TR	... *haaa* (emphatic) ... **in Finnish?**
MP	**nii et jos tarjoo niille tota ... jotai uusii juttui jos siel tulee käymää kerra enemmä jengii jos ne** ...
TR	that's also true ... well ... what if we just leave it as it is
PaPo, MP	OK

TR realized MP's problem and asked him to switch to Finnish, which he did (Part C in SILL). This shows that TR was aware of MP's thoughts and feelings and used cooperation (Part F in SILL).

Similarly, on another occasion repetition was also used by MP (Part B in SILL), but it did not produce the L2 word he wanted:

MP	Can I ... can I have a .....?
TR	please do ... **calculator**
MP	yah

In the above situation, MP could not remember the word *calculator* and appealed to TR for help. On the basis of the situation and MP's repetition, TR understood that MP was asking to borrow a calculator and gave MP permission to use his calculator, but he also "gave" the L2 word *calculator* because he realized that MP could not recall the word himself. The situation is a similar example to PaPo using the word *lest* and being helped by TR. Cooperation with peers or more proficient users of the L2 (Part F in SILL) was thus used to solve an L2 problem successfully. This would seem natural in this kind of learning context, in which learners worked as teams. As shown above, the Nerds used cooperation effectively.

The following is another example of cooperation, but this time the L2 outcome was not fully successful:

MP	look at the next?
PaPo	no it's ... **they are not going into ... after the order**
TR	**numeratical order**
MP	OK

PaPo was looking for the expression *in numerical order*, which he apparently did not know since he used circumlocution (Part C in SILL): *they are not going into ... after the order*. TR realized what expression PaPo was looking for and tried to help him (Part F in SILL) by suggesting *numeratical order*, which was his coinage, apparently influenced by the corresponding Finnish expression 'numerojärjestyksessä' (Part C in SILL). Although TR was a more proficient speaker of the L2, as shown by many of the examples above, this time he did not manage to come up with the right expression in the L2. Nevertheless, the result communicated (Part C in SILL).

During Round 9, PaPo and TR used an array of different strategies when trying to find the relevant information in the manual. PaPo first read out the EnviroScan aloud:

PaPo	**Lodg [lodg]** (= Finnish pronunciation) **... Lodg [lodg]** (= Finnish pronunciation) **kaheksantoista ... room prices and ... occupancy [o'kupæ̃nsi]** (wrong pronunciation and stress) **rates hit rock bottom. It's at an all-time low. There is a** ('a' superfluous) **talk about developing [dive'lo:piŋ]** (wrong pronunciation and stress) (inaudible) **[tʃeindz].**(wrong pronunciation; should be 'chains) **under different [brænt͡ʃ]** (wrong pronunciation; should be 'brand') **names ... to** (inaudible) **different segments ... this new strategy [strætegi]** (English and Finnish pronunciation) **is supposed to provide each [brænd] with a well-defined [di'fainid]** (wrong pronunciation) **image. Sue Thomas of the Travel Part [pat]** (wrong pronunciation) **says that people are looking for new and different places to stay that add ... a personal touch when travelling ... eli** **focused promotions** (English pronunciation) **ja ...**
TR	jos merkitään sit sellasenaa ... (inaudible)
PaPo	tai imetää jostai muusta pois ja pistetää ne fokuksee

PaPo read the whole L2 passage word-for-word (Part B in SILL). He had difficulties with the pronunciation of a number of L2 words: *occupancy*, *developing*, *chains* (*chains* was pronounced like *change*), *brand* (*brand* was mixed up with *branch*), *strategy*, *defined*, and *Part*. His pronunciation seemed to be influenced by the L1 and he also paused at intervals after he had read a short passage, as if to think of what he had read. PaPo also added the article *a* when it was not needed (*there is a talk about*). Thus, throughout the passage, he used compensation strategies (Part C in SILL). In the end, he summarized the content of the EnviroScan report, using an L1 expression: *eli focused promotions* (Part B in SILL).

Somewhat later, as they continued making the decisions, TR decided to check the EnviroScan once more and read through the passage himself. The L2 strategies used by him were somewhat different from those of PaPo:

TR	**eiks se kuule eiks se ... eiks se fläbä kerro sitte tota nii että massamarkkinointii?**
PaPo	**kato ku se ... tässä just kehottaa näin että ...**
TR	**room prices and ... mikä ... mikä se oli Lodg**
PaPo	**se oli toi room prices room prices ... kaheksantoista**
TR	**occupancy rates hit rock bottom hohoh** (laughter) **... there's a** (keeps on reading, mumbling the words to himself; inaudible) **... change under different brand names ... those different ..... *segments*** (emphatic) **... this new *strategy*** (emphatic) **... supposed to provide each ... under a well-defined image ... Sue Thomas ... Travel** (inaudible)... **says that people are looking for new and different places to stay ... add** ... **personal touch when travelling ...** mun mielest tätä vois vähän ... *kaikkialta* (emphatic) täst ... alentais ihan puhtaasti tosta ...

TR read the text through mainly to himself, at a quiet voice, almost mumbling, and hurriedly, leaving out prepositions and less important words. He only read the important words (nouns, verbs, adjectives, pronouns) aloud, and emphasized the significant words *segment* and *strategy*. Thus he used skimming efficiently (Part B in SILL). In the end, similarly to PaPo, he summarized in his mother tongue as to what should be done on the basis of the passage (Part B in SILL): *mun mielest tätä vois vähä ... kaikkialta täst ... alentais ihan puhtaasti tosta*. Thus, TR used skimming and scanning, or his mental processes (Part B in SILL), successfully. TR's laughter after he read the expression *rock bottom prices* shows that he understood the phrase and probably visualized it to himself, or used imagery to understand the expression (Part A in SILL). The laughter also points at lowering anxiety or managing emotions (Part E in SILL).

During the entire conversation above, PaPo and TR used cooperation (Part F in SILL): *eiks se kuule eiks se ... eiks se fläbä kerro sitte tota nii että massamarkkinointii?*. PaPo's answer also showed cooperation (Part F in SILL) and inferencing (Part B or C in SILL): *kato ku se ... tässä just kehottaa näin että ...* . When TR inquired further about the number of the EnviroScan, PaPo cooperated again (Part F in SILL): *se oli toi room prices room prices*. As he said it he repeated the L2 expression *room prices* (Part B in SILL), apparently while trying to find the right number of the EnviroScan in the manual. Thus, to conclude, the main L2 strategies used by PaPo to make out the above EnviroScan report were compensation strategies (Part C in SILL) and using his

mental processes (Part B in SILL) while TR mainly used his mental processes (Part B in SILL). Both used cooperation (Part F in SILL). On another occasion too, TR read through the same EnviroScan report that PaPo had read first, to make sure that he understood it, using similar strategies.

The following extracts are examples of similar situations during Round 9. In the first extract, skimming was first used as a strategy (Part B in SILL), and the idea was then rendered in the mother tongue using inferencing (Part B or C in SILL):

PaPo ... mitä se sanoo massamarkkinoinnista?
MP ei sano mitää markkinoinnista ... **se sanoo ett tota ... ett ehkä sen pitäs niiku tiedottaa niinku massamarkkinoinnist ett uusii tuotteita on ... mut tota**

In the following extract, PaPo read out the English text (Part B in SILL) and then summarized the idea in the L1 using his mental processes (Part B in SILL):

PaPo hei tselli ... sellistä (Cellistä = the Cellular Phones) käydää kattoo nyt tää sanoo nyt että **'it can hardly keep up with the demand now'** ... **siis siel o 'inventories at their lowest'**

In the following instance, TR used translation, skimming and inferencing as strategies (Part B or C in SILL). PaPo asked for verification, or cooperated (Part F in SILL):

PaPo **Mitä se sano nyt?** (referring to the manual)
TR **Se sano että dollari hinta maailmanmarkkinoilla ... dollari heikkenee ... amerikkalaiset mut kato a kiinnostuneita saksaiste tuotteista** (skimming, translating and inferencing / Part B or C in SILL)
PaPo Pitäskö mei nyt panostaa fokusii vai massaa ko se o niiku jenkkeihi?

Thus, a combination of L2 strategies produced a successful outcome.

Furthermore, an extract from Round 7 shows the use of similar strategies, with the addition of compensation strategies (Part C in SILL) because of the use of the mother tongue for pronunciation (*äfseesee*):

PaPo **all right eli ... the [ðə]** (wrong pronunciation) **[äfseesee] (=Finnish pronunciation) has just founded a Japanese company** (continues reading the EnviroScan in English) **... eli ... ne ei saa toimii kolmee vuotee tällane japanilaine firma sielä**

Concluding from the above extracts, the Nerds mainly used their mental processes (Part B in SILL), compensation strategies (Part C in SILL), and cooperation (Part F in SILL) as their main L2 strategies when they worked on the English parts of the manual. The above strategies were revealed implicitly, without the team members recognizing the L2 text as containing particular language problems. Thus, they used similar strategies as Mr Spock, with the addition of compensation strategies. Mr Spock also indicated having resorted to cooperation (Part F in SILL), especially when they had to interpret the key concepts of the game. They stated that there was always someone who knew the terms or had encountered a term given in English on a subject matter course, or the terms could be concluded from the context (Part B in SILL).

As for the German and Spanish EnviroScans in the manual, an interesting discovery was brought up the audio recordings. In their background questionnaires, TR and MP had indicated that they knew some German while none of the four members had indicated knowing any Spanish. Still, the following discussion from Round 3 shows that the team had thought of buying the Mexican SBU:

TR	Hey ... next time ... if and when we get the money
PaPo	yes?
TR	**let's create the [ʒi] Masgrrrlll** (= gibberish) **whatever it was called ... this Mexican**
PaPo	yes, but there is going to be ...

PaPo's gibberish of the name of the Mexican SBU (the Maquiladora Industries) seemed to indicate that he did not know Spanish and used a compensation strategy instead (Part C in SILL). On account of their not knowing Spanish, it was somewhat of a surprise to find in the ensuing discussions from Round 6 that the Nerds were seriously thinking of buying the Mexican SBU:

PePa	meilt jäi Resti välii
TR	mut hei ... nii Resti ja plus Vendari
PePa	tää?
TR	joo ... mut kato nyt on ... industry reportteja ... no ... ni ... **otapa se Magu (= the Maquiladora tost ...**
MP	pää koskee (inaudible)
TR	kato meil ei ikinä oo rahaa siihe ...
MP	nnii
TR	vaik meil o kaksataa tonnii iha puhdast rahaa ... voidaaha me kato lainaa saada ... me saadaa (inaudible)
MP	**ei tätä lue (inaudible) kukaa**
TR	vaikka tota ... tää on vaikka meil o kakssataa tonnii rahaa ... paljo me ollaa käytetty nyt ... paljo noi tekeei yhteensä nää?
PePa	varmaa sata tonnii .. yli sata
TR	hei (emphatic) ... melko tarkkaan sata sanoisin nii ... ni tota ... ja paljo meiän arvot on Vendinä ... käviskö tsekkaa
MP	(inaudible) **pakko päästä** (inaudible)... **meksikolaiseks** ... (inaudible)
TR	Portteri (inaudible) ... (keys in) ... tonne (keys in) ... tonne ...
PePa	(inaudible)
TR	sataseiskytkaheksa ... eihä siel o ku sata tonnii ... satakymmene tonnii ... **meil ois just rahaa ostaa se**
PePa	elikä mikäs meilt puuttuu ... Resti eka
TR	**vittu jos ne vaihtais sen Magun ... antais mein matkapuhelimille huonon tujauksen**
PePa	elikä Salad [salad] (Finnish pronunciation) et Beef [bi:f] (=English pronunciation)
TR	nii ... mutku ... mut sit meil ei oo rahaa hei... hei mein ei hirveen lainaa ... sit mein täytyy ajaa näist kustannuksii alas pikkase ... me ollaa sit investoitu liikaa
PePa	**no katotaan nyt**
MP	**mut ei me makseta nii paljoo siitä**
PePa	**ens kierrokse jälkee ... ni**
MP	(inaudible)
PePa	no ni hei ... elikä tänne tarttii pistää

Somewhat later:

MP eiii ... ei meil o ... varaa kuitenkaa laittaa
TR **kato ku jos me tehää se kauppa ni meil loppuu rahat sit kesken ... pa seittemäntoista ... pa kolme tonnii vaa lisää**

TR **mut lähetään oletuksesta et ne suostuis siihen vaihtokauppaan** ... ja jos me joudutaan maksaa kybä tonnii ... sata kymmenen tonnii niile väliä ... ni me voi ... jouduttas ottaa lainaa vaan kakskytviis tonnii
MP ni
TR **eli se ois ihan sikahyvä juttu**
MP **ni jos se on ... se on hyväs mallissa se**

TR ...ni **mä o sitä mieltä et jätettäiskö tähä ja odotetaa et niilt tulee vastaus jos ne ei suostu siihe kauppaa ... ni pannaa Vendii huomen vähä rahaa**

From the business point of view, the Mexican SBU seemed very attractive and the Nerds wanted to buy it although it was expensive. As to how they were going to solve the L2 problem with the EnviroScans was not revealed by the audio recordings.

Inspite of a similar L2 problem with the German parts, the Nerds decided to start operating the German SBU (*Grosshandler*) in Round 6, as was revealed by the following extract from Round 7:

PePa No ni seuraava ...
TR hyvä **sitte oli se Grossi** ... anna mulle se
PaPo eli tota (rustling the pages of the manual)
MP (clearing throat) **mä en o tiennykkää että o jotai Grossii tommoses**
TR **ei ollukkaa mut me vaihettii se ...** (inaudible) **torstaina**
PaPo Grossis o tilanne tota ... seiska
TR **vaihettii meiän Vendari siihe**
MP nii nii nii nii nii nii
TR ai että o ollu ... tällast

The discussion revealed that MP was unaware that the team had bought the German SBU. The CEO explained that the other team members had decided to change their VEND (= the Vending Industry) to the German SBU. As a result, this meant that the team also had to use German as an L2 in the game.

As for how to make out the German EnviroScans, the situation was somewhat better than with the Spanish parts. Two team members (TR and MP) knew some German, as indicated in their background questionnaires and as came out in the following three extracts. Not being very confident in German may have been one reason why the Nerds delayed investing in the German SBU before Round 7. Thus they could be said to have used self-evaluation effectively (Part D in SILL). When they finally bought the German SBU, PePa suggested the following procedure for making out the German EnviroScan:

PePa **Toni voi lukee sen Grossin ko se o ainoo ko osaa saksaa**

Thus PePa suggested cooperation as an L2 strategy (Part F in SILL). This strategy was also used by MP as he said that he also knew some German:

PaPo	sitten ... mikä o seuraava
MP	**osaa mäkin**
PePa	**hmm (laughing) osaatko?**

MP also used positive reinforcement or self-talk (Part E in SILL) when he said: *osaa mäkin* and also self-evaluated his skills (Part D in SILL). PePa jokingly asked him for verification (Part F in SILL): *hmm (laughing) osaatko?* Later again, PaPo referred to TR having to take charge of interpreting the German EnviroScans (Part F in SILL), as they were to start making the decisions concerning it:

TR	sit ois **Grossi**
PaPo	**se on sun hommias**
TR	**Vielen Dank!**

Thus, as shown by the extracts, PePa and PaPo resorted to TR as a more proficient speaker of the language, or used cooperation as a strategy (Part F in SILL). Furthermore, in the last extract, TR resorted to using a jargon word *Grossi* for the full name of the SBU (Part C in SILL) and an L2 idiom *Vielen Dank!* (Part B in SILL) to communicate his feelings (Part C in SILL) and perhaps also for the sake of encouraging himself and lowering his anxiety (Part E in SILL) before tackling the challenging task entrusted to him by the others. The L2 phrase also implied cooperation (Part F in SILL).

The following extract shows how the team proceeded in practice with German as the L2 in the manual when they made the decisions for the German SBU. The strategies used are marked in parentheses:

TR	Lodgistko alotetaa? eiku Grossista
PaPo	Grosshandel
TR	Nerdstuffista ... pannaako ... saksankieline mieluummi tänne
PaPo	ahaa
PePa	tässo hirveet myynnit tässä ... Grossissa
TR	**Jaha ... yhteistoiminta tällas*een*** (emphatic) **... Keikkilä Oy:n kanssa Suomesta on alotettu ... (laughter)** (skimming, translation / Part B; lowering anxiety / Part E)
TR	**ja se on tällanen myyntiväylä Skandinaviaan ja ... ja Venäjään elikkä** (skimming, reasoning / Part B, inferencing / Part B or C)
PePa	(laughter) satsaus
TR	**ei sanota mitään muuta elikä todennäkösesti lupaa aika paljon** (summary, conclusion / Part B)
PePa	törkeesti paaluu (laughter) ... **Keikkilä Oy [o:y:]** (= Finnish pronunciation) **aus Finnland (laughter)** (repetition / Part B; humour / Part E)
MP	mikä se on
PePa	se o toi vika
TR	seiska
MP	**(reading in the manual half-loud in German) Keikkilä Oy [o:y:]** (= Finnish pronunciation] **aus Finnland** (inaudible)... **ton mäkin oisin tajunnu** (skimming and inferencing / Part B or C; self-evaluation / Part D)
TR	**nii ... erittäin hyvä!** (evaluation / Part D)

When the Nerds made the decisions concerning the German SBU, it was TR who first gave a Finnish translation directly without reading out the German part at all. Thus he concluded the Finnish meaning with the help of a translation,

but not word-for-word. Instead, he tried to render an overview of what was said in the manual, ie. he used his mental processes (Part B in SILL). He also used inferencing to conclude the meaning when he said *elikkä* (Part B or C in SILL). PePa found the name of the company amusing and repeated the German expression *Keikkilä Oy aus Finnland* for the sake of humour (Part E in SILL), thus showing that he could pick up some German (Part B in SILL). After that, MP also read the German part half-loud and confirmed what TR had told the team. Thus, he skimmed through the passage and also resorted to repeating the sounds of the language to make out the meaning (Part B in SILL). Finally, he resorted to reasoning and inferencing as strategies to provide the clue (Part B or C in SILL*): ton mäkin oisin tajunnu.* Accordingly, he used self-evaluation (Part D in SILL). TR evaluated MP's learning as he said *nii ... erittäin hyvä!* (Part D in SILL), which was said jokingly. The above extract also shows how the team cooperated on the solution of the L2 problem (Part F in SILL).

In the following extract, similar strategies were used:

PaPo	**sä voisit kyllä ensin lukasta ton ... ton Grossin** ku se on tossa ... yheksäntoista ... **[u:esa:]** (= Finnish pronunciation) **dollar [dollar]** (= Finnish pronunciation) **fängt [fängt]** (= Finnish pronunciation) **anzufallen [an'dʒu:fallen]** (emphatic and exaggerated; wrong stress) **am Weltmarkt (German pronunciation)** (frustrated) **toi ...**
TR	**[u:esa:]** (= Finnish pronunciation) **dollar fängt anzufallen am Weltmarkt** (German pronunciation) **... elikä ... USA:n [u:esa:n]** (= Finnish pronunciation) **dollarin arvo heikkenee mailmanmarkkinoilla**
MP	**no *nii*!** (emphatic) **... sen mäki ymmärsi**
TR	**amerikkalaiset haluavat saksalaisii tavaroita ...**
MP	**mutta**
TR	**mutta makkk ... savatko he ... nousevat korkeimman hintaa ... psst tää on sellane mutta-juttu ... hmm ja kysymysmerkki perässä!** (exclamation)
MP	**nii**
TR	**ni onko ne valmiit maksamaa sen korkeemma hinna ku dollari heikkenee?**

In the extract, PaPo first suggested skimming (Part B in SILL) to TR (*sä voisit kyllä ensin lukasta ton ... ton Grossin*), and thus he also used cooperation (Part F in SILL). Still, he tried to read the text in German by himself too, feeling the sound of it (Part B in SILL). He attempted to read it as best he could to communicate the idea (Part C in SILL). This did not lead to any understanding because apparently his German was non-existant, as his pronunciation showed, and he soon gave up frustrated. Next TR, who was considered "the German expert" in the team, picked it up from PaPo. He read the text pronouncing it correctly in German (Part B in SILL) and gave a mother tongue translation of the text to the others (Part B in SILL). MP was apparently able to understand something about what TR had read and he used inferencing or concluding the meaning based on his knowledge of German when he said: *no nii! ... sen mäki ymmärsi* (Part B or C in SILL). Next, TR still summarized the whole idea in the mother tongue: *amerikkalaiset haluavat saksalaisii tavaroita* (Part B in SILL). Then there was something that even he could not make out. He tried to infer the meaning by using transfer or his knowledge of language in general (Part B or C in SILL): *mutta maksavatko he ... tää on sellane mutta-juttu ... hmm ja kysymysmerkki perässä.* He said this in a witty way, with a sense of humour in his voice. So he used humour to lower the anxiety of not knowing the exact

meaning of the sentence (Part E in SILL). Before that he had also used a sound combination *psst*, apparently to gain some time to think and to alleviate his anxiety (Part E in SILL). Finally, he was able to conclude the meaning and summarized the passage: *ni onko ne valmiit maksamaa sen korkeemma hinna ku dollari heikkenee?* (Part B in SILL). Thus, the L2 problem was solved.

Concluding from the above two examples, the main L2 strategies used by the Nerds to make out the German EnviroScans were translation, inferencing and using the knowledge of language in general (Part B or C in SILL), and cooperation (Part F in SILL). Affective strategies were also important (Part E in SILL). Thus, both Mr Spock and the Nerds mainly used their mental processes (Part B in SILL) and cooperation (Part F in SILL) as their main strategies to make out the German EnviroScan reports. There was one difference, however, between the strategies used by the two teams: the Nerds did not say anything about a verb missing from the end of a German sentence as Mr Spock had said during the interim meeting. Thus, Mr Spock also used transfer (Part B in SILL) and evaluation strategies successfully (Part D in SILL). One reason for this could be that their proficiency level in German as the L2 was perhaps somewhat higher.

Finally, deciding to buy the German industry meant adopting risk-taking strategies languagewise for the Nerds. They also started to take bigger risks businesswise after Round 6, to keep up their motivation. This was confirmed by an extract from Round 9:

TR	sanoo täytyy myöntää et me oltais niiku
MP	siis se
TR	jos me oltais pidetty ... ne lähtöasetelmat ne mitä meillä sit oli jossai vaiheessa
PaPo	**nii eihä siinä ois ollu mitää kilpailuu siis sillee ni**
TR	no sit ... siin oli taas se et se ... meil oli nii laaja se kenttä millä me toimittii siinä vaiheessa

Thus, the winning position in the first half of the game and the lack of motivation as a result of it may well have had some impact on the final outcome of the game for the Nerds.

