

Learning ESL in a Community of Practice



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Abstract (in Danish)

Emnet for dette projekt er læring af engelsk som andetsprog i et praksisfællesskab. Projektet tager sit udspring i personlige erfaringer som udstationeret familie i Ungarn, med en søn i en amerikansk international skole. Fascinationen og forundringen over hvordan børn, der uden sproglige forudsætninger placeres i et internationalt skolemiljø, tilegner sig sprogfærdigheder i engelsk som andetsprog, er drivkraften i det arbejde der ligger bag denne rapport.

Min søn startede sin skolegang på den Amerikanske Internationale Skole i Budapest (AISB) i første klasse i sommeren 2000. Vi kom direkte fra Danmark, hvor han havde gået i en almindelig dansk børnehave. Da børn i det amerikanske skolesystem starter et år tidligere i skole end danske børn, valgte vi i samråd med skolen at lade ham begynde i første klasse.

Han startede således uden sproglige forudsætninger og uden erfaringer med at gå i skole. Undervisningen foregår udelukkende på engelsk, og i min søns klasse var der ikke andre dansktalende børn. Ikke desto mindre faldt han meget hurtigt til og i løbet af ganske kort tid blev han fortrolig med sin nye hverdag og begyndte i et imponerende tempo at tilegne sig sit nye sprog, der nu omgav ham 6-7 timer om dagen. Det samme gjaldt andre af hans klassekammerater, der også uden engelske sprogfærdigheder kom fra steder som Japan, Serbien og Finland.

Erfaringerne med min egen søn, samt hans nye kammerater, fik mig til at fundere over følgende spørgsmål:

- Hvordan lykkes det et barn der ikke taler engelsk at skabe mening i de første måneder, i en klasse hvor al kommunikation foregår på engelsk?
- Hvilke læreprocesser er involveret i læringen af et andetsprog under disse omstændigheder?

På et seminar i forbindelse med denne masteruddannelse, holdt Carsten Jessen fra DPU et oplæg om Etienne Wenger's teori om "Communities of Practices". Under dette oplæg slog det mig hvor fantastisk godt beskrivelsen af læring i praksisfællesskaber passer på den måde min søn har lært engelsk som andetsprog.

Formålet med projektet er derfor, med udgangspunkt i Wenger's teori om læring i praksisfællesskaber, at opnå en større forståelse af den proces der finder sted når man lærer engelsk som andetsprog. Min brug af læring i praksisfællesskaber som perspektiv på læreprocessen understøttes med studium af generelle teorier om sprogindlæring.

Målet med projektet er at forsøge at skabe et rum for eleverne, hvor de med udgangspunkt i elementer fra praksisfællesskabet, kan træne sprog og rutiner i klassen. Træningen i dette rum skal umiddelbart kunne støtte og fremme deres indlemmelse i praksisfællesskabet og dermed deres adgang til de ressourcer der stilles til rådighed og som er væsentlige for deres sprogindlæring. Dette søges gjort ved udvikling af et computerprogram, der bygger på nøglefaktorer defineret af Wenger i forbindelse med hans teori om læring i praksisfællesskaber.

Forståelse af børns læreprocesser i forbindelse med læring af et andetsprog, og af deres liv og hverdag i en skoleklasse er søgt opnået ved brug af en etnografisk tilgang. Projektet er gennemført i samarbejde med AISB og min søns lærer fra første klasse. Regelmæssige observationer over 6 måneder i en første klasse, udgør såle-

des, sammen med et formelt interview med klasselæreren Sarah Brockie, projektets empiriske materiale.

Projektet er opdelt i to dele. Første del består af litteraturstudier af læring af andet-sprog, Wenger's teori om læring i praksisfællesskaber samt de empiriske undersøgelser. Anden del af projektet udgøres af udviklingen af omtalte computerprogram. Litteraturstudierne danner grundlaget for forståelsen af de læreprocesser der observeres i klassen. Nøglefaktorer i praksisfællesskabet identificeres i forbindelse med observationerne. Positive faktorer, der med forventet udbyttet kan overføres til computerprogrammet er identificeret og implementeret heri. Således fungerer arbejdet med teori og empiri som forundersøgelser for udviklingen af produktet.

Der er i udviklingen af computerprogrammet lagt vægt på at det skulle kunne spilles og dermed afprøves og testes af børnene i klassen. Den udviklede prototype er således en high-fidelity prototype, med relativt få men fuldt implementerede funktioner. Børnene i klassen har været inddraget som brugere i udviklingsprocessen. Under udviklingsprocessen har børnene løbende haft adgang til spillene på klassens computer og respons fra børnene er brugt til ændringer og tilpasninger af layout og funktionalitet.

Klasselæreren har ligeledes været meget aktivt involveret i udviklingen af programmet, dels i forbindelse med brainstorming seancer hvor der med udgangspunkt i diskussioner af observationer blev diskuteret ideer til programmet dels med feedback på udviklede dele. På denne måde har udviklingen af programmet været en iterativ proces, hvor observationer i klassen og feedback fra børn og læreren kontinuerligt har inspireret til tilføjelser til samt ændringer og tilpasning af de udviklede spil.