Accordingly, after Round 6, indirectly, greater risk-taking in business could also be seen to affect the use of the L2 so that the learners seemed to start using their L2 in a more risk-taking way. They monitored their L2 less and used compensation strategies for communication (Part C in SILL). Especially PaPo seemed to rely on these strategies, as the extracts below from Round 9 show:

PaPo	äähhh ... nyt tuli ... ehkä pelätty kierros
TR	**Sellistä** (= the Cellular Phones)
PaPo	joo (reading in the manual) **rumor [ru'mo:r]**(wrong pronunciation and stress) **has it that several Maquilars [ma'kila:rs] in Mexico which produce products for domestic distributors [distribu:tɔz]** (wrong stress) **are faced with protesting ['protestiŋ]**(wrong stress) **union [juniən]**(wrong pronunciation) **workers. I didn't even know they had unions [juniɔnz]** (wrong pronunciation) **in Mexico** (laughs) **it couldn't have come at a worse time either since we can hardly keep up with the demand right now. Inventories are at their lowest.**

PaPo mispronounced a number of words, apparently because of the influence of the L1, which they used during the negotiation, and because they were under pressure. As could be concluded from the audio tape, he took the risk of pronouncing, for instance, the name of the Spanish SBU in his own way. A similar instance was noticed when during the same round he took the risk of pronouncing the name of the German SBU in his own way too (Part C in SILL):

TR	pelataanko riskiä vaiii?
MP	pakko
PaPo	pakko pelaa riskii
TR	(laughing) edellisellä kierroksella otettiin ... otetaa riski okei (laughs)
PaPo	mä pistän toho että riski **[dzermuns grosshandl]** (wrong pronunciation)

PaPo knew that he did not say *the German Grosshandler* correctly but he did not mind, he was in a risk-taking mood. Thus, the above extracts would seem to confirm that compensation strategies (Part C in SILL) in the L2 were used especially by PaPo to cope with the L2 in the risky business situation.

5.2.4 Strategies revealed by the interim meeting

Two team members, TR and PePa were present at the interim meeting. The team were asked whether they had had any L2 problems with the game in general:

AL	ya ... OK .... **well languagewise** I've got some questions to you as well ... how do you feel ... has ... **how has it worked with the Dutch team you know ...**
TR	**quite well**
AL	**Have there been any language problems?**
TR	**No ... not at all** (clears throat).
AL	so ...
PePa	**they speak quite good ... nice English**
AL	ya good ... **and and what about communicating by e-mail ... no problems**
TR	**no problem at all**
AL	**there either ... I mean when you write in English or when you when you receive messages?**
PePa	**no problem**
AL	**What about the manual ... when you use the manual?**
TR	**Well ... a few words**
PePa	**the German parts** (laughing)
AL	Sorry ... oh
PePa	**the German parts** (laughing)
TR	**that's not ... the ...** (coughs) **Mexican part** (PePa laughs)
AL	ya ... ya
TR	**Spanish ... that's the problem**
PePa	**no** (Spanish pronunciation, almost inaudible) **comprede Espanol**
AL	ya
TR	**I *really*** (emphatic) **don't understand why it have to ... has to be only in Spanish ...** (inaudible) **in English also**
AL	**but you've been able to solve that ... anyhow?**
TR	**Well we haven't played that (laughter)**
AL	OK OK good.

As evidenced by the above extract, the Nerds stated explicitly that they had had no L2 problems in general. However, on further inquiry, it was revealed that they had had problems with the German and Spanish parts of the manual when PePa said: *German parts (laughter)*. TR corrected him and said that it was not so much the German SBU as the Mexican SBU that had presented some L2 problems *(That's ... not ... the Mexican part)*. As to how they had solved the problem was stated explicitly: *Well we haven't played that (laughter)*. The team had thus avoided playing the Mexican SBU altogether because of the L2 problem, and thus used risk-avoiding strategies in the L2 during the first half of the game (Part C in SILL), as was also evidenced by the audio recordings. This was a natural choice since none in the team had reported in their background questionnaire that they knew Spanish as L2. Thus, because of the L2 problem, their choice of an L2 strategy could have influenced their business strategies, and could be regarded as having had some effect on the course of the game. However, from the point of view of both business strategies and L2 strategies, the Nerds' choice could also be regarded as wise risk taking (Part E in SILL) because the Nerds were thus able to avoid the anxiety of not knowing enough Spanish, which saved them from taking too big risks in the L2 in the first half of the game.

As for the L2 strategies revealed implicitly by the above extract, it was interesting to note that when the word *Mexican* was mentioned, PePa immediately produced a Spanish expression, *no comprede Espanol.* The situation seemed to trigger off the use of a formula or pattern that he happened to recall in Spanish and that suited the context. The use of the Spanish expression could be taken to be linked to TR's subsequent words about the team not understanding why the text for the Mexican SBU had to be only in Spanish and not in English as well. Thus PePa could be said to have used a communication strategy (Part C in SILL) as he switched into Spanish. In the extract, TR monitored his production (Part D in SILL) when he corrected the verbal form in *it have to ... has to.*

The Nerds were asked if they had learnt any L2 through the game:

AL	**er ... have you learnt ... er ... anything from the game you know if you think of the language part ... do you feel that your English has improved or ...?**
PePa	**well ...**
TR	**I suppose ... yes**
AL	**fluency ... for instance**
TR	**well that too and for me ... the writing part when**
AL	**aha ... aha ... OK**
TR	**I have to communicate with those ... Dutch partners**
PePa	**I ... I really don't know because I have to use English at school every day speaking to foreign students so ... I don't notice *what's*** (emphatic) **in ... influencing ... OK ... every time I have to use English ... it's influencing but ...**
AL	**and also ... you've been using the e-mail ... so ... so you're familiar with that**
PePa	**yah**

The above discussion gave some more insight into what was stated earlier about the L2 not being a problem in the game, thus indicating in general that the L2

strategies of the team were automatized. TR felt that he had learnt some English (*I suppose ... yes*) and that his fluency and the writing part had improved when he had to communicate in English via e-mail with the Dutch partners. Thus, he evaluated his learning (Part D in SILL). As for PePa, he had not noticed any improvement on his part (*I don't notice what's in ... influencing*), for he was accustomed to using English every day with foreign students and also in e-mail messages. However, he also said that *every time I have to use English ... it's influencing but ...*, thus indicating that he was aware of opportunities for learning the L2 (Part D in SILL).

A further explanation as to why the team were not aware of any L2 problems in general appeared when TR and PePa were asked how the other two team members, who were not present at the interim meeting, had managed languagewise:

AL	**What about the other team members you know ... is English an easy language for them as well ... or have they had any problems ... do you know?**
TR	**I suppose not...**
AL	ya ...
PePa	**if they have some problems ... they haven't told them** (laughs)
AL	ya ... ya ... ya
TR	**and usually when we make these group decisions so ... you don't notice if someone**
AL	that's right
TR	**has problems**
PePa	**and** (inaudible) ... **don't just have to care** (rising intonation)

Again, there was no explicit evidence of the learners having met with L2 problems. The explanation could be that the team had used compensation or communication strategies in the case of L2 problems, as evidenced by TR's statement *you don't notice if someone ... has problems* and PePa's expression *and don't just have to care*. What PePa apparently meant was that they did not have to care if mistakes occurred as long as the L2 communicated (Part C in SILL). The evidence provided by the audio recorded discussions seemed to confirm this.

However, when trying to elicit possible L2 strategies that the Nerds might have used during the game, more insight into the L2 problems and strategies was gained:

AL	**any help that you'd need with the English language ... at all ... when you ... have you had to consult the dictionary or ...?**
TR	**well, once**
AL	**or ask ... somebody ... what was the word**
TR	**depreciation**
AL	depreciation (all laugh)
PePa	(laughter and **a hand gesture on the video showing that *depreciation* meant 'the value going down')**
AL	ya ... OK OK ... good ... and ... and ... were you ... **did you consult the dictionary immediately or did you try to work it out as to what it could mean ...?**
TR	**well we were in the Nettiluokka ... so the library is next to it ... so it was easy to check it**
AL	**so you just looked it up** ... ya ... **what about wild guesses ... did you guess it?**

TR **we tried but ... (laughter) it didn't seem to work**
AL ya ... so you had never come across with that word

Thus, the discussion revealed that the team had consulted the dictionary once, or used recourcing (Part B in SILL), as was also mentioned in the log-book. With regard to the L2 problem *(depreciation)* mentioned, the reason why the Nerds had used resourcing as an explicit L2 strategy in the above case was also mentioned:

TR **well we were in the Nettiluokka ... so the library is next to it ... so it was easy to check it?**

When asked whether inferencing had been used as a strategy, the answer was negative: *we tried but ... (laughter) it didn't seem to work.* Thus, the Nerds had not been able to conclude the meaning of the word *depreciation* by using their mental processes or by using all possible clues to guess the meaning of what is heard or read in the new language. In other words, they were not able to derive the meaning with the help of the context. Therefore, they resorted to resourcing (Part B in SILL).

Furthermore, in the above extract, the L1 expression *Nettiluokka* was used for compensation (Part C in SILL). By *Nettiluokka* TR meant *the network classroom*, ie. the computer classroom reserved for students who were involved in a special learning experiment called 'Netti' or 'Nettiprojekti' at HelBP. When using the term *Nettiluokka*, TR resorted to the use of the mother tongue or switched to his own language momentarily (Part C in SILL). On the basis of his overall English proficiency, which TR had rated as "good", as also evidenced by the interim and audio discussions, he could apparently have found a way of describing the term *Nettiluokka* in English, had he wanted to. This assumption could be supported by the fact that he used the term with the English syntax, ie. with the definite article (*well we were in the Nettiluokka*). However, in spoken discourse he chose the quickest way to convey the meaning, which was to use the L1 term as such. This strategy worked well because the term *Nettiluokka* was known to those present, for it was commonly used by the discourse community (HelBP). Thus, TR resorted to contextual knowledge to support his choice of strategy. Similarly, during the decision-making meetings the Nerds also sometimes used a mother tongue expression in the midst of the L2, as has been shown above.

Implicitly, another L2 strategy was also used in the above extract in connection with the term *depreciation.* When the word *depreciation* was mentioned during the discussion, PePa almost simultaneously used a hand sign or a visual image indicating that *depreciation* meant 'the value going down'. Thus, he used imagery as an L2 strategy to explain the meaning of the word. In the SILL 5.1, imagery can fall under Part A / Remembering More Effectively, or under Part C / Compensating for Missing Knowledge. In Part A, "imagery, sounds, sound-and-image combinations, actions, etc. could be used to remember or recall new expressions". Similarly, O'Malley and Chamot (1990:198) define imagery as "using visual images (either mental or actual) to understand and remember new information or to make a mental representation of a problem". In the SILL questionnaire in Part A, when learning a new word, imagery is defined in two ways: (1) "I remember the word by making a clear

mental image of it or by drawing a picture" and (2) "I physically act out the new word". It seems that PePa used both when he showed with his hand that the word *depreciation* meant 'going down'. Apparently he had made a mental picture of the meaning of the word as he had been storing it into memory, and that mental picture came up at the same time as the word *depreciation* emerged, and he also acted it out (Part A in SILL).

As for imagery being used to compensate for missing knowledge, Item 44 in Part C in the SILL questionnaire sheds more light on what is meant by it: "If I am speaking and cannot think of the right expression, I use gestures or switch back to my own language momentarily". In the case of the word *depreciation*, however, this did not seem to be the case. Although it was TR who said the word *depreciation*, PePa obviously remembered the L2 word too, since his gesture signifying the meaning of the word came immediately after TR had said the word. Thus PePa wanted to show the meaning of the word using a related gesture. Therefore, it can be concluded that in this case imagery did not belong to Part C in the SILL, but to Part A.

Here is another instance of the use of imagery by PePa, used as a compensation strategy (Part C in SILL):

Al	Have you taken risks?
TR	Well ... some ... some.
SR	So what have been the major surprises you have faced ... in the game?
TR and PePa	(looking at each other and trying to find an answer)
PePa	That we were so much (starts laughing) ... leading us after first round (both students laugh)
TR	actually the first round was a big surprise because we didn't ... notice where to get those ... EnviroScan (English pronunciation) reports
SR	OK
TR	so ... (starts laughing)
PePa	and we just made decisions (hand gesture) and ... **(whistles and shows with his hand that the ranking went straight up)**
TR	made decisions ... and suddenly we were leading and ...
AL	so you ... didn't use them at all ... for the first round?
PePa	no ... because
TR	we were lucky
AL	ya ... well

As PePa was telling about the solutions of the strategic problems and their impacts, the whistle and the hand gesture used by him seemed to indicate the great surprise that the team had felt as their decisions produced the best ranking. After PePa's whistle and gesture, TR also verbalized the idea to explain what PePa meant (*and suddenly we were leading and ...*). It could be seen on the video that the team members recalled the good feeling of their success, as they were talking about it. Thus the imagery was laden with emotional overtones, those of surprise and pleasure. Therefore, apparently, in this case, imagery was not used by PePa to recall the meaning, as was most likely the case with the word *depreciation*, but to compensate for the missing words (Part C in SILL). It did not seem that PePa was even looking for words to express what he meant, the imagery was used spontaneously. It was TR who verbalized the idea. This instance showed that to PePa, imagery was a natural way, and a powerful one, to communicate both the meaning and the emotional overtone of what he had in mind. To help explain the use of mime or imagery as an L2

strategy by PePa in both of the above cases, either as a memory strategy (Part A in SILL) or as a compensation strategy(Part C in SILL), Kellerman (1991:149) points out that, as for communication, "some things are more easily mimed than articulated". This seems to have been the case with PePa. However, Kellerman also says that the use of a non-verbal expression does not entail that the learner cannot find ways to communicate the idea verbally. PePa could also most likely have found a verbal expression, had he wished to, but he chose imagery as a shortcut or because it was more effective than words.

On other occasions too, both TR and PePa often "spoke with their hands", as evidenced by the video tape, while they were explaining something about the game, as in the following case, in which both students gestured with their hands:

SR	How do you feel about the game at this point ... are you looking forward ...
TR	a bit ... actually we were too dominant ... so somehow ... makes it **(hand signs to show quotation marks)**... more ... **"uninteresting"** to play the game ... now it will be much more interesting ...
PePa	but we made it so ... **last meeting (using hand gestures to show a meeting)** because we thought if we keep what we have ... we could keep till the end ... but now we
TR	made some changes
PePa	**changes ... and sell something and bought something and got new (hand gestures)**

The foremost gesture in the above extract was used when TR "drew" the signs of the quotation marks (" ") in the air as he said *more uninteresting*. In written discourse, the quotation marks would have been visible as an integral part of the orthography (*more "uninteresting"*), but in spoken discourse TR would have had to use a longer verbal expression, such as *more "uninteresting" in a way*, or *more "uninteresting", so to say*, to convey the same idea. Instead of choosing the longer verbal expressions, TR used the quick gesture, which was apparently more convenient. This indicates the use of a compensation strategy (Part C in SILL). In Mr Spock, IK used the same gesture during the interim meeting when he meant *the so called*. One reason for using this sign in the L2 could be that the same sign is used in the speakers' L1 for the same idea, so both TR and IK were accustomed to using it. Likewise, during the interim meeting of Mr Spock, IK used the same strategy in a similar situation.

The Nerds, in general, seemed to cooperate well, both in terms of the game and language, as evidenced by the audio recorded discussions. During the discussions and during the interim meeting they also used humour (Part E in SILL) to show their good team spirit (Part F in SILL). Here is an example:

AL	So ... you're the Nerds
SR	you're the Nerds
PePa	(laughs)
TR	**as you can see**
AL	ya ...

TR's expression indicated good self-esteem or control of emotions (Part E in SILL). Further examples of their use of humour for the same purpose are included in the extract below.

Inspite of the generally effective cooperation shown by the team members, however, the Nerds admitted that there had been some problems with cooperation but that they had been able to solve them. The problems were related to scheduling the decision-making meetings. This also has to do with the use of metacognitive strategies, ie. planning for the learning occasions (Part D in SILL):

SR	So ... how has your group worked?
PePa	(looks at TR)
TR	**Well ... (laughs) some ... quite honestly there has been some problems but**
SR	Like what?
TR	**Fixing those timetables ...**
PePa	**Ya ... quite different schedules ...**
SR	yhm ... and what about ... but ... but
TR	**but otherwise it has been quite ...**
PePa	**we've we've used to work together**
SR	**yhm ... yhm yes**
PePa	**two years making lots of work...**
SR	you had some experience ... yah ... **and there's no solo ... working ... so that one is working and two are playing around ... or something like that ...**
TR, PePa	**No** (slight headshake denoting 'no') ... **nothing like that** ...
SR	nothing like that ... it's ...
AL	**so it's been joint decisions**
TR, PePa	**ya ...**
SR	**ya ... and P** (= PaPo) **is involved?**
TR	**he is but he's in England ... at the moment**
AL	Is he doing some research there? (jokingly) ... (all laugh)
TR	hopefully (all laugh)
AL	for the game
PePa	about cellular phones (jokingly)
TR	(inaudible) and pubs (jokingly)
SR	good ... so it has been difficult to arrange meetings
TR, PePa	yeps ... yhm
SR	aah ... **but have you been able to make joint decisions anyway ...** somehow
TR	**we have been**
SR	**using the phone or ... on the spot here or what...**
PePa	**phone and ... outside meetings here ... mostly (looking at TR for confirmation)**
TR	(sighs deep) **I guess that's the truth**
PePa	**well ... when we have a meeting we already know what to do so**
SR	OK
PePa	**we've been discussing about it** ... (hand gestures to show that they have been together)
TR	**so usually we get together and see the situation and then ... everyone thinks what ... what should be done and**
SR	**OK**
TR	**then we come together again and make decisions**
AL	How long have your meetings been usually? How long does it take?
TR	an hour or so
PePa	a bit more sometimes ... if it's early in the morning ... hard to get started (jokingly)
SR	**What has been the CO's role actually ... has it been very dominant?**
TR	**No.**
PePa	**Yes!** (both TR and PePa start laughing)
TR	**I suppose not ... I'm ... I'm playing this game as ... as the others are so**
PePa	**we have quite**

TR	**the only thing that I have to do is to return the diskette and**
SR	okay
PePa	**we have quite democratic team**
SR	OK democratic ... o very good ... so actually you have been doing very well

The above discussion confirmed explicitly what the audio recordings had revealed: the team worked cooperatively. The CEO did not dominate but was one of the players (*we have quite democratic team*). The gesture that PePa used *(looking at TR for confirmation)* and what TR said about their good cooperation (*I guess that's the truth*) also confirmed their use of cooperation as an L2 strategy as well, as was evidenced by the discussions in the audio recordings (Part F in SILL). Although they had had problems with scheduling, they had been able to work them out, as evidenced above by the audio recorded discussion, during which they had problems with getting started on time. To alleviate the anxiety of the bad memory (Part E in SILL) and to keep up the group spirit (Part F in SILL), PePa jokingly referred to the problem by saying: *if it's early in the morning ... hard to get started (jokingly)*. As for other L2 strategies, the passage contained some lack of monitoring. TR said *CO* instead of *CEO* and *there has been some problems* instead of *there have been some problems*. PePa said *making lots of work...* instead of *doing a lot of work* and *we've used to work together* meaning *we're used to working together*. PePa also said *we've been discussing about it* instead of *we've been discussing it* and *quite democratic team* instead of *quite a democratic team*. The L2 was thus influenced by L1 forms and compensation strategies were used (Part C in SILL).

Other similar instances of lack of monitoring the L2 occured during the interim discussion. Here are three examples:

PaPo	**there are some team which are losing** their game already
TR	and I know it is **so stupid system** when **you have already** seven SBUs ...

Thus, the speakers seemed to have some problems with monitoring the concord of the Subject and the Predicate, with the use of the article, and with the word order in the L2. The above examples show that the learners' L2 was influenced by the syntax of the L1. Thus, they used compensation strategies (Part C in SILL). Especially PePa seemed to do this, as can be evidenced from other extracts from the interim meeting. Above, there is also an extract concerning the L2 used by other team members, in which PePa said that other team members did not care if someone made L2 mistakes because the team concentrated on the decision making. On the whole, however, both speakers' L2 seemed to be quite accurate, which is also evidenced by the extracts.

An interesting compensation strategy in the L2 was used by TR when he said *max.* to compensate for *maximum* (Part C in SILL). A similar incident had come up in the audio recordings. His pronunciation showed that he used the L1 form:

SR	OK ... How much time do you spend approximately per quarter?
TR	Two hours?
PePa	ya ... about
TR	**max [maks]** (= Finnish pronunciation)

PePa	plus the other discussions (inaudible)
TR	yhm

Besides some lack of monitoring the L2, the Nerds had apparently failed to use metacognitive strategies in another repect too, although more in view of the general learning goals than the use of the L2 only. In the following extract they told the interviewers about not having noticed the EnviroScan reports in the manual before they made their decisions for Round 2. Moreover, an interesting compensation strategy (Part C in SILL) was used by PePa in the extract: he used a gesture, without any words, to describe that their ranking went up like a rocket:

SR	So what have been the major surprises you have faced ... in the game?
TR and PePa	(looking at each other and trying to find an answer)
PePa	That we were so much leading (starts laughing)
TR	**no** (laughs) **actually the first round was a big surprise because we didn't notice where to get those EnviroScan reports so ...**
PePa	**and we just made some decisions** (hand gesture) **and ... (whistles and shows with his hand that the ranking went straight up)**
TR	**made decisions ... and suddenly we were leading them.**
AL	**So you didn't use them at all ... for the first round?**
PePa	**No ... because**
TR	**no ... we were lucky**

From the point of view of metacognitive strategies, the Nerds had failed to fully prepare themselves for the beginning of the game, contrary to Mr Spock who had gone through the manual carefully and thus exercised effective metacognitive strategies. This was also mentioned at an audio recorded meeting during Round 9:

TR	tossa ... no oltiin ... meill on se ... myynti on ... tota ... seiskytneljä tuhatta suurempi ku ... seuraavalla ... hohhoh (laughing) ... aika hurjasti menny ... **meill kävi hyvä tsäkä tossa ... ihan niinku umpimähkää ko ei katottu sitä tilannetta alunperin et mikä se suuntaus oli**

Still, the Nerds seemed to have gone through most of the manual since they were able to make the decisions for Round 2, and thus had also used overviewing as a metacognitive strategy (Part D in SILL), as was confirmed by the following extract:

SR	Er ... how have you solved your strategic problems ... have you followed that?
TR	**We have only read through the manual and checked the situation and ...**
PePa	yeah
TR	**tried to find the strategies.**
SR	**Do you think that ... these strategies work?**
PePa	**It seems they have worked** (TR laughs) **... we're leading** (laughs)!

The foreign dimension provided one more way of exercising metacognitive strategies, such as arranging for opportunities to learn the L2 and organizing and evaluating learning (Part D in SILL). It also required the use of cooperation as a general learning strategy. When asked about the foreign partners, the team replied:

AL	OK ... so ... talking about the foreign partners ... you've ...**so you've still got your foreign partner**
TR	**yhm ...**
PePa	**ya**
AL	**and that was the ...**
TR	**er ... Dutch (name of the Dutch CEO) and others ...**
AL	(first name of the Dutch chairperson)
TR	**there are six persons**
AL	ya ... that's that's a very big team there ... **so you had problems in the beginning with them ...**
PePa	**yes because they didn't ... have the** [ðə] (wrong pronunciation) **Internet and ... all the post ... that comes to school to students** ... we can see them ... I got one fax from Groningen about ... eight ... seven months ago and I haven't seen it yet
AL	so the mail didn't reach you ... the faxes didn't reach you
PePa	ya
Al	**How's it going now... with the Dutch team?**
TR	**Quite well ... we're supposed to get their answers ... today or tomorrow**
PePa	**because they read it from ... World Wide Web and they send ... us their decisions by e-mail so**
AL	yhm ... OK ... **so they now they have access to e-mail**
TR	**yhm ... yhm ... their school do ... doesn't have but through some private**
PePa	I talked with D (= a Dutch Student) ... D from Groningen studying in our school ... **he said that ... whole computer network in their school ... is down**
AL	yhm ... aha ... OK ... ya that's been the problem with ... with one of the other partners as well ... OK
PePa	those developing countries! (laughter)

Thus, the players told about the technical problems that the Dutch partners had had with the e-mail and the facsimile messages in the beginning. However, the Dutch team had been able to acquire access to e-mail outside their school (*but through some private*), and thus the opportunities for learning the L2 were increased for the Nerds (Part D in SILL). As PePa told about the situation, he failed to monitor his pronunciation of the definite article preceding a word starting with a vowel sound (*the Internet*) and he said *whole* instead of *the whole*. As indicated earlier, he occasionally seemed to omit the article and used compensation strategies (Part C in SILL). There is also a good example of TR monitoring his production in the L2 (Part D in SILL) at the end of the extract. He said *their school do ... doesn't have*, and thus corrected the form of the auxiliary verb *do* to be in accordance with the Subject. TR generally seemed to monitor his speech. As the CEO of the team he may have been more concerned about the fact that their speech was being recorded for research purposes and therefore corrected his speech when he noticed a mistake he had made.

Furthermore, when asked about the foreign dimension, the team said:

AL	so ... **on the whole do you feel that it's go ... it's a good idea to have a foreign partner** ... you said that you ... they should they should play as a separate team maybe
PePa	**yes but**
TR	**it makes some ... it makes it difficult to play this game when you have a foreign partner ... for instance ... let's see ... we're here four** persons (lists the first names of the Finnish Nerds) **... and there are six persons in Holland...**
SR	hmm

TR	**playing with us ... and they only have one SBU ... from our ... portfolio ... so**
PePa	**they should ... be a bit more familiar with the [ðə]** (wrong pronunciation) **Internet ...**
AL	hm ... ya ... so that's one problem
PePa	**Unix ... this Web**
TR	**and besides those decisions we make ... they're not only based on the [ði] ... on those conversations we have during these meetings but also those conversations we have during lunchbreaks ... and so on and so on ... so ... it would be easier if they would have their own team ... so they could also play their own game**

Both TR and PePa showed effective evaluation strategies (Part D in SILL). Because of the Dutch members' unfamiliarity with the Internet and the large size of the team (four Finnish and six Dutch members) plus the fact that the Finnish Nerds also discussed their decisions outside the decision-making meetings, TR and PePa felt that it was difficult to communicate with a foreign partner. Their suggestion was that the foreign partners could play as separate teams. From the point of the L2 strategies, this would be a reduction oriented communication or compensation strategy (Part C in SILL), which would not lead to communicating with foreign partners in the L2. Thus, it would reduce the amount of the input of the L2 in the game, as was the case with Mr Spock who were unable to establish a connection with their foreign partner. From the point of view of the general framework of the game, however, the Nerds suggestion might have been justified.

As evidenced by the extract quoted at the beginning of this section, no L2 problems with the Dutch partners were mentioned explicitly:

AL	ya ... OK .... well languagewise I've got some questions to you as well ... how do you feel ... has ... how has it worked with the Dutch team you know ...
TR	quite well
AL	**Have there been any language problems?**
TR	**No ... not at all** (clears throat).
AL	so ...
PePa	**they speak quite good ... nice English**
AL	ya good ... **and and what about communicating by e-mail ... no problems**
TR	**no problem at all**
AL	**there either ... I mean when you write in English or when you when you receive messages?**
PePa	**no problem**

Thus, it seems that the Nerds were able to communicate well with their Dutch partners by e-mail, as far as using the L2 was concerned. Their L2 strategies seemed automatized in this respect. The fact that PePa had used the e-mail before, as was stated by him on another occasion, apparently helped TR, who was not so familiar with e-mail discourse at the beginning of the game. In the extract, PePa also evaluated their Dutch partners' English skills (*they speak quite good ... nice English*), thus showing the use of evaluation strategies (Part D in SILL). When saying this, he used his mental processes (*good ... nice*) to improve his wording (Part B in SILL).

Further examples of L2 strategies came up as the Nerds evaluated their learning experience on the whole:

SR	OK ... would you have needed more feedback ... during the game?
TR	No ... I don't think so
SR	(laughs) so ... Any other ... questions ... any questions from your side?
AL	Comments?
SR	comments ...
PePa	Well actually I would ...
AL	Is it a good way to learn?
PePa	**Ya it's good way to learn but actually I would like to have a bit more human touch ... in the game**
SR	yah
PePa	**so that game leader could be human at computers ...** (inaudible) ... these computers they have no flexibility and we noticed that ... last round when we tried to ... buy two and sell one (gestures) ...
TR	yhm
PePa	it could be ... nice if the computer we could have ... put our decisions on a disk ... and then there would be **few teachers** ... checking the decisions ... and making their ... own comments
SR	comments
PePa	what could happen ... so the computer has **all data** ... inside and ... the computer could make all the calculations (hand gestures) ...
SR	How often ... would that be necessary?
PePa	I think ... (looks at TR)
TR	once a week
PePa	once a week ... maybe ... when the decisions (hand gestures) come ... the teachers check them out
SR	OK
AL	and you would need ... want some feedback
TR	yhm
AL	on the decisions then
TR	hm ... what we've done
PePa	feedback you know ... that the *computer* (emphatic) isn't ... ruling the game ... that **it's some human** because ...

In general, both players evaluated the prospects of the game well (Part D in SILL). PePa used circumlocution and did not seem to monitor his speech all the time (Part C in SILL). He seemed to have problems especially with the use of the word *human* as a noun, and with the use of the article, as he said: *so that game leader could be human at computers ...* instead of saying *so that the game leader could be a human being at a computer* and later *it's some human* instead of *it's some human being.* He also said *all data* instead of *all the data* and used *few* instead of *a few* in *few teachers.* All these could be explained on the basis of the influence of the L1.

As for the expression *the human touch* in the above extract, the explanation showed that the team would have preferred a less autonomous game setting than was the case during this administration. They would have liked to have feedback from the game administrators once a week to improve their learning. The suggestion for more 'human touch' was also made by IK in the team Mr Spock. Thus, both teams excercised metacognitive strategies when evaluating the game (Part D in SILL). Mr Spock stated that they enjoyed the autonomous nature of the game. This could perhaps be accounted for by their effective advance organization. The Nerds, again, wished for more teacher-involvement and feedback, ie. their emphasis was on evaluation after each round. Thus, in view of autonomy, the metacognitive strategies of the two teams seemed to differ somewhat.

Similarly, the Nerds had a suggestion as to how the game should be organized in terms of the foreign partners. Thus, this suggestion was related to the opportunities to use the L2 (Part D in SILL):

TR	and some changes also ... **the next time** when we're playing .so. . **those foreign partners should be made their own team** ... and not ... not be part of our team...
PePa	it's difficult
TR	as we saw at the beginning ... **first three rounds were impossible to play with our Dutch partners** ...

The Nerds seemed to consider the foreign dimension from the point of view of the general objectives of the game and not from the point of view of the L2. Mr Spock had expressed a similar view when they said that they did not mind the fact that the connection with their foreign partners did not work because it saved them time and trouble. This reduced their opportunities for using the L2. Thus they used risk-avoiding communication strategies while the Nerds used risk-taking strategies in this respect. Corder (1978:11) points out that the personality factor in the use of communication strategies needs to be taken into account: some learners are risk-takers, others value social interaction. Accordingly, there seems to have been a difference between the L2 strategies used by the two teams in view of the foreign dimension.

A third improvement suggested by the Nerds concerned the length of the game and motivation:

SR	So how do you feel about the game at this point ... **are you bored or something?**
TR	**a bit bored ...**
SR	a bit
TR	**it's too long ... it should be nine rounds or eight rounds or so**
AL	OK
TR	**this twelve is absolutely too much ...**

What TR meant was that the impact of the decisions could be seen equally well during fewer rounds. This shows that after six rounds, the Nerds were able to assess the value of the game from the point of view of business strategies. This is evidence of their general use of metacognitive strategies.

As to how their motivation had changed during the game is revealed by the following extract:

SR	Good. So ... actually you have ... been doing very well ... from the beginning. I have a question: **How has your quarter report influenced your motivation? So you have had ... kind of top ... position** (hand gesture to show going up) **all the time ... so have you ...**
TR	**not any more...**
SR	actually you have ... ya very ...
PePa	**not any more ... that gives us more motivation because I think next one should be be fifty percent of assets ...**
TR	yhm ... we were too too
SR	**so has it helped you keep going strong?**
TR	**actually we were too dominant ... so ... somehow ... makes it** (hand sign to show quotation marks: " ") ... **more ... "uninteresting" to play the game**

PePa	**so we find**
TR	**now it will be much more interesting**
SR	**ya**
PePa	**but we made it so ... last meeting because we thought if we keep what we had ... we could lead till the end ... but now we**
TR	**made some changes**
PePa	**changes ... and sell something and bought something new and we hope that**
SR	did you ... did you see that there are ... there was a change of parametres?
TR	yhm

The extract confirmed what was revealed by the audio discussion during Round 9. The interim discussion shows that after the successful beginning the team's motivation had decreased because the result of the game seemed too obvious. The Nerds had no more challenge because they had been No 1 for five rounds. Therefore, during Round 6, they decided to take more risks consciously to keep up their motivation. This also meant taking risks in the L2, especially in Spanish and German as L2, as discussed above. As a result, the game became interesting again. Thus, the winning position in the first half of the game and the lack of motivation as a result of it, from the business strategies point of view, may well have affected the final outcome of the game for the Nerds to some extent as they changed their business strategies during Round 6. As a result, their ranking started to go down. Another reason for this may also have been that the game parametres had been changed by the administrators before Round 6, which was also revealed in the interim discussion. The Nerds had noticed this and, in actual fact, benefited from it, for it gave them an opportunity to take a loan. The impact of this development on the L2 seemed to be that, as evidenced by the discussions in the the audio recordings after Round 6, the team seemed to use more compensation strategies and monitor their speech less (Part C in SILL).

In conclusion, the evidence from the interim meeting confirmed the findings from the log-book and the audio recorded discussions. It was confirmed that the Nerds were conscious of having met with only one L2 problem and that the explicit L2 strategy used was resourcing or using a dictionary (Part B in SILL). The reason for this was that a library was close to where they were working at the time when the problem occurred. The evidence also showed that they had managed well in their communication with the Dutch partners, because one team member had been involved with e-mail writing before. The CEO said that he learnt some L2 through writing e-mail messages. He also felt that he had learnt some fluency, but in general the team members were not aware of the language learning effect of the game because they were so involved in making the business decisions. Therefore, they did not generally monitor their own or each other's speech, but mainly used compensation strategies (Part C in SILL). The same could be concluded from their discussions at the interim meeting. The use of a language switch in the case of *Nettiluokka* above and the use of gestures or imagery instead of words to communicate the meaning, like in the case of quotation marks in *more "uninteresting"*, also reinforced the use of compensation strategies by the team. Imagery was once used as a memory strategy (Part A in SILL) by PePa.

The use of cooperation both as a general learning strategy and as an L2 strategy was confirmed explicitly. The team said that they made their decisions democratically with the CEO and they helped each other with L2 problems, for

instance with the e-mail (Part D in SILL). As shown by the video, the team members looked at each other for confirmation of what they had said.

The findings also confirmed what had been discovered from the audio recorded discussions: the team had had problems with their overall metacognitive strategies because they failed to notice the EnviroScan reports in the manual before the first decision-making round. This, however, did not affect their result in the game negatively. The team used general metacognitive strategies successfully when they evaluated the impacts of the decisions and made further suggestions for imporoving the game. They also improved their motivation by adopting risk-taking strategies halfway throughout the game. As for any connection between the L2 and motivation, there was no evidence of this.

5.2.5 Further evidence of L2 strategies provided by the log-book entries

Figure 13 shows the development of the rankings of the two teams being discussed.

As for the L2 strategies that the general log-book entries might reveal, it was assumed that they could perhaps shed some light on the use of metacognitive strategies, such as Organizing and Evaluating Your Learning (Part D in SILL). Keeping a log-book and recording the team's comments about the learning process was, in fact, a metacognitive strategy, which revealed how well the team was organized, how well they monitored the learning process, and how well they evaluated it. Both the Nerds and Mr Spock had entries in the L2 for all the rounds of the game, so they had used metacognitive strategies in general.

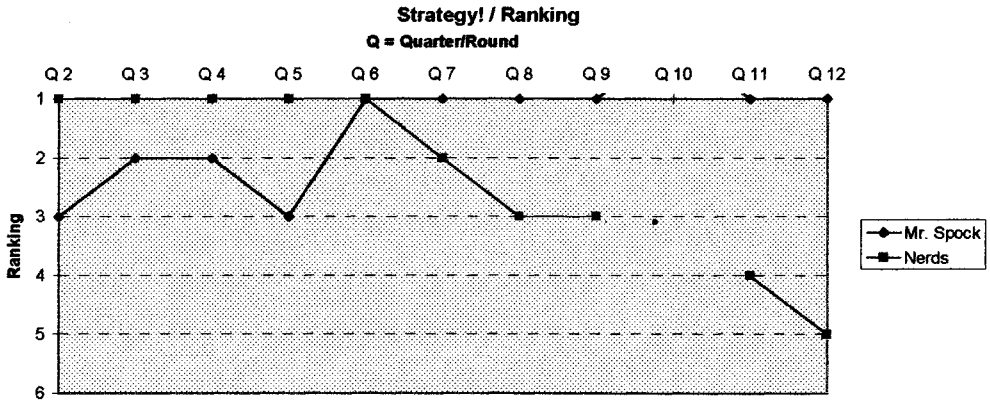


Figure 13. The rankings of Mr Spock and of the Nerds during *Strategy!*

Additional evidence on the use of the Nerds' metacognitive strategies was provided by an entry for Round 1 in their log-book: *check the situation, overview of the game*. This could only be done by reading through the manual. Therefore, the Nerds had used metacognitive strategies to organize their learning, or to overview and link with material they already knew (Part D in SILL). It came out during the interim discussion that the Nerds had not noticed all the instructions, especially the EnviroScans, in the beginning. Because of this "mishap", they said that they had been lucky in gaining the Number One position at the beginning of the game. Thus, it can be concluded that their overviewing, as mentioned in the log-book, was not sufficient and showed some lack of monitoring.

As for Mr Spock, in comparison, KH and IK said at the interim meeting that they had agreed that each of them go through his/her share of the manual before the game started. This shows effective organizing (Part D in SILL) and also the use of cooperative strategies (Part F in SILL). The third team member, PA did not have time to go through the manual at that point; instead, he relied on cooperation (Part F in SILL). However, after Round 1, he also read through the manual (Part D in SILL). Thus, it must be concluded that Mr Spock apparently used their overall planning strategies (Part D in SILL) slightly more effectively than the Nerds.

As for the use of the L2 in the log-book by the Nerds, it revealed only a few L2 problems and therefore little evidence of the use of L2 strategies. The entries for the different rounds in the first half of the game prove this:

Round 2: "We were leading the game."

Round 3: "We increased the gap between us and the other teams."

Round 4: "Still having some problems with our **dutch** partners. The selling and buying is too difficult !!! We learned how to increase our asset values and started to do so ... We also made some transactions with other teams. Our assets increased by almot 40%. We were still leading but not as clearly as in previous rounds."

Round 5: "We still had to **do** the decisions for our foreign partners. They could communicate, but their decisions came too late."We followed the previous rounds and invested heavily. Still leading ..."

Only two errors occurred: the adjective Dutch was written with a small initial (*dutch*) and the verb *do* was used instead of *make*. The influence of the L1 seemed to account for these errors. The incorrect forms indicate the use of compensation strategies (Part C in SILL).

For the latter half of the game there were also a few inaccuracies in the log-book, again most likely influenced by the mother tongue:

Round 6: "We traded a SBU with another team. Which was **quite stupid decision**. Tried to maximize asssets. Still leading, with a narrow margin."

Round 7: "We tried to raise assets as much as possible. We invested all our money. Raising assets ate our profits and we dropped to 2nd position."

Round 8: "We didn't have much money to invest, and what we invested, we **invested to** lodging industry because it was causing us great losses. We also **traded** German Grosshander from another team."

Round 9: "After huge losses we tried to save what we could by reducing costs and investments and **rising** assets. We managed to avoid losses **next round**."

There was evidence of the lack of monitoring the production of the L2 in writing (Part C in SILL). The indefinite article was omitted in *quite stupid* decision instead of writing *quite a stupid decision.* The team wrote *rising* instead of *raising*; however, they seemed to know the correct form of the verb *rise*, as the entries for Round 7 and later on for Round 12 show. Furthermore, the word *bought* could have been a more idiomatic expression than *traded* to be used in the entry for Round 8. The team also used the expression *next round* instead of *during the following round.* Moreover, the letter *-l-* was missing from the name of the German SBU (*Grosshander*).

As for the written discourse, as shown by the above extracts, the Nerds mostly used full sentences in the log-book. However, during the last few rounds they also used notetaking strategies for communication (Part C in SILL):

Round 8. " going down and fast"

Round 10: "We followed policy we had started last round. Just to collect more capital. No losses, but still going down."

Round 12: "Game was ending and we were still quite weak - just trying to raise assets. No HELP"

In the above three extracts, articles were omitted and incomple sentences without the Subject were mostly used, except for *We followed policy* for Round 10. Most of the earlier log-book entries were in a different style, as indicated above. In them, mostly complete sentences were used, with the exception of a few sentences without the Subject, for instance, for Round 5 (*Still leading ...*). It could be presumed that the severe set-back during the last three rounds perhaps had an impact on some of the change in the discourse pattern in the L2. The capitals used in *HELP* would also seem to allude to the team having lost some control of the situation and perhaps, as a result, resorting to the use of strategies that were more readily available and more appropriate in the stressful situation, ie. notetaking strategies, instead of using full sentences (Part C in SILL). Moreover, writing the word *HELP* in capitals could also be interpreted as a humorous way of coping with the stress in a situation in which the team had to admit their loss in the game (Part E in SILL). The final entry indicates the use of a similar strategy:

"GAME OVER After nice start the Game followed Murphu's Law"

Thus, the anxiety created by the game perhaps had an impact on the L2 and the strategies used when the team recorded the state of facts in the log book. Moreover, the misspelling of *Murphy* in the last sentence (*Murphu's Law*) is also a sign of lack of monitoring or self-evaluation in the L2 (Part C in SILL), perhaps caused by the anxiety at the loss in the game.

Thus, the findings of L2 strategies as evidenced by all log-book entries were similar to earlier findings: compensation strategies (Part C in SILL) were used to overcome linguistic problems and sometimes also to relieve anxiety (Part E in SILL).

5.2.6 Strategies evidenced by the e-mail and fax messages

The Nerds cooperated first with a group of three, and later with six, Dutch students, called the Hanzenerds, from the Hanzehogeschool Groningen. The Dutch partners were given one SBU (Sub Unit) or Industry, which they were to run and to budget for. Technically, the procedure was that the Dutch team could download the updated data from the HelBP World Wide Web site, after which they did the budgeting and sent the new data to the Finnish partners via fax or e-mail. The Finnish team then keyed in the data onto the decision disk, and the CEO handed it in before the deadline.

As revealed by the log-book entries and the discussions at the interim meeting, the Nerds had some technical problems with corresponding with the Dutch partners because they did not have access to e-mail from their school. Later the Dutch team found a company that let them use their e-mail for sending the messages. As a result of the initial problems, the Nerds relied on using the fax when they had to send a message to the Hanzenerds. Three fax messages sent by the Finnish Nerds were enclosed with the log-book and were used as data for the present study. As for e-mail, the Nerds also enclosed a number of messages sent by the Hanzenerds with their log-book but only three of their own messages sent to the Hanzenerds. Besides the messages sent by the Finnish Nerds, two of the messages by the Hanzenerds were used for the present study because they contained information about cooperation between the Finnish and the Dutch partners. Furthermore, an additional fax message sent by the Nerds to the other CEO's concerning the offer to buy the Mexican SBU was also used as further evidence to support the findings related to the use of Spanish as the L2.