Preface

This Master Thesis report in Master of Information Technology, IT Learning at Aalborg University, Denmark has been prepared by signer in the period from January to May 2003.

Instructor on this project has been Birgitte Holm Sørensen, Research Programme Director, Ph.D., from the Danish University of Education, Department of Educational Anthropology.

The fieldwork of the project took place at the American International School of Budapest (AISB), Hungary. In order to facilitate the co-operation with AISB, a dispensation has been approved for the use of English as the language in this report. A short abstract in Danish reviews the contents.

A CD containing the product developed in this project accompanies the report. The CD is titled Mr. Kiwi.

Acknowledgements

First, thanks to principal Frank Rowland and The American International School of Budapest for allowing the long-term observations to be made in the school.

I owe a very special thanks to class teacher Sarah Brockie at AISB. Thank you for willingly inviting me into your classroom. Thank you so much for all your help, interest and continuous support, this project would never have been the same without your help, support and inspiration.

Thanks also to music and ESL teacher Tiffany Sinton for helping with the recording of 1B's performance of the 'ABC Rock' and for comments and ideas for the computer program.

I also want to thank all the children in 1B that so kindly allowed me to be a part of their classroom community for almost a year. Thank you for all your kind and thoughtful comments – they helped me as I worked on the development of my computer program.

Then I want to thank my son Christian for being a good sport in accepting to be the voice of Mr. Kiwi and to my nephew Magnus for his fantastic drawings of Mr. Kiwi.

Finally, I would like to thank my instructor Birgitte Holm Sørensen for believing in my idea, and for her positive support and constructive comments on my work.

Last but not least, thank you to Marianne Riis, my fellow student. Thank you for being 'out there' and for contributing such constructive and thoughtful comments on my project.

Budaörs, Hungary May 19, 2003

Pia Møller Jensen

Chapter 1: Introduction

Project background

The idea for this project originates from my personal experience of having a child learning English as a Second Language (ESL) in an international and multicultural environment. In the summer of 2000, my family and I moved to Budapest for a 5-year period. My son was six years old at the time and supposed to start school that summer. He started in the American International School of Budapest (AISB) in a Grade 1 class without prior school experience and speaking no English at all.

During my sons first year in school I was amazed by how fast, he was learning this new second language and still today, the level of proficiency he is gaining in this environment amazes me. It seems to me that the school's high focus on creating a strong sense of community, not only as a whole school, but also in every classroom has a great influence on the positive experiences in my sons learning process both in ESL and in general.

Entering an international school and community has given me a unique opportunity to follow the processes involved in learning a second language. For 3 years, I have been close to a group of children that started together in the same First Grade classroom. The development in the appropriation of ESL has been immense for all the children, but still the distribution among them is quite broad. Over these years I have been wondering:

- **How does a child speaking no English at all create meaning and a voice in an English-speaking classroom during the first months?**

Some of the ESL children do not have anybody in their classroom that speaks their first language, so they have a very hard time in the beginning. Even more difficulty is experience they also start without any prior school experience as then both language and school routines will be completely unfamiliar.

- **How are second languages learned under these circumstances?**

The learning process itself seems to be a combination of different kinds of learning; learning from formal language instructions, learning from exposure to spoken and written language in the environment and finally learning from participation in a learning community.

The aim of my project is to gain a deeper understanding of the process that takes place when learning a second language.

The systematic study of how people acquire a second language is a relatively new research area, belonging to the second half of the twentieth century. Technological inventions, first radio and television broadcast and later on computers and the World Wide Web has expanded communication between people beyond their first language and created a need to learn a second language, often English (Ellis 1997: 3).

Most of these studies originate from theoretical approaches to explaining first language acquisition. Grouped by their main theoretical approaches they are: behaviorist, innatist, connectionist and interactionist approaches. An individual approach is the basis for the behaviorist, the innatist and the connectionist theories (Lightbown & Spada 1999: 1-45).

The interactionist perspective sees language acquisition as a process of becoming a member of a sociocultural group, a language socialization perspective (Willett 1995: 475).

A natural extension to the language socialization perspective is to apply a Community of Practice (CoP) perspective to the learning process (Wenger 1998). This is likely to give a deeper understanding of the way especially the young children gain ever growing competence in their second language acquisition. Therefore, the purpose of this project will be to investigate the process of learning ESL from a CoP perspective.

Problem statement

Rephrasing my first question it could be: How do these children acquire a new language out of what must be a sea of noise? And the next logical question may well be: Would it be possible to do more in terms of helping these children to gain meaning in this sea of noise?

From a language socialization perspective, you do not just learn a language; it is through communication with others that you primarily acquire it. Therefore, the facilitation of social interactions and other methods of using language for real communication should have a positive impact on a student's second language acquisition. At AISB, emphasis is already on this approach.