The first e-mail message by the Nerds was sent to the present writer. It was in Finnish, but it did contain some self-talk as positive reinforcing (Part E in SILL), as the first sentence shows: *ja on valmiina kohtaamaan pelin haasteet.* The English slogan made by the team and included as part of the logo of the team would also seem to point at positive reinforcement. The *PS.* at the end of the message, addressed to the administrators of the game, could be seen to signify cooperation (Part F in SILL). The Nerds also talked about themselves as a group (*ryhmämme sai tunnuksen ... esittely ryhmämme allekirjoituksesta*), which points at good group spirit and effective cooperation among the team from the very beginning of the game (see p.181):

From: ACP Team <nerds@hemuli.slk.helbp.fi>
Subject: Testi...
To: Anneli Luukas @muxi.slk.helbp.fi
Date: Thu, 19 Oct 1995 15:16:50

Hei

Ryhmämme sai tunnuksen Hemuliin ja on valmiina kohtaamaan pelin
haasteet. Tämä oli lähinnä ilmoitus siitä ja samalla esittely
ryhmämme allekirjoituksesta.
--Nerds
****

(Names of the team members)	WE ARE	(Team members' e-mail addresses)
	GROUP NERDS, ACP TEAM HELBP	

****
PS. Ideoita ja ehdotuksia vastaanotetaan

At the end of their first e-mail message, TR used the coinage *Nortit* for their team name (Part C in SILL):

TR T (= first name of TR) **Norttien** puolesta

The discourse patterns and strategies used in both the e-mail and fax messages seemed to be similar. The most outstanding phenomenon was that the messages contained a number of common abbreviations and acronyms but also new coinages of abbreviations (Part C in SILL). This was a natural thing since on the screen and in the handbook acronyms were used for the different industries, as indicated above, and since abbreviations are commonly used in e-mail and fax-messages in general. In Louhiala-Salminen's study, a respondent called the fax language "fast food language" (Louhiala-Salminen 1995:84), which might be a good description of the nature of the discourse in this case too. Accordingly, the use of abbreviations and similar devices by the Nerds could be regarded as a written equivalent of the spoken short forms and coinages, such as *maks* or *Inc* or *ässä* or *massa* and many others, which were characteristic of the jargon that the Nerds used during their negotiations, as discussed above. The first two messages, which were very similar in tone and content, illustrate this:

E-mail message
Date: Tue, 24 Oct 1995 16:55:38 +0100 (GMT +0100)
Hello
Thank you for your **E-mail** and welcome to business Strategy! (*sic!*)
The name of our team is Nerds and it is divided in four groups.
Every group has its own **SBU**, from which it is responsible.
Your students **SBU** will be **MyRESTco**. Please send us the new name of your **SBU**, so that the **CEO** can update the information on the maindisk.
The **CEO** works here in **Helbp**, please report any changes of what so ever to him.
All information concerning this game can also be found from the **WWW**.
URL http://www.helbp.fi/uoksri/strategy.html
---Nerds

(Names of the four members)	WE ARE	(e-mail addresses)
	GROUP of NERDS ACP-TEAM HELBP	

Apparently the e-mail did not reach the Dutch partners since a handwritten fax message to the same effect was sent:

Fax No 1 (no date)

Thank you for your fax and welcome to business Strategy game! Our team name is Nerds which is divided in four groups. Every group has its own **SBU**. Your **SBU** is **MyCELLco**. So your business will be cellular telephones distributors. The **CEO** of our group works here in **Hel.bP**. So any changes should be reported to him.
All information concerning this game can be found from the **WWW**.
URL http://www.helbp.fi/~oksri/strategy.html
When you get your **E-mail codes**, please let us know **A.S.A.P.**
Our E-mail address is:
nerds@hemuli.helbp.fi
Best Regards,
Group of Nerds
TR (**CEO**) MP (**OM**) PaPo (**OM**) PePa (**OM**)

Compensation strategies were used in the above message in *your business will be cellular telephones distributors* instead of saying ... *you business will be being telephone distributors* or *your business will be telephone distribution* (Part C in SILL). The message was signed by all four team members, with the handwritten signatures not on the same line but written randomly, crosswise and diagonally. This seemed to add to the good spirit of the message and provide human touch at the very beginning (Part E in SILL). This strategy could also be taken to have been used to create good cooperation between the two partners (Part F in SILL).

Fax Number 2 contained more acronyms and abbreviations:

Hello N(= first initial of the Dutch CEO) and others,
Our group had its first meeting this morning. We founded a new **SBU** (**LODG**) and renamed it as Rooms. It supports our Beefking (**REST**) **SBU**. We also renamed our remaining **SBUs** as follows:

Old	New	
REST	Beefking	
VEND	**ACME inc.**	
HLTH	FitBody	
CELL	**?**	<----- (Rename it as you wish ...)
NEW SBU LODG	Rooms	

Our Investments:
1. creating a new **SBU** (**LODG**), cost: 90 000,-
2. We did some changes in the key figures in all of our **SBUs**

Beefking	Investment	Total
mass marketing		
focused promotion		
product developement		
quality control		
human resources		
Total investment		

ACME inc.
m.m.
f.p.

p.d.
q.c.
h.r.
FitBody
(followed by the same abbreviations as for ACME inc.)
My Cell....
Please, play the first round and fax us the decisons as soon as possible.
Notice also to predict a new sales revenue!!!

We will update the **CEO-disk** on monday afternoon and leave it in. So, the deadline for your answer is monday 30 **Oct.** 1995 at 12.00 **CET**. After investing our cash remaining is 83215, (- your investments).

You can check the situation from the **3W** on tuesday afternoon. Needed password and user **ID** are:
user's name (login): nerds
Don't use capital letters!!!
password: strate
Hope to year from **U** soon,
Finnish Nerds
c/o TR (full name)
PS. We will send you later the missing pages.

In the above messages the Nerds used the set acronyms and abbreviations commonly used in the manual and appearing on the diskette, such as *SBU* for *Sub Unit*, *CEO* for the *Chief Executive Officer*, *OM* for *Operational Manager*, and the abbreviations for the various industries, for instance *LODG* for the *Lodging Industry*. They also wrote *URL* and *WWW* for *World Wide Web*, *Oct.* for *October*, *CET* for *Central European Time*, *ID* for *Identity Code*, *c/o* for *care of*, and *PS.* for *postscript*. In addition to these, they used new coinages to communicate the meaning, apparently for the sake of brevity but also because they seemed to like them: *3W* for *WWW*, *U* instead of the word *you*, and the first initials for the different items to be budgeted for in the various industries (eg. *m.m* for *Mass Marketing*). In the latter case, they had used the full expressions first so that there was no possibility of misunderstanding. Especially these abbreviations used in writing could be seen to resemble their inventive spoken coinages, such as *massa*, *ässäri*, *proffa* and a number of others (Part C in SILL). The abbreviations *U* and *3W* could also be regarded as devices for reducing anxiety (Part E in SILL).

Using coined abbreviations could also refer to recombining familiar items in new ways, which, in terms of strategies, is part of using mental processes (Part B in SILL). According to O'Malley and Chamot (1990:198), the abbreviations could be regarded as a notetaking strategy: writing down key words and concepts in abbreviated verbal, graphic, or numerical form (Part C in SILL). The Nerds seemed to be resourceful at this.

The L2 of the above message was accurate except for the word *remaining* instead of *the remainder*. This was also a sign of using a compensation strategy (Part C in SILL).

In their later messages the Nerds also used 'smileys'. In e-mail messages, 'smileys' or combinations of characters to create a pictorial image as part of the written text are often used to make up for missing body language, such as facial expressions, appearance, personal distance, and other non-verbal clues present

in face-to-face conversation (Rogers and Allbritton 1995:180, Korhonen, *Helsingin Sanomat*, 23 February 1996:D1). They are used as a sign of empathy to create a good feeling, thus adding humour and positive reinforcement to the message (Part E in SILL). The following extracts contain a number of different kinds of abbreviations and 'smileys':

E-mail message from nerds Thu Nov 16 15:51:40 1995
Subject: Howdy partners :-)
To: jenius@dds.nl (name of the Dutch recipient)

Hi N (= first initial of the Dutch CEO)
I received your message today and typed the decisons for **Q5** on my disc.
The deadline for **Q6** is (again) thursday at 10.00 at **CET**.
Those **2** unassigned **SBU**:s are played by (name) and (name). The game just hasn't registered them as **OM** yet. By the way, did **U** download the information from the web or did you use the figures that I faxed **U** while making your decisions?
Hope to "hear" from **U** soon,
--(first name of the CEO)

In the above message, the abbreviations *Q5* and *Q6* stood for *Quarter 5* and *Quarter 6*, and the *U* for *you* was used three times. However, in the same sentence with two *U*'s, the full word *you* was also used (*By the way, did U download the information from the web or did you use the figures that I faxed U while making your decisions?)*. There was a 'smiley' after the informal greeting: *Howdy partners :-)*, to set the recipients in a good mood (Part E in SILL).

In the following message, a *U* and a 'smiley' were used at the end of the message, apparently to alleviate anxiety (Part E in SILL), as the team apologized for not having been able to inform the Hanzenerds earlier:

From:nerds@hemuli.slk.helbp.fi (ACP Team)
Subject: Time schedule...
To:jenius@dds.nl (name of the Dutch recipient)
Date: Thu, 30 Nov 1995 14:19:24 +0200 (GMT+0200)

Hi
Two rounds will be played each week starting on monday December 4th.
So, please send your decisions for the next round on monday and for the following round again on thursday. We wont be at school on wednesday, so I have to return the disket already on tuesday morning...

Sorry that I could not inform **U** earlier, but we also got the information yesterday **:)**

---CEO

The use of abbreviations, acronyms and 'smileys' thus denotes informal style.

Sometimes the Nerds seemed to mix formal and informal style in their messages. A good example of this is the third facsimile message sent by the Nerds to the Hanzenerds. The message consisted of altogether five pages: a typed cover page and four pages of Quarter Reports for Round 4. The cover

page was written in a mixture of both formal and informal style, as the following extract from the beginning of the message shows:

A typed fax message:
Date: November 13 1995

Hi "Nerds"

We received your fax on friday and **are hereby welcoming** the **3** new members to our group. **Sorry to hear that you have had difficulties** with your **E**-mail. **Hopefully things will be better in the near future...As soon as you get things runing, let us know by sending a simple E-mail message. Until that, fax seems to be the only solution to our communicational problems.**

The idea of creating the Maquilar **sbu** is excellent **'cause** it would support our Cell-companies. But as our cash amount is quite limited, **we simply cannot afford** to create it right now. **Our suggestion is that we should try to collect some money and create it when we have enough in cash. Any comments?**

The reason for the use of formal style in the first paragraph of the message may have been that the message was typewritten and had been laid out on the official facsimile cover sheet of HelBP. However, towards the end of the message more informal style was used:

I'll send you the schedule for the last seven rounds **some time during next week, but I suppose we're going to play 2 rounds/week** in December.

I'm including the information **U** asked for, **hope it will be usefull to U**...
By the way, the page number 40 that was missing from your manual is an empty one.

Greetings,

(handwritten signature of TR)
TR **CEO**

PS. Our group has its own **E**-mail address:
And the URL for the game is:

Moreover, as shown in Appendix 5, on the last page of the five-page message the style became highly informal; the Nerds had drawn a 'smiley' and written the message in long hand:

Make your decisions (**a smiley drawn in long hand**) for the round number **5** !

The 'smiley' portrayed the eyes, the nose, and a smiling mouth, and the exclamation mark at the end of the sentence was unusually big. Thus both the 'smiley' and the exclamation mark added good spirit and humour to the message (Part E in SILL). In addition, as compared with their first e-mail message, in which the Nerds had written a numeral expression in words (*The name of our team is Nerds and it is divided in four groups*), their general strategy in the third fax message seems to have been to use figures (ie.

notetaking strategies) for numerals and signs, eg. a stroke for *per(/)*, instead of words, as the extract shows:

... I suppose we're going to play 2 rounds/week in December.

Thus, the use of symbols, such as a 'smiley' and the use of figures and signs instead of words can be interpreted as the use of compensation strategies for communication purposes (Part C in SILL), used as social and affective strategies simultaneously (Part E and Part F in SILL). The informal *Hi "Nerds"* and *'cause* were also apparently used in the more formal discourse to create a good feeling (Part E in SILL).

The use of informal style with 'smileys' and abbreviations indicates that the Nerds were familiar with e-mail discourse, as had been pointed out by PePa during the interim meeting. The Nerds were like chatting with their partners through the computer. Their messages exemplified typical characteristics of e-mail writing, or 'e-chat', as Nantz and Drexel (1995:45-51) call it:

> E-mail experts have coined the phrase "e-chat" to describe the nature of many e-mail messages. The e-mail structures may include sentence fragments, abbreviated words, acronyms, symbols used to create emoticons, and parts of messages taken out of context as message sections are retained or deleted when responses are written. These devices are unacceptable in other types of business writing ... E-mail may actually blur the distinctions between business and personal correspondence .... Perhaps the wish to appear as an individual in a technology that supports a certain amount of anonymity and sameness causes writers to insert emoticons and personalized signature blocks, even in business correspondence. (Nantz and Drexel 1995:47.)

According to Nantz and Drexel, with e-mail messages, "message receivers tend to be more tolerant of idiosyncracies". Thus, e-chat is characterized by the use of compensation strategies and by affective strategies used to alleviate the anxiety of not knowing the interlocutor personally. This seemed to be the case with the Nerds too. The wish to make the messages more personal and to establish group spirit may have been further reasons besides using abbreviated words, acronyms, and emoticons as a shortcut for communication.

As pointed out by Nantz and Drexel above, the use of these strategies is connected to the style of e-mail messages, which are often quite informal in tone. Tella (1992 *Tempus* 6:4-7) regards e-mail writing as a genre between written and spoken communication, and according to Sutton (1995:3), "network communicating seems to be a sort of cross between formal correspondence and truckers' C.B. radio lingo". Sutton also discusses the underlying reason for the use of "emoticons" in this lingo:

> To indicate the tone of the message, e-mail writers often use "emoticons", symbols such as a happy-face :-) or sad-face :-(. Using these symbols makes up for the fact that written communication does not allow the tone of voice and other indicators available in telephone communiation to let the receiver know the sender's emotional frame of mind.

Perhaps because of the informal tone of their e-mail messages, the Nerds did not seem to monitor their L2 very carefully and thus there were a number of minor errors, such as wrong prepositions, omissions of the apostrophe, the use

of a small initial when a capital initial should have been used, misuse of the article, or some unidiomatic forms. However, these minor mistakes did not affect the content of the messages nor cause any misunderstandings, although they point at lack of monitoring or self-evaluation and give further evidence of the use of compensation strategies (Part C in SILL):

E-mail message of 24 October 1995:

The name of our team is Nerds and it is divided **in** four groups. (cf. into)
Every group has its own SBU, **from** which it is responsible. (cf. for)
Your **students** SBU will be ...(cf. students' - the Genitive in the Plural)
... please report any changes **of what so ever** to him. (cf. changes whatsoever)

All information concerning this game can also be found **from** the WWW. (cf. in)

E-mail message of November 13 1995:

As soon as you get things **runing**, let us know by sending a simple E-mail message. **Until that, fax** seems to be the only solution to our communicational problems.

Make your decisions (a smiley drawn in long hand) for **the** round 5 !

E-mail message of 30 November 1995:
on **monday** ... on **thursday** (cf. Monday ... Thursday)
We **wont** be at school on **wednesday,** so I have to return the **disket** already on **tuesday** morning... (cf. we won't ... Wednesday ... diskette or disk ... Tuesday)

However, in general, the L2 was monitored quite carefully (Part D in SILL) although some grammatical, orthographic, and syntactic mistakes appeared in the L2 (Part C in SILL), most likely because of the influence of the L1.

After the initial technical problems, the cooperation between the Finnish Nerds and the Hanzenerds seemed to be good in the light of their messages. As the two messages below show, the Dutch counterparts even used some Finnish in their messages. However, the slightly incorrect Finnish expressions, used for compensation (Part C in SILL), such as *Hyvä Huomenta* and *Moro! Mita kuulu? Taala on hyva!!!*, and the basic form of the word *Hollantilainen* instead of the Plural *Hollantilaiset* for *the Dutch* and in *Hollantilainen Nerds* would seem to indicate that the Dutch partners might have looked up the expressions in a dictionary or learnt them from someone who knew some Finnish, but had not apparently been taught them by their Finnish counterparts. Their using Finnish also added to successful cooperation (Part F in SILL) and helped alleviate the anxiety of the game (Part E in SILL). The use of several exclamation marks (*!!!*) could also be seen as representing a communication strategy and a social-affective strategy at the same time. Humour was also used in the messages (Part E in SILL), for instance, when the Dutch partners imitated or quoted formal phrases used in the Eurovision Song Contest: *Hereby we would like to present the Dutch part of the team to you ...* and *Hello Helsinki! This is Groningen calling! Here are the results of the Dutch jury*, or *Please, put thesè figures in the computer and hope for the best.* Thus, they used

formulaic expressions and elaboration, or their mental processes effectively (Part B in SILL). The two exclamation marks after the word *Kiitos!!* as well as their handwritten names and the picture of a heart also added to the general good feeling and humour of the first message (Part E in SILL). These could be taken to represent the written form imagery, similar to the use of gestures in speech, for the sake of communicating or reinforcing the verbal message (Part C in SILL), as indicated by Item 46 in the SILL 5.1 (When I cannot think of the correct expression to say or write, I find a different way to express the idea, for example, I use a synonym or describe the idea):

TO : Finnish Nerds
FROM : **Hollantilainen**
DATE : October 29
SUBJECT : Strategy! (*sic!*)

Hyvä Huomenta,
Mitä kuulu?
Hereby we would like to present the Dutch part of the team to you...

Kiitos!!

(the handwritten first names of the three Dutch members appear on the fax, with a heart drawn under the name of the CEO).

The second message read, as follows:

From: @FE.HANZE.NL@hmail.fe.hanze.nl
Date: Mon, 04 Dec 95 09:54:23 -800
To: TR@hemuli.helbp.fi
Subject: Strategy round 8 (*sic!*)

Moro! Mita kuulu? Taala on hyva!!!
In the previous round we created a new SBU, but now we can't
find it anywhere. Apparently something went wrong...
Please, create SBU "MOTA" for the MAQUILADORES and let us kow.
Hello Helsinki! This is Groningen calling! Here are the results
of the Dutch jury:
SR
COG
GM
MM
FP
PD
QC
HR

Please, put these figures in the computer and hope for the best.
Kiitos,
Hollantilainen Nerds

What had been said by PaPo at the interim meeting about the Dutch partners speaking *good ... nice English* could also be taken as confirmed by the above two messages. Fax No 3 sent by the Finnish Nerds, as discussed above, also confirms the use of positive reinforcing to reduce the anxiety of the missing e-

mail facilities and to improve cooperation as the prime strategies that the team had adopted in their communication with the Dutch partners.

To conclude the discussion of results from the above findings, it must be remembered that before the game started, the Nerds' CEO, who wrote most of the e-mail and fax messages for the Finnish team, as evidenced by the signatures, had not written many such messages in English before the game, as came out at the interim meeting. He said that he had learnt writing in the L2 through the e-mail and fax messages. PePa pointed out that he had exchanged e-mail messages in English regularly. It is not known whether TR wrote the messages by himself or with other team members, but the L2 in the messages was fluent and relatively accurate, as illustrated above. In line with the general characteristics of e-mail discourse, as discussed above, abbreviations, acronyms, emoticons, and notetaking strategies were used effectively. Therefore, it could be concluded that the Finnish Nerds' transferred their previous knowledge of the L2 into writing fax and e-mail discourse and thus used elaboration (Part B in SILL) to learn the L2. The L2 strategies used were mainly using mental processes (Part B in SILL), compensation strategies (Part C in SILL), and affective strategies (Part E in SILL), which were used to reduce the anxiety and to cooperate effectively with the foreign partners (Part F in SILL). The use of compensation strategies was also evidenced by some lack of monitoring the L2. The Dutch partners used similar strategies, with the addition of language changeover into Finnish to lower the anxiety.

Furthermore, there was also an e-mail message in the L1 sent by the Nerds to the other teams' CEOs during Round 6 telling them that the Nerds were willing to sell their VEND and exchange it for either CELL, MAQU, or GROSS. Thus it gave more information about the Nerds' risk-taking strategies related to buying the German and the Spanish SBUs:

From: nerds (ACP Team)
Subject: Strategy!! (*sic!*) Ehdotus...
To: 940597 (= another CEO)
Date: Thu, 30 Nov 1995 12:58:23 +0200 (GMT+0200)

Moi

Ryhmämme olisi halukas myymään tai vaihtamaan VEND:n.

Vaihdossa voisimme ottaa joko CELL:n, MAGU:n tai GROSS:n olemme valmiita maksamaan sopivan välirahan.

Jos kauppa sopii niin ottakaa yhteyttä
TR:aan joko E-maililla (osoite alla), tai soittamalla numeroon (mobile phone number).

KIIRE !!!!!!!!!!

Nerds

The message confirms earlier findings about the Nerds' risk-taking strategies: the risk-avoiding strategies were changed to risk-taking ones during Round 6. This affected their L2 strategies as well because the team were now prepared to take the risk of having to tackle the German and Spanish as L2.

Thus, the e-mail and fax messages revealed that the team used compensation strategies (Part C in SILL) in the form of acronyms, abbreviations, and emoticons to convey their message. These, in a way, seemed to represent the written register of their 'antilanguage'. Humour (Part E) and cooperation (Part F) were used successfully to establish a connection with the foreign partners and to solve any problems. The Hanzenerds also used compensation strategies (Part C in SILL) when they used Finnish formulaic expressions in their messages for the sake of humour and cooperation. The informal style, with some lack of monitoring, was used to the same effect.

5.2.7 Strategies revealed by the final evaluation form

Three Finnish team members (PePa, TR and PaPo) returned the final evaluation form. The six Hanzenerds returned a joint evaluation form with their answers. In addition, they sent a copy of their report on *Strategy!* submitted to their institute. Since the questions were mainly related to the overall learning experience of the business game, few answers on the final evaluation form revealed anything about the L2 strategies used. However, to help understand how the team had experienced the game from the point of view of the foreign dimension related to the use of the L2, relevant parts were looked at.

The first question concerned how the learners had experienced the learning experience as such; thus the question was related to their overall motivation:

1 Describe *Strategy!* in one word!

Aggressive (PePa)
Great (TR)
Challenging (PaPo)
Fun (Hanzenerds)

The replies would seem to indicate that the Nerds were motivated by the game.

The second question tried to probe into what the students had learnt through the game:

2 What did you learn throught *Strategy!*?

Use your brains and adrenalin while doing business (PePa)
To think before doing. **Some vocabulary**. (TR)
Different kind of business strategies like for instance expand, cut the costs and etc. (PaPo)
We are fourth year students and for us the level of the game was more for second year students. Duet to this we did not gain new business skills. **However, we learned to work with Internet (e-mail).** (The Hanzenerds)

As for the L2, TR was aware that he had learnt some vocabulary, and the Hanzenerds had learnt to communicate via e-mail. Thus the learners were aware of the language learning opportunities (Part D in SILL).

As compared to the other courses offered by HelBP, the three Finnish members ranked the game as follows (5 is the best):

3 How would you rank *Strategy!* (from 1 to 5) among any other courses offered by HelBP? Give reasons.

5 (PePa)
4, too long, different than the other courses, nice change (TR)
5 Because the game was very challenging and it was also **nice change** to ordinary school work 3 to structure of the game (PaPo)

It seems that the game provided a different learning context from the usual, which added to the motivation of the players. As for L2 strategies revealed, PaPo failed to monitor his production in *nice change* instead of *a nice change* and used a compensation strategy (Part C in SILL). For the Hanzenerds the question was irrelevant:

It is impossible for us to answer this question since we did not follow other courses offered by HelBP. (Hanzenerds)

The previous findings related to the successful cooperation within the team (Part F in SILL) were confirmed by the responses on the final evaluation form:

5a What were your experiences of playing the game as a team?

worked fine (PePa),
The team worked quite well, although there were some problems with our foreign partners (communication) (TR)
We have a quite good team work (PaPo)
Well, as you know we had one SBU for six persons to handle, this was a bit too much and therefore we divided into teams of **3 persons** and switched every week to do the decision making. We suggest that one SBU can be run by **2 to 3 persons** at the maximum and this helps to **get discussions** about decisions to be made. (Hanzenerds)

The Hanzenerds criticized the large size of their team as detrimental to cooperation. In terms of L2 strategies, their answer showed the use of compensation strategies when they used numeric expressions instead of the words *two* and *three* and said *get discussions* instead of *carry on discussions* (Part C in SILL). PaPo also used a compensation strategy (Part C in SILL) in *a quite good team work* instead of *quite good team work.*

When asked what their teamwork would be like if transferred to real-life situations, the players believed that it would be successful. The Finnish members' answers show cooperation (Part F in SILL) and self-esteem (Part E in SILL):

5b How do you think your team would manage in similar real-life situations? Give reasons.

We would do great! We are so good (PePa)
Quite well, I suppose. We were trying to think during the game that this isn't just a game, but rather real life. (TR)
I think we would manage just great (PaPo)
No, it should be smaller and more organized. (Hanzenerds)

The Hanzenerds, on the other hand, criticized the opportunities for cooperation because of their team's large size. Thus, they were aware of lack of opportunities for learning (Part D in SILL).

As for the foreign experience, the team felt as follows:

6a How did you experience the foreign dimension during the game? Give reasons?

Worked fine when E-mail worked (PePa)
Interesting, but hard to handle, because problems with E-mail etc. (TR)
At the beginning we **have some problem**, but after **a few round** our cooperation with our foreign partners went very well. (PaPo)
We had weekly contact with our Finnish team members by means of e-mail. In addition the game was played in the global market. (Hanzenerds)

The players seemed satisfied with the foreign dimension but were frustrated with the technical problems at the beginning. PaPo used the Present Tense *we have* instead of the Past Tense *we had*, *some problem* instead of *some problems*, and *a few round* instead of *a few rounds*. Thus, he used compensation strategies (Part C in SILL).

When asked how they had solved any problems related to the foreign partners, the Nerds confirmed that they had used the fax. In terms of the L2, this could be regarded as a successful way of organizing their learning (Part D in SILL):

6b What problems did you encounter because of it? How did you solve them?

No E-mail, no messages. Yes E-mail, yes messages (PePa) (humour)
by using fax. (TR)
We have a little bit e-mail problems but we communicate by fax (PaPo)
The computer network at out school did not work too well, which caused problems in communicating with our Finnish team members. **They made the decisions for when communication was impossible.** (Hanzenerds)

Furthermore, the Hanzenerds' reply indicated that the two partner teams cooperated effectively during the game (Part F in SILL). In addition, PePa's answer shows the use of compensation strategies (Part C in SILL), ie. the use of short expressions instead of full sentences, and humour (Part E in SILL). He also used the Present Tense forms *have* and *communicate* instead of the Past Tense forms *had* and *communicated*, ie. compensation strategies (Part C in SILL). Similarly, the Hanzenerds used compensation strategies: the preposition *for* was superfluous in the last sentence.

When asked about the cultural impact of the foreign dimension, the replies showed some cultural gains:

6c What did you gain culturally from the foreign dimension?

Nothing, they (= the Dutch) are culturally so close to us (PePa)
It's good to get to know people from different countries and cultures. (TR)
They were more carefully in their decisions than us (PaPo)
We feel more related to Finland now and are becoming more interested in your country. (Hanzenerds)

TR and the Hanzenerds seemed to have acquired cultural awareness, also related to the L2 (Part D in SILL). The reason for this could be that it was TR as the CEO who was mainly in touch with the foreign partners. Moreover, the foreign dimension had an impact on the motivation of the Dutch students to get to know the Finnish culture. They obviously learnt some Finnish expressions, which they used in their e-mail messages. Furthermore, PaPo had also noticed a cultural difference in terms of the partners making business decisions, so he was aware of cultural differences in this respect. In addition, another cultural difference related to the L2 was revealed by the feedback sent by the Hanzenerds to the Finnish administrators by fax:

Fax message from the Hanzenerds / The Strategy! (*sic!*) Experience

We used the diskette to budget, and e-mailed our decisions to our Finnish partners. This means of communication worked rather well, **except that we did not know if they received our e-mail, they never responded to our questions about that.**

The message showed that after the Dutch partners' e-mail connection began to work, they expected their Finnish partners to acknowledge receipt of their message, which was not done. Thus the Finnish Nerds failed to monitor the situation and used a reduction oriented strategy (Part C in SILL). On the whole, however, the Hanzenerds confirmed that no language or cultural problems were encountered:

What have been the pluses of the cooperation and what would be your suggestions for the future?

We did not encounter any language, cultural problems. We thought that it was very nice of our team to back us up when we did not have assess to our computer network at the Hanzehogeschool, hogeschool van Groningen. We hope in future our network will function better. Maybe some extra feedback, how the game is going in Helsinki, could have been given by the Finnish team and teachers.

When asked for further suggestions for administering the game (Question 9 on the final evaluation form), the Finnish team members replied:

The game should be developed, eg. the buying is too difficult (TR)
Maybe the game should have other business elements like for example securities, bonds and maybe shares from other teams companies (PaPo)
none (Hanzenerds)

No improvements concerning the role of the L2 were suggested.

At the end of his evaluation form, TR had added some general feedback on the course:

Thanks for organizing such an interesting course! (TR)

This was further evidence of his strong motivation to learn (Part D in SILL).

To conclude, as for L2 strategies, the final evaluation form confirmed that the Nerds found the learning context motivating and had learnt some vocabulary and e-mail writing. Both the Finnish Nerds and the Hanzenerds felt that they gained culturally from the experience. The only cultural problem that

was mentioned was that the Finnish Nerds failed to acknowledge the Hanzenerds' first message, which shows some unawareness of cultural aspects or lack of monitoring on the part of the Finnish Nerds (Part C in SILL). Other than that, both teams cooperated well (Part F in SILL). As for the L2 used to report on the experience on the evaluation form, both partners used a number of compensation strategies (Part C in SILL) to overcome linguistic problems.

5.2.8 Strategies revealed by the final evaluation session

During the final evaluation session, three of the Nerds, TR, PaPo and PePa were present. The opening lines contained humor reflecting the self-esteem of the team members (Part E in SILL) despite the negative outcome of the game for them. These lines also show cooperation (Part F in SILL):

TR	I was the CEO of the team Nerds ... **I suppose you could call me Head Nerd or Master Nerd. My team members are ...**
PePa	**We're the minor Nerds**

Humour was also used to reduce tension during the actual analysis of the game (*it would have been nice for five rounds*). The team also used reasoning and elaboration (Part B in SILL):

AL	Your comments about the game?
TR	**Too long**
AL	too long ...
PePa	**it would have been nice for five rounds** (laughter)
AL	and we understand your suggestion
PaPo	... **and maybe could be ... updated ... some equipment or ... it has very good basic but it could be ... for about securities ...**
PePa	**more human touch ... instead computer**
TR	**some ... too difficult actions to make for instance selling or buying an SBU they were difficult to handle**
AL	but you were good at that ...
TR	**actually we were ... we were not ... you can see the result** (laughter)

The concept of *the human touch* was brought up again by PePa, like at the interim meeting. He also used a compensation strategy when he said *instead computer* for *instead of the computer* (Part C in SILL). PaPo used circumscribing and a compensation strategy (*it has very good basic*) instead of saying *it has very good basics* (Part C in SILL). TR used repetition (*we were ... we were not*), when trying to formulate his message.

When asked to tell about their business strategy for the game, the Nerds answered:

AL	You were winning for six rounds. How did you do that?
PaPo	We find out that maybe the best way to play this game is at first you have to expand your industries **as much that** you get **a very big turnover volume or what is it** ... and after that you should **er er cut the costs** ... but ... we **have** rounds six or seven (looking at the other team members for verification) when we made some bad transactions or ... (smiling)
PePa	getting boring ...(smiling) so we decided to **make business** and try something new but ... well it
TR	and the result is as it ...

PePa	but then we tried again and again and again and
AL	so you started taking risks
PePa	ya
PaPo	then we had to cut the costs
TR	**but actually we were quite lucky ... the second round which was actually the one we first budgeted we didn't know where to look for the EnvironScan reports ... so actually they were in the manual but we didn't know where to get the codes for these ... so we heavily invested and ... luckily we were leading after the first round or actually the second round** (all laughing)

The above extract confirmed the earlier findigs that the Nerds had failed to monitor the learning situation in the beginning. The fact that they had changed their business strategies to improve their motivation was also reconfirmed. As for L2 strategies revealed by the above extract, PePa asked for verification (Part F in SILL) as he said; *a very big turnover volume or what is it.* TR used elaboration (Part B in SILL) when he used the word *lucky* in two different ways: *but actually we were quite lucky... so we heavily invested ... luckily we were leading.* PaPo and PePa also showed some lack of self-monitoring (Part C in SILL). They did not check their production while it took place: PaPo said *we find out* instead of *we found out, as much that* instead of *so that* or *so much that*, and PePa said *make business* instead of *do business.* The mother tongue may have influenced the last two expressions (Part C in SILL).

After the final evaluation session, to prove their strong intrinsic motivation for the business game, TR and PaPo volunteered to act as tutors for the coming round of the game. Thus they were prepared to deepen their own learning process and transfer the new skills and knowledge acquired to a new similar situation. This could be interpreted as efficient self-evaluation of their learning in the way of finding new practice opportunities for themselves (Part D in SILL). The new game would also provide new opportunities for them to use the L2.

To conclude, during the final evaluation session, elaboration (Part B in SILL) and compensation strategies (Part C in SILL) were used by the Nerds in producing the L2. To control negative feelings, they used humour (Part E) and cooperation (Part F). Two of the Nerds (TR and PaPo) also showed effective strategies for organizing new learning opportunities (Part D in SILL) when they volunteered to act as tutors for future players. Thus, it could be said that TR and PaPo had become more autonomous learners as a result of their learning experience.

5.2.9 Conclusions of L2 strategies used by the Nerds .

(1) What kinds of L2 problems did learners encounter during the business game?

The Nerds reported on two explicit L2 problems only (*depreciation* and *glut*) in their log-book and during the audio recorded discussions As for their communication with their foreign partners, at the interim meeting the Finnish Nerds reported on having had no problems (*they speak good ... nice English*). This could be taken to indicate that the Nerds' general L2 proficiency was

sufficient to play the game and that their L2 strategies were automatized. Thus, the findings were similar to those of Mr Spock.

However, during the interim discussion it came out that the Nerds had had problems with the Mexican and German EnviroScan reports, ie. with Spanish and German as L2. This was also evidenced by the audio recorded data from the decision-making discussions. As for Spanish as L2, the Nerds adopted risk-avoiding strategies during the first half of the game, as revealed at the interim meeting: *We haven't played it!*. Later, however, they adopted risk-taking strategies when they decided to play the Mexican SBU. As to what L2 strategies they used was not revealed by the data. To solve the problems related to German as the L2, the team resorted to cooperation with more proficient speakers in the team, and thus used social strategies.

Another problem mentioned explicitly by the team at the interim and final evaluation meetings was that they had failed to monitor the overall learning situation in that they were not aware of the existence of the EnviroScan reports in the manual before the first round of the game. However, this was more related to the general monitoring of the game than to monitoring the L2.

Implicitly, there was evidence of a number of L2 problems in the data. For instance, the reading and understanding of the manual in the L2 (both in English and in German) presented problems for the Nerds in terms of the pronunciaton and the syntax of the L2. In this respect, the findings were similar to those of Mr Spock. Keeping the log-book also provided some orthographic, syntactic and lexical problems. Moreover, the feedback from the Dutch partners indicated that the Finnish Nerds did not acknowledge their foreign partners' first message, as was expected by the Dutch members. This showed some cultural unawareness. However, inspite of the initial communication problem and some technical problems with the e-mail, the communication between the two partners proceeded well.

As for metacognition, the Nerds had some problems with monitoring the production of L2. In general, however, the Finnish and the Dutch Nerds' proficiency seemed to be adequate for the requirements of the business game.

(2) How did the learners cope with L2 problems? In other words, what different means, ie. strategies, did they use to solve L2 problems?

(a) Metacognitive strategies

The Nerds' metacognitive strategies could have been improved. The Nerds failed to read through part of the manual before the first round of the game was played. Mr Spock went through the manual and proceeded more carefully. Thus there was a difference in the advance organization of the learning material in favour of the winning team. The Nerds also had some scheduling problems as a team, but they solved them successfully by using social strategies.

As for self-evaluation, although the Nerds' general proficiency seemed to be good, they occasionally failed to monitor their L2 and correct their errors. The Nerds had some syntactic problems with the L2 word order (*how much... that cost*), the use of the article (*a positive effects*), prepositions (*discuss about, invest to*), verbal forms (*found* pro *founded*), and the concord (*there are some team which are losing their game already*). They also had problems with the

lexis (*raise* pro *rise*) and with pronunciation (*steadily [sti:dili].* On the whole, however, the team felt that there was no need to correct each other's L2 as long as it communicated. Thus, the focus of their learning was not on the L2 but on playing the business game. There seemed to be differences between the individual players, however, in this respect. TR monitored his speech more carefully than the others (for instance, *pro cent ... per cent*) and he also corrected other team members' L2 production. This may have been partially because of his role as the CEO of the team and because of his awareness of the research focus. He also seemed to be more aware of the learning opportunities provided by the L2 than the other team members.

(b) Cognitive strategies

The explicit cognitive strategy used to solve both explicit L2 problems, *depreciation* and *glut*, was resourcing or using a dictionary, as revealed by the log-book and the interim discussion. However, the audio recording and the interim discussion revealed that a number of other L2 strategies were used too, besides the explicit strategy. For instance, in the case of *glut*, the team used other cognitive strategies, such as repetition, inferencing, translation, and elaboration. They also used the L2 by switching to L1 spelling, or used a communication strategy. Furthermore, they helped each other, or used a social strategy, to make out the meaning of *glut* in the context. By using a wide variety of L2 strategies, the Nerds finally were able to solve the L2 problem successfully. Thus, the solution of *glut* resembled that of *piski* by Mr Spock, in the sense that a number of different L2 strategies were used to solve the L2 problem. To compare, in a study carried out with a 1,200 university sample using the 121-item SILL, learners who were more proficient and more motivated consistently reported on the SILL that they used a wider range of strategies and used them more frequently than did students who were less proficient and less motivated (Nyikos and Oxford 1987, Oxford and Nyikos 1987, Oxford et al. 1987 as quoted by Oxford 1990:255). Another study with approximately 80 adults also showed that the more highly skilled linguists reported more intense and wide-ranging strategy use than less-skilled linguists (Ehrman and Oxford 1989 and Oxford and Ehrman 1989 as quoted by Oxford 1990:255). Therefore, like with Mr Spock, the findings about the Nerds would seem to indicate that they were "more highly skilled linguists" rather than "less-skilled linguists". O'Malley and Chamot (1990:128) also discovered as a result of their descriptive study (see p.39) that "more effective students used learning strategies more often and had a wider repertoire of learning strategies than did less effective students". Thus, on the basis of the findings of this study, the two teams of learners could also be regarded as effective language learners.

The Nerds seemed to use especially compensation or communication strategies to overcome L2 difficulties. Both verbal and non-linguistic communication strategies were used. A non-linguistic L2 strategy used was the use of imagery, or gestures, for communication purposes. Besides the fact that both TR and PePa seemed to use imagery as a communication strategy, as in the case when PePa whistled and showed with his hand that their ranking went straight up, or when TR drew the quotation marks in the air when he said *more "uninteresting"*, PePa also used imagery as a memory strategy to recall and

show the meaning of the word *depreciation*. Mr Spock had also used imagery for communication purposes. In the Nerds' e-mail and fax messages, drawings and 'smileys' were used similarly to convey the informality of e-mail discourse (Nantz and Drexel 1995:45-51) and to make up for the missing of body language in written messages (Rogers and Allbritton 1995:180).

As for verbal communication strategies, a special characteristic of the Nerds' way of coping with the key L2 business concepts of the game was to create their own jargon or 'antilanguage' (Halliday 1984), which they used during their decision-making meetings in the L1, as evidenced by the audio recorded discussions. The 'antilanguage' had characteristics of both the L2 and L1, and thus represented what Halliday (1984:165) calls 'partial relexicalization'. The L2 terms were often used as such (*asset value, profit*) or with the Finnish syntax or pronunciation (for example, *productivityy*, with both L2 and L1 pronunciation of the word *productivity*). Besides using changeovers and linguistic transfers, the Nerds also coined new humorous expressions resembling the original L2 terms, for instance *ässä* or *ässäri* for *asset value*, *proffa* for *profits*, *massa* for *mass marketing*, and *fokus* for *focused marketing*. The coinages befitted the L1 sound system. Translations for the same L2 business terms were also used (*massamarkkinointi* for *mass marketing* and *myyntikate* for *gross margin*). In compounds, the first part could be an L2 term and the second part a translation into the L1 (*total menot*). For the different industries of the game, the Nerds coined their own L1 terms resembling the original L2 expressions, such as *Vendari* for *the Vending Machine Industry*, *Magu* for the Mexican *MAQU* or *the Maquiladoras Industry*, and *Grossi* or *Groshandler* or *D3 erman Groshandel* for *the German Grosshandlers*. Especially PaPo invented several coinages for *the German Grosshandlers*, apparently because he did not know German. It seems that the coinages were also used as social-affective L2 strategies to cope with the anxiety of the game and to keep up the team spirit (for example, *roffitit* for *profit, Dzermanni*). This seemed to be the case especially after Round 6. The changeovers also included formulaic L2 expressions or contaminations, such as *Vielen Dank!, need a break,* and *no [nɔu]haju*, used to a special effect to draw the others' attention to the speaker or for the sake of humour, and some colloquial L1 'antilanguage' forms for standard business terms (*fyge, paalu,* and *fläbä*). Occasionally an L1 expression (*nii, ei olla täällä, Nettiluokka*) was also used in between the L2 by mistake or as a social-affective strategy. Similarly, the Dutch partners switched over to Finnish (*Hyvä Huomenta* and *Moro! Mita kuulu? Taala on hyva!!!*) as a social affective strategy. The use of exclamation marks (!!!) could also be interpreted as a communication strategy and as a social-affective strategy simultaneously. Thus, in the e-mail and fax messages, the idiosyncracies of the "e-chat" (Nantz and Drexel 1995:45-51), such as the use of abbreviations, acronyms, emoticons, exclamations, and drawings seemed to be the written equivalent of the Nerds' informal jargon, used for communication and social-affective purposes.

The development of their own 'antilanguage' or jargon as the language of the game was an indication of the Nerds' active involvement in the game. It was also a sign of their good motivation to learn, inspite of some difficulties. It seems that the key L2 concepts of the game became internalized and elaborated

on and that the Nerds' linguistic communication strategies became highly automatized as the game proceeded.

To understand the English parts of the manual, especially PaPo used repetition to make out the meaning of an unknown word. However, repetition usually proved an unsuccessful L2 strategy. In such a case, TR usually helped PaPo by skimming through the text and inferring the meaning.

(c) Social-affective strategies

As evidenced by the different kinds of data, the Nerds used cooperation as a social L2 strategy throughout the game but especially when going through the manual both in English and in German. In German, the team relied on TR since he knew the language best. MP helped him. Together they worked out the German EnviroScans. As for the English parts, PaPo usually did the reading and TR and the other team members helped make out the meaning. The CEO played the game as an equal member with the other team members, although he had the ultimate responsibility. Therefore, he helped the others with their L2 too, if necessary. The Dutch partners also confirmed the use of cooperation as a general strategy and even used some Finnish to this effect.

In view of affective strategies, similarly to Mr Spock, the Nerds used self-talk and humour successfully to alleviate the anxiety of learning (*the Nerd herd is back!*). The coinages and changeovers also served this purpose. Especially towards the end of the game, the Nerds used affective strategies to cope with their risk-taking (*mä pistän toho että riski [dzermuns grosshandl]*).

In all, a wide range of metacognitive, cognitive, and social-affective L2 strategies were used together successfully by the Nerds. The Nerds also resorted a great deal to the use of communication strategies, as evidenced by all the data available.

(3) What was the impact of L2 strategies on the success in the game?

As for what may have decided the Nerds' No 5 ranking in the end, it could have been the change in their risk-taking strategies halfway throughout the game. To keep up their motivation for learning, the Nerds changed their strategies by adopting greater risks than before. Their risk-taking also meant taking risks in the L2, for they had to cope with Spanish and German as the L2, which they were not very confident in. The decision to avoid playing the Mexican and German SBUs in the beginning could be regarded as a wise L2 strategy. However, on the basis of the evidence, when faced with German as L2, the team's second language strategies were successful although their business strategies failed. Thus, there does not seem to be any link between the second language strategies and the outcome of the game. The only evidence of an interconnection between the two could be drawn from Round 9 showing that the Nerds' risk-taking strategies were reflected on the use of the language; the Nerds seemed to use even more changeovers and coinages and monitor their L2 less than during earlier rounds. Thus, it was rather the proceedings of the game that had an effect on the L2 than vice versa. The L2 of the game was not a problem, as stated explicitly by the team.

Inspite of the less satisfactory final result in the game, two of the Nerds, TR and PaPo, felt confident enough about their learning experience when they expressed their wish to become tutors during a possible future game. This also meant that they would have to use the L2 related to the game. Thus it shows the use of metacognitive strategies, for the two team members created new opportunities for themselves to learn both business strategies and the L2 as tutors. Therefore, it can be concluded that the two Nerds moved towards greater autonomy in their learning. The Nerds' lack of success in the game seemed to prompt them to continue the learning process.

6 CONCLUSION

6.1 The use of second language strategies

This study was aimed at finding an answer to the following:

> How did Finnish business polytechnic students cope with the L2 of a business game played autonomously by teams of students? In other words, what second language strategies did they use during the game and how successfully?

The main research questions were formulated as follows in chapter 3:

(1) What kinds of L2 problems did learners encounter during the business game?
(2) How did the learners cope with L2 problems? In other words, what different means, ie. strategies, did they use to solve L2 problems?
(3) What was the impact of L2 strategies on the success in the game?

To answer the research questions, the multiple data provided by the two teams, Mr Spock and the Nerds, were analyzed mainly by using the SILL 5.1 strategy inventory by Oxford (1990:283-291), complemented by the classification by O'Malley and Chamot (1990:198-199) into metacognitive, cognitive, and social and affective strategies. To draw the final conclusions, the latter classification was used as the main frame of reference. However, when discussing communication or compensation strategies, reference is made to the Faerch and Kasper (1983:52-53) classification. The reason for this is that communication strategies are not well illustrated in the O'Malley and Chamot classification because it focuses on language learning strategies. Illustrative examples from the data of both teams are given in parentheses. However, as for comparison of the results of the two teams, it must be borne in mind that the teams provided different kinds and different amounts of data to be analyzed, and therefore, no exact comparisons between the two teams could be made quantitatively. Rather, the aim was to find trends in the two teams' use of L2 strategies, with possible similarities and differences, and to discuss the findings in the light of earlier strategies research. Furthermore, it must be noted that the Dutch Nerds (Hanzenerds) were not part of this study, except on the part of their e-mail and fax messages sent to the Finnish Nerds, as discussed in chapter 5.2.6.

The findings of the background questionnaire revealed that both teams (Mr Spock and the Nerds, ie. the Finnish Nerds) had similar students, as far as their proficiency in the L2 and their motivation to learn the L2 were concerned. All three students of Mr Spock returned the questionnaire, and three of the four Finnish Nerds returned it completed. All had Finnish as their L1. Mr Spock had studied an average number of 9 years of English as L2, with a range of 5-11 years between individual students, and the Nerds had studied an average of 9.3 years of English as L2, with a range of 6-11 years between individual students. According to the learners' own estimate, Mr Spock's overall proficiency of English ranged from fair to good, and as compared with the proficiency of native L1 speakers, from fair to good. The Nerds' estimate of their overall proficiency in English as L2 ranged from good to excellent, and as compared with native L1 speakers they regarded their proficiency to be good. All students had an intrinsic motivation to learn English. Besides English as L2, the three members of Mr Spock had studied Swedish, German, Spanish and French as L2, and the three Nerds had studied Swedish, German, French, and Japanese as L2. Thus, it can be concluded that the students of the two teams represented a homogeneous group of intermediate/advanced level L2 learners, with no major differences between the two groups in either proficiency level or motivation to learn the L2. The only difference was that Mr Spock had a member who knew some Spanish.

In terms of their range of the use of language learning strategies in general, the SILL 5.1 profiles provided by three students of Mr Spock and two students of the Nerds indicated that their team profiles were very similar. Because only two Nerds members returned the SILL, the scores of the two teams are not fully comparable. Both teams fell into the medium range of overall language learning strategy use, indicating that they sometimes used language learning strategies. Mr Spock had a slightly higher overall score (3.23) than the Nerds (3.0). Mr Spock had the highest sub-score (3.7) for Part C (Compensation), and the Nerds for Part C (Compensation, 3.2) and Part B (Using Your Mental Processes 3.2). This indicated that both teams sometimes used compensation or communication strategies. The individual student scores and sub-scores were made use of in the analysis of the data to help explain why a certain strategy was perhaps used by an individual in a certain situation. Often, however, there seemed to be a contradiction between the findings from the SILL and the actual strategy use revealed by the other data. For instance, IK seemed to favour elaboration, inferencing, and other reasoning strategies although his SILL score for Part B was relatively low (2.8), meaning that he sometimes used reasoning strategies. Thus, the SILL seemed to provide a rough estimate by the learner of his/her strategy use, which needed to be tested against the findings from the other data. One reason why the SILL did not always give a reliable picture of the learner's strategies may have been that there was no time to go through the form before the learners filled in the SILL by themselves. Therefore, the items in the instrument may have been interpreted differently by different individuals. Another reason could be that the SILL provides a picture of the learner's strategies in different kinds of language learning situations in general, while the other data could reveal a more detailed picture of strategy use in individual situations, ie. in a context.

On the basis of the speech data and the findings from the log-books, questionnaires, e-mail and fax-messages, the following conclusions could be made to answer the three research questions:

(1) Explicitly, both teams reported on having had very few L2 problems. As evidenced by the log-books, Mr Spock had met with three L2 problems (*piski, pool sales, some probs with enviroScan reports*) and the Nerds with one (*depreciation*). In addition, the speech data revealed that the Nerds were aware of encountering one more explicit L2 problem during a decision-making discussion (*glut*). In addition, some L2 problems related to the German and Spanish parts of the manual were reported on by both teams at the interim meeting. Both teams reported that they had not learnt much L2 during the game, except for "some useful words in business English" and fluency in the L2. In addition, the Nerds' CEO mentioned having learnt writing in the L2, when communicating with their foreign partners via e-mail and fax. Thus, the learners found the L2 of the game easy, as was stated explicitly by both teams. Implicitly, however, the data revealed a great number of L2 problems related to the use of L2 during the game.

(2) In general, the L2 problems were solved successfully by both teams using a wide range of strategies, often combined to solve a single L2 problem.

The L2 strategies used by the two teams to solve the explicit L2 problems were translation (Mr Spock: *piski = doggy?*), elaboration (Mr Spock: *pool sales? we don't think it means selling billiard tables*; Nerds: *human touch*), and resourcing, or using a dictionary (Mr Spock: *some probs with enviroScan reports but dictionary helped out*, and *once I looked one word in Spanish*; Nerds: in the case of *depreciation* and *glut*). Resourcing, translation and elaboration are cognitive strategies, according to O'Malley and Chamot (1990:198-199).

Implicitly, the data revealed that both teams used a wide range of cognitive, metacognitive and social-affective strategies to solve different kinds of L2 problems, as discussed above. Especially cooperation was resorted to, which seemed natural in this kind of learning context in which the learners acted as teams. Based on the findings of a somewhat similar descriptive study by O'Malley and Chamot (1990:127-128), as discussed in chapter 2.7, using a wide range of strategies would seem to be an indication of the learners' higher proficiency level in the L2. The results of the O'Malley and Chamot descriptive study (see p.39) also indicated that students at higher levels used more strategies than did beginning level students. Moreover, more effective students used learning strategies more often and had a wider repertoire of learning strategies than did less effective students. Similarly, in a study carried out by Nyikos and Oxford (1987 as quoted by Oxford 1990:255), Oxford and Nyikos (1987 as quoted by Oxford 1990:255), and Oxford et al. (1987 as quoted by Oxford 1990:255) with a 1,200 university sample using the 121-item SILL, learners who were more proficient and more motivated consistently reported on the SILL that they used a wider range of strategies and used them more frequently than did students who were less proficient and less motivated. Another study carried out at the Foreign Service Institute by Ehrman and Oxford (1989 as quoted by Oxford 1990:255-256) and Oxford and Ehrman

(1989 as quoted by Oxford 1990:255-256) with approximately 80 adults also showed that the more highly skilled linguists reported more intense and wide-ranging strategy use than less-skilled linguists Thus, on account of the wide range of strategy use, it could be concluded that both teams of students could be regarded as effective second language learners.

As for the L2 strategies derived implicitly, some general findings can be mentioned. The main characteristic was the use of communication or compensation strategies by both teams in this mainly autonomous learning context. The Nerds even developed their own business jargon or 'antilanguage' (Halliday 1984), in which they used a great number of communication strategies to convey L2 meanings in the L1 or sometimes borrowed L2 expressions for the L1. Mr Spock also used communication strategies, but there was little evidence of a similar jargon. Resourcing, deduction, summarizing, inferencing, and elaboration were the main cognitive strategies used by both teams. Translation, transfer and repetition were also used to solve L2 problems, especially when the teams had to make out the L2 in the manual. Repetition, however, was not usually successful. Instead, other L2 strategies, such as metacognitive and social-affective strategies were used together with cognitive strategies to help solve the L2 problem after repetition failed (for instance, *piski* or *glut*). Transfer was used by both teams especially with the German EnviroScan (Nerds: *tää on sellane mutta-juttu ... hmm ja kysymysmerkki perässä!*). These findings would seem to be in line with O'Malley and Chamot's (1990:149) findings about effective language learners: they reorganize their approach to the problem and apply a variety of strategies, depending on the task demands. Furthermore, according to O'Malley and Chamot (1990:169), good language learners also use a series of strategies, or multiple strategies, rather than a single one when engaged in a learning task. Thus, like in the case of a wide range of strategy use, it could be concluded that the learners of this study represented effective or good language learners.

The role of the context in a learning environment of this nature emerged as significant in view of the use of L2 strategies. Sufficient command of the domain-specific language in the L1 was regarded as a prerequisite for this kind of autonomous learning context in the L2. The basic business terms of the game in the L2, such as *ROA*, *fixed assets*, *depreciation*, were dealt with during the orientation meeting, so that all players would be familiar with them. On account of their background knowledge in business and an apparently sufficiently high proficiency level in English, the players did not seem to have problems with the English terms, as evidenced by the log-books and the speech data. The Nerds had only one L2 problem related to the context (*depreciation*), which they solved successfully by using resourcing, repetition, translation, elaboration, cooperation, and communication strategies, and Mr Spock had one similar problem (*pool sales?*), which they solved by using elaboration. The successful use of elaboration strategies by both teams evidenced, for instance, at the interim meeting and the final evaluation when the learners discussed the game strategies or when composing e-mail and fax messages, indicated that the learners mastered the domain-specific language in the L2 well. As further evidence, the Nerds used domain-specific L1 terms as translations for the key business terms of the game during their decision-making discussions (for

instance, *gross [gros] margin ... also known as myyntikate*), and Mr Spock said that someone in their team always knew the necessary business terms from the business courses that they had attended. Therefore, to conclude the meaning of the L2 in the manual, both teams used inferencing and transfer, working together to solve the problems. The Nerds also used translation. Thus, it can be concluded that the learners' background knowledge in business and in foreign languages and their apparently high proficiency in English as the L2 helped them cope successfully with domain-specific L2 problems.

This finding would seem to be supported by Weinstein and Mayer (1986:325). They state that as learning strategies, elaboration strategies are especially useful because they demand the greatest learner activity and effort to help integrate old and new knowledge. Thus, they promote meaningful learning. According to Weinstein and Mayer, learning is also enhanced if the learner has a great deal of domain-specific knowledge. It seemed that inferencing and elaboration worked effectively because the business practice and terminology were familiar to the students in the L1.

Moreover, in accordance with O'Malley and Chamot (1990:149), as for the use of elaboration and inferencing, it could be concluded that both teams apparently represented what could be called "expert" language learners: "With (expert) language learners, the accessibility of domain-specific knowledge that is related to the text content gives the learner a clear advantage in being able to use elaborative and inferencing strategies to detect meaning". Similarly, the findings of the descriptive study by O'Malley and Chamot (1990:127) showed that more advanced students relied most on inferencing, without abandoning familiar strategies such as repetition and translation, which were mostly used by beginning level students. Thus, the learners' apparent proficiency level in the L2 could also explain why they did not encounter more explicit L2 problems.

A noticeable phenomenon of the use of second language strategies in the learning context was that communication or compensation strategies, both linguistic and non-linguistic, were used extensively by both teams, as evidenced by the data analysis. Thus, what Ellis (1985:186) suggests about a great number of communication strategies being used in a learning context resembling a natural learning environment was confirmed. Communication strategies seemed to be "the heart of *strategic competence*" in the game, in Oxford's terms (1990:243; emphasis original). According to Oxford, compensation (communication) strategies are mostly used by beginners and intermediate learners, but may also be used by more expert learners if they do not occasionally know an expression, fail to hear something clearly, or are faced with a situation in which the meaning is only implicit or intentionally vague. Faerch and Kasper (1983:45) also state that "even advanced learners often have discourse problems - hence from a theoretical point of view there is scope for learners to devise strategic plans to cope with such problems". This seemed to be true in the case of the two teams.

In terms of the framework of communication strategies developed by Faerch and Kasper (1983:52-53), both teams used mainly achievement strategies. Only once did Mr Spock reduce their communicative goal, which will be discussed in connection with risk-taking strategies below. Both teams used codeswitching when they occasionally switched to the L1, or vice versa, when faced with lexical problems in the L2 (Mr Spock: *ennustus*), or for affective or

other reasons (Nerds: *need a break*). They also used codeswitching as a shortcut for communication (Nerds: *We were in the Nettiluokka ...*). Changeovers were also made to the L2 during the L1 (Mr Spock: *dogeja*; Nerds: *siis please yks hyvä kierros sinne nyt, no [nɔu] haju*). The teams also used inter-/intralingual transfer (Mr Spock: *diverse* instead of *diversify, Gruess Gott ... aus*; Nerds: *Vielen Dank!, No comprede*). The inter-/intralingual forms included borrowing the syntax) from the L1 or from another language (Nerds: *how much ... that cost*; Dutch Nerds: *Hollantilainen Nerds*), phonology (Mr Spock: *Europe [europe], paa kvitti (= quit)*; Nerds: *[produktivity:]*, quit *[kuit], [dzermanni]*), lexis (Nerds: *pro cent, fläbä*) and orthography (Mr Spock: *11,3 %;* Nerds: *dutch, friday*). Both teams' use of notetaking strategies, which, according to O'Malley and Chamot (1990:198) is a cognitive strategy, could also be interpreted as a communication strategy (Mr Spock: *probs with enviroScans, #2;* Nerds: *going down and fast*). Cooperation, or signalling to an interlocutor for help, a social-affective strategy in the O'Malley and Chamot (1990:199) terms, was also occasionally used by both teams. Moreover, non-linguistic communication strategies, such as gestures or imagery, classified as a cognitive strategy by O'Malley and Chamot (1990:198), were used by both teams to communicate meaning, for instance, when drawing quotation marks ("...") in the air while speaking, or to reinforce verbal meaning in the L2, like, for instance, when PePa showed with his hand that *depreciation* meant the value going down, or when he whistled and showed with his hand that their ranking went straight up (see pp.103-104, 166-168). In the latter case, PePa used non-verbal communication strategies (ie. whistling and showing with his hand) as an affective strategy as well to show his good feeling.

A major finding of this study was that the Nerds seemed to develop their own game jargon as a special L1 register of the game, an 'antilanguage', ie. "the language of a 'closed circle', or of a small cohesive group" (Halliday 1984:181), to cope with the L2 of the business game, "for verbal contest and display" (Halliday 1984:180). Many of the above mentioned communication strategies were typical of this register. Besides sometimes using L1 translations for the frequently used key business terms of the game (*massamarkkinointi*), the original L2 terms (*asset, mass marketing, profit*), or interlingual forms (*total menot*) were often used as a shortcut for speech communication. A special characteristic of the Nerds' 'antilanguage' was the humorous sounding L1 coinages of the basic business concepts of the game resembling the original L2 terms (for instance, *ässä, ässäri* for *asset value, rahvat* for *rahavarat, roffitit* for *profit, MAGU for MAQU, or the Maquiladoras Industries*), apparently used to alleviate the anxiety of the learning situation and to increase team spirit. Thus, the 'antilanguage' forms were also used as social-affective strategies at the same time. Therefore, "the functional, the interpersonal or social, and the textual or message reasons for creating an antilanguage" that Halliday (1984:166) mentions seemed to be the most outstanding reasons for using the antilanguage. It represented and became the Nerds' verbal art in the course of the game which seemed to evolve as the game went on and as the situations became more distressing. Accordingly, it could be said that the 'antilanguage' was literally used "as verbal contest and display" (Halliday (1984:180) to help the team maintain their self-esteem in the contest of the business game. The idiosyncracies of the Nerds' e-mail and fax discourse, such as the use of

numeric expressions instead of writing numerals in words (*2 rounds*), using abbreviations (*PS.*, *Q6* for *Quarter 6*), acronyms (*U* for *you* in *Hope to "hear" from U soon*, *3W for WWW*), emoticons or 'smileys' (*Howdy partners :-)*), and drawings (for instance, the handwritten names of the Hanzenerds with a big heart drawn at the end of a message, and a big 'smiley' drawn by the Hanzenerds in longhand at the end of another message) seemed to represent the written forms of the Nerds' 'antilanguage'. The interesting notion was that the Nerds' Dutch foreign partners, the Hanzenerds, went along with the Nerds' written 'antilanguage'. Whether Mr Spock had used a similar 'antilanguage' during the game was not revealed by the data. However, Mr Spock produced some evidence of the use of a similar computer jargon used in the L1 (*kontrol, kvitti*), which was also used in a stressful situation. Only an indepth retrospective interview would have revealed whether Mr Spock had used an 'antilanguage' related to the actual game.

Earlier researchers have divided communication strategies into success-oriented and risk-avoiding strategies (Corder 1978:8), or achievement strategies (also called compensatory strategies) and reduction strategies (Faerch and Kasper 1983:36-37) depending on the potential learning effect. These seemed to be practicable terms to explain the findings related to risk-taking strategies and will therefore be used, when explaining the findings. The majority of the communication strategies used by the learners represented success or achievement oriented strategies. One example of the few non-successful communication strategies could be the revelation by the Nerds' Dutch partners that they expected the Finnish Nerds to acknowledge receipt of their first e-mail message, which was not done. This apparently was due to lack of socio-cultural awareness, or lack of monitoring,

The general risk-taking strategies of the game seemed to be related to the risk-taking strategies in the L2 as well. Therefore, they need to be included when different risk-taking strategies during the game and their possible impacts on the L2 are considered. It could be concluded from the data that the winning team seemed to be more careful and more consistent in their risk-taking. They used reasoning as their main strategy, also in the L2, and avoided excessive risk-taking in the game. As judged from the point of view of the final outcome of the game, their use of risk-oriented strategies consistently may well have contributed to their final success in the game. Their intrinsic motivation was also strong, from the very beginning, for on two occasions at different phases of the game they stated: *we want to win this game*. However, once, a risk-avoiding strategy was used by Mr Spock in relation to the L2 when they dropped an L2 expression from an e-mail message as the result of a controversy between two team members about how or whether they should explain to their foreign partners what their password 'piski' meant. Thus, they used topic avoidance. In terms of what Tarone and Yule (1989:112) point out about the use of risk-avoiding strategies, "the gap between the linguistic knowledge of the second-language learners and the linguistic knowledge of the target language interlocutors in a real communication situation was viewed as unbridgeable" by the learners in this case. Judging from the point of view of the learning context, the topic avoidance seemed a wise decision for social-affective reasons. Its use in this particular instance confirmed that Mr Spock used reasoning strategies instead of taking too big risks.

On the other hand, the Nerds' changed their risk-taking strategies from risk-avoiding to risk-oriented strategies halfway through the game. Their risk-avoiding strategies were somewhat related to the L2 because in the first half of the game the Nerds avoided playing the German and Mexican industries, apparently because they were not very confident in German and because none of the Nerds knew Spanish. This was a reduction oriented communication strategy from the L2 point of view. Later, however, to keep up their motivation for the game, they changed this strategy and took bigger risks both in the game and in the L2. From the point of view of the L2 and the outcome in the game, their adopting a risk-oriented strategy was not wise, but from the point of view of their overall learning it was: their motivation sustained till the end of the game and went even beyond it, as evidenced by the two Nerds' members suggestion to continue learning about the game as tutors in the future. Thus, risk-taking strategies, although used as communication strategies, were also used as metacognitive strategies by the Nerds. Moreover, the Nerds' risk-taking was reflected on their seemingly more frequent use of 'antilanguage' towards the end of the game, as judged from the numerous coinages and changeovers used during Round 9 (for instance, *mä pistän toho että riski [dzermuns grosshandl]* and *roffitit*). Thus, it seems that the Nerds used risk-oriented L2 strategies to control their anxiety about the loss in ranking in the game as the situation was becoming desperate. Both teams' use of risk-taking strategies seems to indicate that risk-taking can thus be used as a communication strategy, but at the same time also as a metacognitive and/or social-affective strategy.

Failure to monitor the L2 was another indication of the use of communication strategies by learners. One reason for some lack of monitoring during the game could have been that the L2 was a vehicle for communication, embedded in the game, not the main learning goal. The learning context was also autonomous, with no L2 instruction provided during the game, with the exception of the orientation into e-mail discourse during the orientation session. The interlanguage forms used seemed to communicate and could thus be regarded as successful L2 strategies in this learning context, in which the main focus of the L2 was on communication and not on learning the L2. Both teams failed to monitor their L2 at times.

Occasionally, however, individual students in both teams self-monitored their L2 (Nerds: *pro cent ... per cent*) or verified the L2 form or lexis by asking more proficient speakers (Mr Spock: *is it called dissertation?*), and thus showed some learning effect by using metacognitive strategies to improve their performance in the L2. Sometimes, however, self-monitoring did not help the learner produce the correct target language form, and communication strategies were used instead. This was, for instance, the case when TR of the Nerds mispronounced the word *delete* (p.146) several times, slightly differently each time, when trying to come up with the correct pronunciation. Thus, he was aware of the L2 problem, but could not solve it. There was no other more proficient speaker of the L2 present either. On another occasion, a similar instance occurred when TR helped a team member produce the right L2 expression after the use of circumscribing, but produced an IL form (*numeratical order*) instead of the correct L2 word. Another alternative to produce a successful outcome in terms of L2 strategies in the former instances would have been to use alternative L2 strategies, for instance, a dictionary, but

in the learning context, the focus of the learners' attention was on coping with the game and not on verifying the correct forms. Often, it seemed, TR helped co-members (especially PaPo) improve their proficiency, which usually produced a successful outcome. Moreover, on one occasion a more proficient L2 speaker corrected a team member's pronunciation (*quit*), and the team member picked it up but was not aware of having made a mistake in the beginning. Thus, it could be said that, in general, the CEO of the Nerds exercised metacognitive strategies, although not always successfully, while the other members seemed to monitor the L2 less, as was also stated by a team member. The other members used communication strategies instead.

The above findings about the use of communication strategies in this learning context would thus seem to comply with what Ellis (1985:186) has pointed out about the use of communication strategies in the L2 (see pp.34-35):

(1) The proficiency level of the learner influences his choice of strategy (reduction oriented vs. achievement oriented).

This was evidenced by the use of risk-avoiding strategies by the Nerds, whose proficiency level in German and Spanish as L2 was lower than that of Mr Spock, as evidenced by the data. Therefore, the Nerds avoided buying the German and Mexican industries in the first half of the game although the industries would have been attractive from the business point of view. Mr Spock had members with a sufficient proficiency level in Spanish and German needed for the game, and they bought the German and Spanish industries when the opportune time came. The examples of topic avoidance could also be taken to prove the above statement.

(2) It might be that strategy choice is influenced by the specific nature of the problem.

The Nerds' change in adopting risk-oriented strategies after risk-avoiding strategies would seem to support this: when faced with the problem of losing their motivation for the game, they changed their business strategy, which also meant that they had to adopt risk-taking strategies in the L2, as far as German and Spanish were concerned.

(3) Personality factors may correlate highly with strategy preference.

For instance, the individual preferences to use gestures or to turn to other speakers for help, as evidenced by the data analysis, could be taken to evidence this. However, it is difficult to draw any valid conclusions without comparing the use of strategies against the learning styles or other learner characteristics, which was left outside the scope of this study. The individuals within the teams seemed to prefer different strategies, as evidenced by the use of self-evaluation and reduction oriented communication strategies within a team (the Nerds). PePa, for instance, used communication strategies because they communicated in the learning context, while TR monitored his L2 forms more. Both strategies could be said to be successful from the point of view of the learning context. Personality factors would seem to be inherent in strategy preference, for "each

learner is an individual and there may be different strategies that lead to success (Ellis 1985:13).

(4) It would seem that learners' use of communication strategies is affected by the situation of use. For instance, in a classroom environment fewer strategies are used than in a natural environment. The situation may also influence the type of strategy used.

Perhaps because of the autonomous learning environment, communication strategies seemed to be used extensively by both teams. As for the influence of the situation on the type of strategy, the above example related to personality factors would also seem to illustrate this point. The task demand also seemed to determine the choice of a strategy (for instance, risk-avoiding/risk-oriented).

As for general metacognitive strategies, such as advance organization and selective attention, the winning team seemed to use them more effectively at the beginning of the game. When preparing for the game, two team members of Mr Spock went through the manual together and then pointed out the significant parts for the other team member to read too. They also went through the questions at the end of the manual and discovered that they gave much more information than the original text. The third member also familiarized himself with the game by reading through the manual before and after Round 1. Thus, Mr Spock used advance organization and selective attention effectively. The Nerds, on the other hand, started to play the game without being aware of some of the essential parts of the manual, such as the EnviroScans. However, when they noticed this, they read them carefully, which also shows the use of effective metacognitive strategies.

Another indication of some lack of the Nerds' metacognitive strategies was the scheduling problem within their team, which was solved successfully, however, through cooperation. Mr Spock showed good time management, for they met regularly at a certain time. The Nerds were also able to exercise self-monitoring, as shown by their change in their risk-taking strategies to motivate themselves to learn. Moreover, at the end of the game, two Nerds members showed the use of effective metacognitive strategies when they planned for further opportunities to learn about the game in the future, by suggesting that they become tutors in the next game. Therefore, it can be concluded that both teams' use of metacognitive strategies during the game would seem to indicate that the learners were aware of the significance of metacognitive strategies in the autonomous learning context and of their role in fostering motivation among the learners. Similar results on learner autonomy in school contexts were pointed out by Huttunen (1990:41). It also seems that Mr Spock and the two Nerds were able "to transfer their learning into new situations in real life", which Huttunen regards as a sign of success in learning. In view of autonomy, Mr Spock stated explicitly that they preferred the autonomous learning situation, in which they could also cooperate with learners they knew before. The Nerds, on the other hand, stated that they would have liked more feedback on the game at regular intervals, for instance once a week. Regarding the use of metacognitive strategies directly related to the L2, Mr Spock also evaluated their experience from the point of view of the L2: if they had had a foreigner in

their team, they would have had to use more L2. Thus, like the Nerds, they were aware of further opportunities for learning. All the above evidence shows that Mr Spock was a highly autonomous team.

Moreover, in terms of metacognitive strategies, there was one more difference between the two teams: Mr Spock was able to evaluate the deficiences in the German syntax in the manual while the Nerds said nothing about it. In general, when reading the manual in the L2, the Nerds also seemed to exercise successful metacognitive strategies. Especially TR used advance organization effectively when he first skimmed through an EnviroScan in English to make out the overall meaning before summarizing the meaning. He also monitored his own and others' speech in the L2. Thus, metacognitive strategies seemed to be closely linked with cognitive strategies used to solve L2 problems, as evidenced by the data analysis.

This finding would seem to support what Rubin (1987:25) said about the use of metacognitive learning strategies: the monitoring process appears to be a combination of cognitive and metacognitive strategies. Brown et al. (1983 as quoted by O'Malley and Chamot 1990:144) had also discovered that the distinction between metacognitive and cognitive strategies was difficult to circumscribe with precise boundaries. O'Malley and Chamot (1990:144-145) seem to be of the same opinion after they discovered through their studies that the distinction may be less precise than suggested in their own classification. O'Malley and Chamot found, especially in their think-aloud transcripts, that directed attention and selective attention sometimes seemed to be integral parts of the task performance. Thus, it seems that the cognitive/metacognitive aspects have to be looked at from the point of view of the task and the context. In the present study, too, it was difficult to distinguish whether skimming was used to direct the L2 process or to solve the L2 problem cognitively when, for instance, TR skimmed through the EnviroScan in the manual. Accordingly, in accordance with the SILL 5.1 by Oxford, skimming was classified as a cognitive strategy (Part B in the SILL, items 29 and 30) in this study, but it was found to be used metacognitively at the same time. Thus, the use of an L2 strategy for different purposes at the same time during the cognitive process would seem to be proved by this study too. The problem of distinction would also seem to explain why there are different interpretations of the function of a strategy by researchers and accordingly, different categorizations of strategies.

Both teams used social and affective strategies effectively, when solving L2 problems. They helped each other with problems related to the L2. For example, the Nerds' scheduling problems were solved cooperatively. The Nerds' CEO also helped others with pronunciation and lexis. Cooperation was also used when the teams read the EnviroScans in the manual. Furthermore, the foreign dimension required cooperation. In this respect, the Nerds were more successful than Mr Spock. Cooperation was often used together with other strategies.

As affective strategies, humour and self-talk were used by both teams. The Nerds also used their jargon expressions (*roffitit*, *Nörtti*, *Nortit*, *paaluu*, *the Nerd herd is back*) and mispronunciation (Nerds: *[pli:ʒ] do (laughing)*) as affective devices. There were individual differences among the teams. The social and affective strategies were important in this research context because they helped the players control their anxiety in situations in which they were less

successful or encountered L2 or other problems. The use of affective strategies was also related to the use of risk-taking strategies, for instance, when KH and IK tried to compose and send the first e-mail message, or when the Nerds realized that they had lost the game during Round 9. Thus, what Rauste von Wright and von Wright (1994:25) say about emotions being part of strategies and that "strategies are not just used for information processing but also for controlling affections", would seem to be confirmed by the findings of this study. For instance, communication strategies were often used for both communication and affective purposes, as discussed above.

As for their motivation to learn and use the L2 during the game, the Nerds seemed more motivated than Mr Spock because the Nerds had foreign partners. They also carried on their discussions in English during one round. The research aspect of the game seemed to provide additional motivation for the Nerds to learn and use the L2, as was indicated in connection with the word *glut* (pp.127-128). It seems that Mr Spock's motivation was more directed at winning the game than at learning or using the L2. Thus, the findings of this study would seem to reinforce what Kauppi (1997) says about motivation: "Motivation is related to genuine, real objectives for learning and their connections to the learning environment, ie. the context, the background, and their interrelatedness." The simulation seemed to provide such a learning environment for learning business. However, although the players appreciated *Strategy!* being delivered in the L2, they did not seem to be especially motivated to learn the L2 since the focus of learning was not on the L2 as long as they coped with the L2 sufficiently. Thus, for the most part, learners seemed to be unaware of the L2 learning effect of the game. The reason for this could be that the learners' proficiency level was high enough for the game, as seemed to be evidenced. Inspite of the negative findings related to the motivation to learn the L2 through the game, the numerous findings of the use of L2 strategies showed that the business game provided a suitable autonomous learning environment for the use and practice of different kinds of second language strategies.

(3) What was the impact of L2 strategies on the success in the game?

As to whether the L2 strategies had any effect on the success, ie. the outcome of the game, the use of different risk-taking strategies by the two teams during the game may have determined the outcome, as discussed above. As judged from the point of view of the final outcome of the game, Mr Spock's use of risk-oriented strategies consistently may well have contributed to their final success in the game. As pointed out above, the risk-taking strategies were more related to general game strategies, but also to the L2 during the game. The winning team seemed to be more careful and more consistent in their risk-taking and seemed to use reasoning as their main cognitive strategy, also in the L2. Thus, Mr Spock avoided excessive risk-taking to secure a successful outcome in the game. Their motivation was also strong; they had set their mind to winning the game.

The Nerds resorted to risk-avoiding strategies at the beginning of the game, apparently because of their lack of adequate knowledge of Spanish and German as L2. Later, they took bigger risks both in the game and in the L2 to keep up their motivation for learning. From the point of view of the L2 and the

outcome in the game, this was not a wise strategy, but from the point of view of their overall learning it was. Their motivation was sustained and even increased, judging from their suggestion to continue learning about the game (and thus also learning the L2) as tutors in the future. The Nerds' risk-oriented strategies in the latter half of the game also seemed to be reflected on the use of L2 strategies, for the Nerds seemed to use more communication strategies, such as coinages and changeovers and affective strategies towards the end of the game when their situation became desperate. Thus, the Nerds' strategic competence in the L2 seemed to improve during the game, and in terms of motivation, preparedness to take risks, and determination to apply their developing language skills outside the classroom the Nerds could be considered what Rubin (1975:41-51) and Nunan (1989:48) called good language learners. However, this was not reflected on their final ranking in the game as such. Thus it can be concluded that the impacts of L2 strategies on the outcome of the game could not be proved.

To answer to the basic research question, the following discoveries were made:

It can be said that the two teams of intermediate/advanced polytechnic students seemed to cope successfully with the L2 of the business game by using a wide variety of second language strategies to solve L2 problems. They seemed to be effective autonomous language learners. This was shown by their use of a wide range of communication and other strategies, often used in combination and closely linked to solve a specific L2 problem.

The proficiency level of the learners seemed to be sufficient in terms of the requirements of the game, for there were few explicit L2 problems, which were solved successfully. The numerous implicit L2 problems were mostly solved successfully, mainly by using communication strategies and a combination of cognitive, metacognitive and social-affective strategies (O'Malley and Chamot 1990:198-199). There were also instances in which the language learning effect was evidenced, ie. language learning strategies were used. Thus, a wide range of second language strategies were used successfully during the game. Individual preferences were evidenced, but they were not focussed on in this study.

The role of the context was significant from the point of view of second language strategies. The business game seemed to call for the use of a wide range of L2 strategies, including risk-taking strategies. The learners coped effectively with the key business terms of the game in the L2 because of their previous domain-specific knowledge. One team even developed their own business jargon ('antilanguage') to cope with the game. Task demand seemed to affect a strategy choice. Intrinsic motivation was also closely related to the use of L2 strategies. That and the use of reasoning and risk-oriented metacognitive strategies by the winning team perhaps affected the outcome of the game in favour of the winning team. The development in the strategic competence of the other team, however, did not have a positive impact on the final outcome of the game from their perspective.

To ascertain the validity of these findings, more similar studies related to similar contexts in mainstream bilingual education should be carried out.

However, when designing the research settings, special attention should be paid to creating multiple opportunities for learning and using the L2 in an integrated learning environment, focussing on the objectives of the L2 as well, not just on the overall objectives of the game.

6.2 Limitations of the study

The limitations of this study include that the results of a qualitative study are bound to be somewhat subjective and limited. Strategies studies have been referred to as especially problematic in this sense by, for instance, Cook (1993:133). One way to improve the validity and reliability of the results of the present study would have been to employ two or more researchers who could have cross-checked the findings to produce a consensus on the interpretation of the findings. Independent interraters have also been used to validate strategies findings from verbal reporting and interview data (O'Malley and Chamot 1990:117).

Another drawback was that a pilot study could not be carried out to test the different methods of data collection and data analysis prior to the study. The main reason for not being able to carry out a pilot study was that the business game was delivered for the first time in its full form as a set-up for this study. Building up the learning environment took several years, and therefore, first carrying out a pilot study and then replicating it would have been too time-consuming. At the time of launching this study, it was not known whether another possibility to deliver the game would be possible. In fact, it took another year before the next new set-up could be made. One reason for this is that as an optional course at HelBP, the delivery of *Strategy!* was determined by student demand, which made it difficult to predict its future deliveries and to build a research programme around it. The flexible nature of the delivery also brings in complications for replicating the study in exactly the same form.

Moreover, informant training would have improved the nature of the think-aloud data. Training learners in how to recount their cognitive processes related to L2 strategies is recommended by O'Malley and Chamot (1990:93-94). They also found the use of the L1 more reliable than having L2 learners describe their thought processes in the L2. In this study, learners did not describe so much their thought processes related to L2 strategies than their behaviour when faced with L2 problems or business problems. Evidence of L2 strategies was derived from this data, which may have produced fewer L2 strategies as a result. However, since the study was not quantitative, even the speech data on business strategies was considered valid data to reveal possible L2 strategies as well. The time pressure and other constraints of the game and of the autonomous learning environment prevented learner training and the extraction of verbal reporting data in this particular learning context.

Cook (1993:131) points out that several ways of obtaining evidence of L2 strategies need to be employed. The multiple data (log-books, verbal reporting, interim interviews, and tasks in the L2) used for this study to obtain evidence of the use of L2 strategies were found complementary and necessary to support the findings of each other. Despite the limitations of the individual methods (O'Malley and Chamot 1990:96-97), especially the speech data and the interviews brought in additional evidence of L2 strategies used, besides

confirming the earlier findings based on the log-books. The data collection should have been more focussed. There should have been more speech data from the decision-making discussions from Mr Spock too. The interview data proved useful, although the interviews could have focussed on inquiring more specifically about the use of L2 strategies in particular situations. However, secondary data collection methods, such as a post-interview with both teams after the data analysis should have been used to verify the findings. Only that way could more valid conclusions have been reached.

Triangulation could also have been improved by analysing the data using different classifications of L2 strategies systematically to see if the findings would have been the same or similar. A more valid tool to discover L2 strategies used by learners in an autonomous learning context could perhaps be developed as a result of similar research. Overlappings, such as the possibility of a strategy being used both cognitively and metacognitively, as was found to be the case with 'advance organization' and 'selective attention' in this study, should be taken into account in the classification of individual strategies. Such a classification would be useful not only for strategies researchers but also for practising L2 teachers and learners who would benefit from being able to identify second languager strategies more easily and reliably to help learners improve their strategic competence through suitable learning tasks and through strategy instruction.

Furthermore, the two tools used to classify the findings, the SILL 5.1 by Oxford (1990) and the O'Malley and Chamot (1990) classification, were found partly insufficient and slightly incompatible with one another. For instance, the O'Malley and Chamot classification did not seem to encompass all of the different kinds of communication strategies. No support for applying the SILL to speech data was found in earlier research either. Therefore, applying the SILL to all the data of this study as an initial measure of analysis was an attempt, subject to criticism. To justify the attempt, the decision to pertain to the same system of classification throughout the analysis of the data was made in the hope of obtaining a more systematic and coherent picture of the L2 strategies evidenced by the different data. On the basis of this study, it would seem that it is not totally impossible to analyze the verbal reporting and other data with the help of the SILL, or any other similar classification system. However, to ascertain the validity of the SILL or a similar inventory as a tool to interpret multiple data, more strategies research should be carried out to produce a practicable and comprehensive list of definitions and generally accepted groupings of L2 strategies, which could be used reliably by researchers and language teachers alike.

6.3 Implications to teaching and learning and suggestions for further research

As the results of this study showed, a wide range of L2 strategies related to the research context were used by intermediate/advanced business polytechnic students. This could be seen to imply that the creation of similar learning contexts and environments could be beneficial for the students' development and use of L2 strategies.

Thus, an implication of this study would seem to be that an integrated business game context can prepare the ground for students to become more

autonomous language learners because it requires and promotes the use of a wide range of second language strategies. This kind of learning environment also helps learners transfer their former knowledge and skills, both in the subject matter and in the L2, to new situations as problem-solving situations evolve within the overall framework of the learning context. Thus, what Kasper (1997:317-318) concludes about content-based learning as providing a highly effective medium through which to meet both the linguistic and academic mainstream needs would seem to be confirmed by the findings of this study. Moreover, the context seemed to provide a suitable context for the practice and development of strategic competence in the L2. From the point of view of teaching/learning the L2, to help intermediate/advanced L2 learners improve their strategic competence, they should be offered opportunities to try out different L2 strategies in autonomous domain-specific learning environments.

As the experiences of this study showed, at least the following implications for setting up similar learning contexts in the L2 would have to be considered:

In an autonomous learning environment the goal-setting has to be accurate so that learners know what to aim at. A follow-up system must also be part of the process. In mainstream bilingual education, these concern both the content and the L2. As stated by Takala (1997), earlier research in mainstream bilingual education has shown that mere opportunities to learn the L2 are not enough; the L2 learning must be goal-oriented.

Different means of guiding the learning process need to be built into the framework of learning. Orientation and evaluation sessions are essential, but also interim sessions are needed to safeguard that the process goes on. Tutoring or counselling is essential. The new technology, such as e-mail, can be used for tutoring so that students can turn to facilitators whenever needed and get the necessary help easily and without delay. Student tutors can also be introduced, for they may be able to help learners even better than the game administrators since they have an insight into the game as former players. Keeping a log-book or a learning diary helps students monitor the process themselves and reflect on it later. A log-book also provides one basis for final evaluation as an in-built follow-up system.

It is time-consuming to set up and monitor a learning environment of the above kind on the part of the teachers and administrators involved. It requires different kinds of expertise, which is hardly vested in one person. The solution might be to have several expert facilitators involved in the learning project so that their expertise can be used and enhanced throughout the project. This changes the nature of teachers' work. Team teaching and effective team work become essential. Instead of teaching in the traditional sense of the word, the focus of the teachers' work is on planning, joint negotiating, administering, and monitoring the process. Teachers become researchers and marketers of their project. Motivating learners and providing feedback become important. Teachers have to be innovative and prepared to learn new things, such as information technology, or new subject-matter, or the L2. This has the benefit that teachers also become learners. This way, they can help bring about the concept of a Learning Organization in the school context.

Autonomy requires self-discipline. Both teachers and learners have to be prepared for flexible working hours. Unpredictable problems arise, but they can be solved through cooperation and a strong joint commitment to the task.

A learning environment in which an L2 is the chief means of communication requires that the facilitators know the main L2 well enough. If improving the L2 competence within the learning context is one of the learning goals, one of the teachers/administrators should be an L2 teacher.

The learning context should allow for further enhancement of the learning environment, such as the building in of different types of foreign dimensions to introduce the authentic use of the L2. This could be done to different degrees. Mixed teams with foreign members would seem to promote the authentic use of the L2, as was evidenced by the team Nerds in this study.

Thus, some further research questions arose as a result of the present study:

(1) What other ways could there be to determine what L2 strategies learners use in autonomous learning contexts?

The results of this study showed that the data collection method and the methods to analyze the data have to be carefully weighed. Equal amounts of data from different informants should be obtained, so that the findings could be compared validly. In autonomous learning contexts, the device used for analyzing the findings should include both language learning and communication strategies.

(2) How could the use of L2 strategies be enhanced in complex and open learning environments in academic mainstream bilingual education?

What kinds of tasks requiring the use of the L2 could be integrated into an autonomous mainstream learning environment? What foreign dimensions could be incorporated? How would they affect the use of L2 strategies? In such a setting, cultural implications would have to be taken into account.

(3) What kind of learner training could be incorporated into autonomous learning environments in the L2?

Should learners be guided in or prepared for the use of L2 strategies in an autonomous learning context? In other words, should there be learner training in the use of L2 strategies as part of autonomous L2 learning and how could such training be implemented? What would be the impact of such training on the use of second language strategies? The CALLA model developed by O'Malley and Chamot (1990:187-204) could be a starting point for implementing learner strategies training in mainstream bilingual education. According to O'Malley and Chamot (1990:204), CALLA could also be an effective approach to develop foreign language proficiency in mainstream bilingual education. The impacts of this or a similar approach to strategy training should be studied.

(4) What is the relation between the use of L2 strategies and the individual learning style?

Learner characteristics should be looked at to explain the use of L2 strategies. Because of the lack of sufficient background information of individual learner characteristics, this study could not focus systematically on different learner characteristics to find out possible connections between the use of L2 strategies and individual learning styles.

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APPENDIX 1 Background questionnaire. (Source: Oxford 1990:282.)

BACKGROUND QUESTIONNAIRE

1. Name _____ 2. Date _____
3. Age _____ 4. Sex _____ 5. Mother tongue _____
6. Language(s) you speak at home _____
7. Language you are now learning (or have most recently learned) List one language only

   _____
8. How long have you been studying the language listed in #7?

   _____
9. How do you rate your overall proficiency in the language listed in #7 as compared with the proficiency of *other students in your class*? (Circle one)

   Excellent Good Fair Poor
10. How do you rate your overall proficiency in the language listed in #7 as compared with the proficiency of *native speakers of the language*? (Circle one)

    Excellent Good Fair Poor
11. How important is it for you to become proficient in the language listed in #7? (Circle one)

    Very important Important Not so important
12. Why do you want to learn the language listed in #7? (Check all that apply)

    _____ interested in the language

    _____ interested in the culture

    _____ have friends who speak the language

    _____ required to take a language course to graduate

    _____ need it for my future career

    _____ need it for travel

    _____ other (list): _____

    _____
13. Do you enjoy language learning? (Circle one) Yes No
14. What other languages have you studied?

    _____
15. What has been your favorite experience in language learning?

    _____

    _____

    _____

APPENDIX 2 Strategy Inventory for Language Learning (SILL). Version 5.1. (Source: Oxford 1990:283-291.)

Strategy Inventory for Language Learning (SILL)

Version for English Speakers Learning a New Language

Strategy Inventory for Language Learning (SILL)

Version 5.1
(c) R. Oxford, 1989

Directions

The STRATEGY INVENTORY FOR LANGUAGE LEARNING (SILL) is designed to gather information about how you, as a student of a foreign or second language, go about learning that language. On the following pages, you will find statements related to learning a new language. Please read each statement. On the separate answer sheet, mark the response (1, 2, 3, 4, or 5) that tells how true the statement is in terms of what you actually do when you are learning the new language.

1. Never or almost never true of me
2. Generally not true of me
3. Somewhat true of me
4. Generally true of me
5. Always or almost always true of me

Never or almost never true of me means that the statement is very rarely true of you ; that is, you do the behavior which is described in the statement only in very rare instances.
Generally not true of me means that the statement is usually not true of you; that is, you do the behavior which is described in the statement less than half the time, but more than in very rare instances.
Somewhat true of me means that the statement is true of you about half the time; that is, sometimes you do the behavior which is described in the statement, and sometimes you don't, and these instances tend to occur with about equal frequency.
Generally true of me means that the statement is usually true of you; that is, you do the behavior which is described in the statement more than half the time.
Almost or never true of me means that the statement is true of you in almost all circumstances; that is, you almost always do the behavior which is described in the statement.

Use the separate Worksheet for recording your answers and for scoring. Answer in terms of how well the statement describes you, not in terms of what you think you should do, or what other people do. Answer in reference to the language you are now learning (or the language you most recently learned). There are no right or wrong responses to these statements. Work carefully but quickly. You will score the SILL yourself using the attached Worksheet. On the Worksheet, write your name, the date, and the language learned.

APPENDIX 2 (continued)

STRATEGY INVENTORY FOR LANGUAGE LEARNING

EXAMPLE

1. Never or almost never true of me
2. Generally not true of me
3. Somewhat true of me
4. Generally true of me
5. Always or almost always true of me

Read the item, and choose a response (1 through 5 as above), and write it in the space after the item.

I actively seek out opportunities to talk with native speakers of the new language. _____

You have just completed the example item. Answer the rest of the items on the Worksheet.

Strategy Inventory for Language Learning

Version 5.1

1. Never or almost never true of me
2. Generally not true of me
3. Somewhat true of me
4. Generally true of me
5. Always or almost always true of me

(Write answers on Worksheet)

Part A

When learning a new word . . .

1. I create associations between new material and what I already know.
2. I put the new word in a sentence so I can remember it.
3. I place the new word in a group with other words that are similar in some way (for example, words related to clothing, or feminine nouns).
4. I associate the sound of the new word with the sound of a familiar word.
5. I use rhyming to remember it.
6. I remember the word by making a clear mental image of it or by drawing a picture.
7. I visualize the spelling of the new word in my mind.
8. I use a combination of sounds and images to remember the new word.
9. I list all the other words I know that are related to the new word and draw lines to show relationships.
10. I remember where the new word is located on the page, or where I first saw or heard it.
11. I use flashcards with the new word on one side and the definition or other information on the other.
12. I physically act out the new word.

APPENDIX 2 (continued)

STRATEGY INVENTORY FOR LANGUAGE LEARNING

When learning new material . . .

13. I review often.

14. I schedule my reviewing so that the review sessions are initially close together in time and gradually become more widely spread apart.

15. I go back to refresh my memory of things I learned much earlier.

1. Never or almost never true of me
2. Generally not true of me
3. Somewhat true of me
4. Generally true of me
5. Always or almost always true of me

(Write answers on Worksheet)

Part B

16. I say or write new expressions repeatedly to practice them.

17. I imitate the way native speakers talk.

18. I read a story or dialogue several times until I can understand it.

19. I revise what I write in the new language to improve my writing.

20. I practice the sounds or alphabet of the new language.

21. I use idioms or other routines in the new language.

22. I use familiar words in different combinations to make new sentences.

23. I initiate conversations in the new language.

24. I watch TV shows or movies or listen to the radio in the new language.

25. I try to think in the new language.

26. I attend and participate in out-of-class events where the new language is spoken.

27. I read for pleasure in the new language.

28. I write personal notes, messages, letters, or reports in the new language.

29. I skim the reading passage first to get the main idea, then I go back and read it more carefully.

30. I seek specific details in what I hear or read.

31. I use reference materials such as glossaries or dictionaries to help me use the new language.

32. I take notes in class in the new language.

33. I make summaries of new language material.

34. I apply general rules to new situations when using the language.

35. I find the meaning of a word by dividing the word into parts which I understand.

36. I look for similarities and contrasts between the new language and my own.

37. I try to understand what I have heard or read without translating it word-for-word into my own language.

38. I am cautious about transferring words or concepts directly from my language to the new language.

39. I look for patterns in the new language.

APPENDIX 2 (continued)

STRATEGY INVENTORY FOR LANGUAGE LEARNING

1. Never or almost never true of me
2. Generally not true of me
3. Somewhat true of me
4. Generally true of me
5. Always or almost always true of me

(Write answers on Worksheet)

40. I develop my own understanding of how the language works, even if sometimes I have to revise my understanding based on new information.

Part C

41. When I do not understand all the words I read or hear, I guess the general meaning by using any clue I can find, for example, clues from the context or situation.
42. I read without looking up every unfamiliar word.
43. In a conversation I anticipate what the other person is going to say based on what has been said so far.
44. If I am speaking and cannot think of the right expression, I use gestures or switch back to my own language momentarily.
45. I ask the other person to tell me the right word if I cannot think of it in a conversation.
46. When I cannot think of the correct expression to say or write, I find a different way to express the idea; for example, I use a synonym or describe the idea.
47. I make up new words if I do not know the right ones.
48. I direct the conversation to a topic for which I know the words.

Part D

49. I preview the language lesson to get a general idea of what it is about, how it is organized, and how it relates to what I already know.
50. When someone is speaking the new language, I try to concentrate on what the person is saying and put unrelated topics out of my mind.
51. I decide in advance to pay special attention to specific language aspects; for example, I focus the way native speakers pronounce certain sounds.
52. I try to find out all I can about how to be a better language learner by reading books or articles, or by talking with others about how to learn.
53. I arrange my schedule to study and practice the new language consistently, not just when there is the pressure of a test.
54. I arrange my physical environment to promote learning; for instance, I find a quiet, comfortable place to review.
55. I organize my language notebook to record important language information.
56. I plan my goals for language learning, for instance, how proficient I want to become or how I might want to use the language in the long run.

APPENDIX 2 (continued)

STRATEGY INVENTORY FOR LANGUAGE LEARNING

1. Never or almost never true of me
2. Generally not true of me
3. Somewhat true of me
4. Generally true of me
5. Always or almost always true of me

(Write answers on Worksheet)

57. I plan what I am going to accomplish in language learning each day or each week.
58. I prepare for an upcoming language task (such as giving a talk in the new language) by by considering the nature of the task, what I have to know, and my current language skills.
59. I clearly identify the purpose of the language activity; for instance, in a listening task I might need to listen for the general idea or for specific facts.
60. I take responsibility for finding opportunities to practice the new language.
61. I actively look for people with whom I can speak the new language.
62. I try to notice my language errors and find out the reasons for them.
63. I learn from my mistakes in using the new language.
64. I evaluate the general progress I have made in learning the language.

Part E

65. I try to relax whenever I feel anxious about using the new language.
66. I make encouraging statements to myself so that I will continue to try hard and do my best in language learning.
67. I actively encourage myself to take wise risks in language learning, such as guessing meanings or trying to speak, even though I might make some mistakes.
68. I give myself a tangible reward when I have done something well in my language learning.
69. I pay attention to physical signs of stress that might affect my language learning.
70. I keep a private diary or journal where I write my feelings about language learning.
71. I talk to someone I trust about my attitudes and feelings concerning the language learning process.

Part F

72. If I do not understand, I ask the speaker to slow down, repeat, or clarify what was said.
73. I ask other people to verify that I have understood or said something correctly.
74. I ask other people to correct my pronunciation.
75. I work with other language learners to practice, review, or share information.
76. I have a regular language learning partner.

APPENDIX 2 (continued)

STRATEGY INVENTORY FOR LANGUAGE LEARNING

1. Never or almost never true of me
2. Generally not true of me
3. Somewhat true of me
4. Generally true of me
5. Always or almost always true of me

(Write answers on Worksheet)

77. When I am talking with a native speaker, I try to let him or her know when I need help.

78. In conversation with others in the new language, I ask questions in order to be as involved as possible and to show I am interested.

79. I try to learn about the culture of the place where the new language is spoken.

80. I pay close attention to the thoughts and feelings of other people with whom I interact in the new language.

Your Name _____ Date _____

Language Learned Now or Most Recently _____

Worksheet for Answering and Scoring

the Strategy Inventory for Language Learning (SILL)

Version 5.1 (c) R. Oxford, 1989

1. Write your response to each item (that is, write 1, 2, 3, 4, or 5) in each of the blanks, which are numbered to correspond to each item on the SILL.

2. Total each column and put the result on the line marked "SUM".

3. Divide by the number under "SUM" to provide an average for each column. Round this average off to the nearest tenth, as in 3.4. Because the only possible response for a SILL item is 1, 2, 3, 4, or 5, your average across items for each part of the SILL should be between 1.0 and 5.0. You can make sure your figuring is correct by checking whether your average for each part is within the range of 1.0 to 5.0.

4. Calculate your overall average. To do this, add up all the SUMS for the different parts of the SILL. This will give you the total raw score. Divide by 80, the number of items on the SILL. This will give you the overall average, which should be within the range of 1.0 and 5.0.

5. When you have completed this Worksheet, your teacher will give you the Profile of results on the Strategy Inventory for Language Learning (SILL). Transfer your averages (for each part and for the whole SILL) from the Worksheet to the Profile in order to obtain an interpretation of your SILL results.

APPENDIX 2 (continued)

STRATEGY INVENTORY FOR LANGUAGE LEARNING

SILL Worksheet (continued)

Version 5.1
(c) R. Oxford, 1989

Part A	Part B	Part C	Part D	Part E	Part F	Whole SILL
1. ____	16. ____	41. ____	49. ____	65. ____	72. ____	SUM Part A ____
2. ____	17. ____	42. ____	50. ____	66. ____	73. ____	SUM Part B ____
3. ____	18. ____	43. ____	51. ____	67. ____	74. ____	SUM Part C ____
4. ____	19. ____	44. ____	52. ____	68. ____	75. ____	SUM Part D ____
5. ____	20. ____	45. ____	53. ____	69. ____	76. ____	SUM Part E ____
6. ____	21. ____	46. ____	54. ____	70. ____	77. ____	SUM Part F ____
7. ____	22. ____	47. ____	55. ____	71. ____	78. ____	
8. ____	23. ____	48. ____	56. ____		79. ____	
9. ____	24. ____		57. ____		80. ____	
10. ____	25. ____		58. ____			
11. ____	26. ____		59. ____			
12. ____	27. ____		60. ____			
13. ____	28. ____		61. ____			
14. ____	29. ____		62. ____			
15. ____	30. ____		63. ____			
	31. ____		64. ____			
	32. ____					
	33. ____					
	34. ____					
	35. ____					
	36. ____					
	37. ____					
	38. ____					
	39. ____					
	40. ____					
SUM ____	SUM ____	SUM ____	SUM ____	SUM ____	SUM ____	SUM ____
÷ 15 = ____	÷ 25 = ____	÷ 8 = ____	÷ 16 = ____	÷ 7 = ____	÷ 9 = ____	÷ 80 = ____ (OVERALL AVERAGE)

APPENDIX 2 (continued)

STRATEGY INVENTORY FOR LANGUAGE LEARNING

Your Name _____ Date _____

Language Learned Now or Most Recently _____

Profile of Results on the Strategy Inventory for Language Learning (SILL)

Version 5.1

You will be given this Profile after you have completed the Worksheet for Answering and Scoring the Strategy Inventory for Language Learning (SILL). This Profile will summarize your results on SILL and show the kinds of strategies you use in learning a new language. Please note that there are no right or wrong answers and no "best" average scores for each part, since people learn languages differently.

To complete this Profile, transfer your averages for each part of the SILL, and for the whole SILL, from the Worksheet.

Part	What Strategies Are Covered	Your Average on This Part
A.	Remembering More Effectively: Grouping; making associations; placing new words into a context to remember them; using imagery, sounds, sound-and-image combinations, actions, etc. in order to remember new expressions; reviewing in a structured way; going back to review earlier material.	_____
B.	Using Your Mental Processes: Repeating; practicing with sounds and writing systems; using formulas and patterns; recombining familiar items in new ways; practicing the new language in a variety of authentic situations involving the four skills (listening, reading, speaking, and writing); skimming and scanning to get the idea quickly; using reference resources; taking notes; summarizing; reasoning deductively (applying general rules); analyzing expressions; analyzing contrastively via comparisons with another language; being cautious about word-for-word translating and direct transfers from another language; looking for language patterns; adjusting your understanding according to new information.	_____
C.	Compensating for Missing Knowledge: Using all possible clues to guess the meaning of what is heard or read in the new language; trying to understand the overall meaning and not necessarily every single word; finding ways to get the message across in speaking or writing despite limited knowledge of the new language; for instance, using gestures, switching to your own language momentarily, using a synonym or description, coining new words.	_____
D.	Organizing and Evaluating Your Learning: Overviewing and linking with material you already know; deciding in general to pay attention; deciding to pay attention to specific details; finding out how language learning works; arranging to learn (schedule, environment, notebook); setting goals and objectives; identifying the purpose of a language task; planning for a language task; finding practice opportunities; noticing and learning from your errors; evaluating your progress.	_____
E.	Managing Your Emotions: Lowering your anxiety; encouraging yourself through positive statements; taking risks wisely; rewarding yourself; noting physical stress; keeping a language learning diary; talking with someone about your feelings/attitudes.	_____
F.	Learning with Others: Asking questions for clarification or verification; asking for correction; cooperating with peers; cooperating with proficient users of the new language; developing cultural awareness; becoming aware of others' thoughts and feelings.	_____
YOUR OVERALL AVERAGE		_____

APPENDIX 2 (continued)

STRATEGY INVENTORY FOR LANGUAGE LEARNING

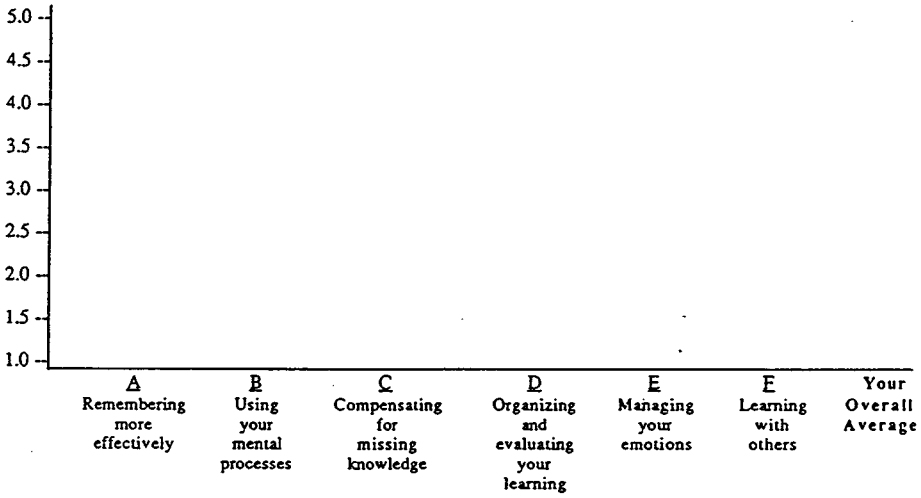
Version 5.1

Key to Understanding Your Averages

High	Always or almost always used	4.5 to 5.0
	Generally used	3.5 to 4.4
Medium	Sometimes used	2.5 to 3.4
Low	Generally not used	1.5 to 2.4
	Never or almost never used	1.0 to 1.4

Graph Your Averages Here

If you want, you can make a graph of your SILL averages. What does this graph tell you? Are you very high or very low on any part?



What These Averages Mean to You

The overall average indicates how frequently you use language learning strategies in general. The averages for each part of the SILL show which groups of strategies you tend to use the most in learning a new language. You might find that the averages for each part of the SILL are more useful than your overall average.

Optimal use of language learning strategies depends on your age, personality, stage of language learning, purpose for learning the language, previous experience, and other factors. Nevertheless, there may be some language learning strategies that you are not yet using which might be beneficial to you. Ask your teacher for more information on language learning strategies.

APPENDIX 2 Interview questions. Interim Report. Strategy! Business Simulation. (Source: Luukas 1995b.)

HELSINKI BUSINESS POLYTECHNIC
The Finnish Business College
English
ACP / Luukas

INTERVIEW QUESTIONS
Interim Report

29 November 1995

STRAGEGY! BUSINESS SIMULATION

1 What kind of language problems have you come across with during the first six rounds of the game related to:

a) the vocabulary

b) business concepts

c) the e-mail messages you have sent to your foreign partners

d) the e-mail messages you have received from your foreign partners

e) cultural differences

f) other language problems

2 How did you solve the language problems related to

a) the vocabulary

b) business concepts

APPENDIX 3 (continued)

c) outgoing e-mail

d) incoming e-mail

e) cultural differences

f) other problems

3 How have you experienced the game being played in English using an English manual? Has the language affected your success in the game? In what way?

4 What have you learnt from the game languagewise? Why / Why not?

5 What kind of help would you have needed with the English language?

6 Has Strategy! been a good way to learn English? Why / Why not?

7 How do you see the last six rounds from the language point of view?

8 Any other comments related to the use of English during the game.

THANK YOU AND GOOD LUCK WITH THE GAME!

APPENDIX 4 Final evaluation form. Strategy! Business Simulation. (Source: Luukas et al. 1996.)

HelBP EVALUATION 1 (2)
Team: _____
Luukas, Ranta-aho, Oksanen 22 January 1996
Name of student: _____
ACH / STRATEGY! BUSINESS SIMULATION

1 Describe Strategy! in one word!_____

2 What did you learn through Strategy!_____

3 How would you rank Strategy!(from 1 to 5) among any other courses offered by HelBP? Give reasons. _____

4 What elements of the simulation could be transferable to real business life?_____

5a What were your experiences of playing the game as a team?_____

5b How do you think your team would manage in similar real-life situations? Give reasons._____

6a How did you experience the foreign dimension during the game? Give reasons.

6b What problems did you encounter because of it? How did you solve them?

6c What did you gain culturally from the foreign dimension?

7. To what extent did you or your foreign partners use the WWW?

APPENDIX 4 (continued)

8 How did you find the use of information technology during the game (disks, e-mail)?

_____

_____

_____

9 To help us improve the set-up and to reschedule the game, how would you feel about the following? Tick (x) the right box. Please give your own suggestions as well. *(This is very important because only this way c a n we know what to improve and how!)*

	YES	YES	OTHER
a) Delivery:	once a year ____	twice a year ____	_____

_____ _____

	YES	YES	YES
b) Ideal duration:	8 rounds ____	10 rounds ____	12 rounds ____

	YES	OTHER
c) Orientation: (two 4-h sessions at a week's interval; opportunity to go through the manual in between; introduce IT)	____	_____

_____

_____

	YES	OTHER
d) Regular decision rounds (one round per week)	____	_____

_____

	YES	OTHER
e) Interim / Tutoring	____	_____

_____

	YES	OTHER
f) Evaluation session at the end	____	_____

_____

g) Other suggestions for administering the game

_____

_____

_____

10 Any other comments?

_____

_____

_____

_____

_____

THANK YOU FOR ATTENDING *STRATEGY!* AND THANK YOU VERY MUCH FOR YOUR FEEDBACK! **Anneli, Seija and Risto**

APPENDIX 5 Extract from a facsimile message by the Nerds (1995).

5/5

Strategy! A Business Unit Simulation
Budget Report for SBU 124 Libertad
Industry: Cellular Telephone Distributors SBU Manager: nerds

Account	Q4 Budget		Q4 Actual		Q5 Budget		Inc/Dec
Sales Revenue	155000	100.0	97892	100.0	97892	100.0	+0
Less Cost of Goods	58900	38.0	19578	20.0	39157	40.0	+19579
Gross Margin	96100	62.0	78314	80.0	58735	60.0	-19579
Mass Marketing	10000	6.5	10000	10.2	10000	10.2	+0
Focused Promotions	13000	8.4	13000	13.3	13000	13.3	+0
Product Development	13000	8.4	13000	13.3	13000	13.3	+0
Quality Control	9000	5.8	9000	9.2	9000	9.2	+0
Human Resources	11500	7.4	11500	11.7	11500	11.7	+0
Depreciation	3028	2.0	3028	3.1	3028	3.1	-0
General Overhead	7303	4.7	4473	4.6	4473	4.6	+0
Total Expenses	66831	43.1	64001	65.4	64001	65.4	-0
Net Profit (BT)	29269	18.9	14313	14.6	-5265	-5.4	-19578
Asset Value	97892		97892		97892		+3028
ROA, Pct of Capacity	119.60	0.0	58.48	100.0	-21.52	100.0	

Value your decisions for the round number 5 ☺