An approach not yet investigated is to create a space for the ESL students where they can practice important features of their new surroundings, but with more peace and time than the regular classroom can offer. Utilizing a computer program could possibly create such a space. Development and initial tests of this approach is the goal of this project, leading to this problem statement:

- *How can a computer program support the process of becoming a member of an English as a Second Language Community of Practice?*

The perspective for such a project is versatile. On a general level deeper understanding of the questions raised will be relevant in other settings too; in many countries integrating second language speakers into the school system is becoming a bigger and bigger issue (Toohey 2000:1) and methods for improving the results of this integration process must continuously be in demand.

The school and teacher participating in this project will gain a stronger awareness of the key factors in creating a successful ESL CoP. My perspective is a personal understanding of my own and my sons learning process and an opportunity to combine my interest in learning theories with my technical interest in computers and programming.

Thus, the subjects of the project are Second Language Acquisition (SLA) and Communities of Practice. The weight in the project is on theoretical and empirical studies as a preliminary investigation into the development of the computer program.

Methodology

Understanding children's learning processes when learning a second language and getting to know and understand their daily life in a classroom calls for an ethnographic approach. As mentioned, I have been close to a group of children learning ESL for a long period. For this project however, there is a need for much more systematic and conscious observations.

When my son was in Grade 1, I served as a contact parent, meaning that I helped the teacher on field trips, at class parties and on other occasions. In addition, I participated once a week at reading and writing time assisting the teacher in the class. That experience gave me a good impression of the life in the class called 1B. At AISB the teachers do not follow the classes, they teach the same grade level each year. Therefore, I felt it natural to ask the teacher in 1B, Ms. Brockie, to participate in this project.

Ms. Brockie was very forthcoming to my request. She willingly invited me into her classroom, and the project quickly turned into a co-operation. We have had countless discussions on questions related to the observations and the theory I have read – especially on CoP and SLA. Ms. Brockie has also been very engaged in the development of the computer program.

The project has two parts. The first part is the theoretical part consisting studies of relevant literature, combined with the observations. The second part is the development of the computer program.

The literature studies serve as a foundation for the understanding of the process of learning observed in the classroom. Identification of key factors in the CoP (defined by Wenger 1998) takes place during the observations. This is followed by an implementation of the positive and transferable ones that enable the appropriation of language in the computer program. This way the observations in the classroom serve as the starting point for the development of the computer program.

Demarcations

Since time and manpower assigned for this project had certain limits, I have made choices regarding some natural demarcations:

- The focus of the ethnographic study is on home classroom practice, which means that there have been no observations in special classes (like Music, Physical Education, Art etc.) or at recess.
- The focus on different key factors in the CoP is on positive factors that enable the appropriation of language.
- Development of the computer program will be especially for use in this particular classroom, thus enabling the use of stories and artifacts well known in this environment.
- The computer program is a prototype, not implementing all possible features. The prototype is a High-fidelity prototype making it playable and allowing the children to test it.

Hypothesis

Based on my prior experience with having a child in 1B, and while considering the classroom environment defined by the teacher I assume that an ESL CoP actually exists in the class. The CoP, I assume is built upon:

1. The facilitation offered by the teacher. Ms. Brockie was not acquainted with the theory on 'Communities of Practice' before getting involved in this project, but never the less it's my belief that her pedagogic approach is very much in keeping with the theory (Wenger 1998).
2. The composition of children with very different English language skills, ranging from native speakers to completely non-English speaking – naturally leading to a group of masters and apprentices having the potential to make a very powerful ESL CoP.

The verification of this hypothesis is the basis for the empirical investigations carried out in this project.

The target group for the computer program is children 6 to 7 years of age. This means that these children are still at an age where play and having fun is very important. Thus, when it comes to the computer program it is my belief that making it both educational and entertaining will increase the chance that the children will enjoy it and therefore play the program on their own initiative.

This hypothesis defines the computer program as an edutainment product and observing the children playing the program will test its validity.

Empirical data

Because of the chosen methodology, long-term observations in a Grade 1 classroom - 1B at AISB - are the basis of the project.

The observations in the classroom were made simply by being there and taking notes. There has been no use of video or audio recordings due to a request from the school.

As a supplement to the observations, I made one formal interview with the classroom teacher. Informal talks and discussions with the teacher were ongoing, giving different viewpoints on observed episodes and eliminating misunderstandings.

Theory

Working with this project has involved addressing several different disciplines.

Communities of Practice

The basis of this project – a social perspective on the appropriation of a second language - is E. Wenger's book 'Communities of Practice, Learning, Meaning and Identity' (Wenger 1998). To understand the foundation of the CoP theory readings of J. Lave and E. Wenger's book on 'Situated Learning' was included (Lave and Wenger 2003).

As a supplement to Wenger's theory on CoP a research report made by K. Toohey called 'Learning English at School, Identity, Social Relations and Classroom Practice' is used (Toohey 2000).

Principles of Second Language Acquisition

In this project, I use the CoP theory as the main perspective on learning, but I have found it important to gain knowledge of traditional ways of studying SLA.

I had the basics covered by studying 'How languages are learned' by P.M. Lightbown and N. Spada (Lightbown and Spada 1999). The aim of the book is to give teachers a basic understanding on how languages are learned and thereby making them able to judge on the usefulness and quality of different teaching methods and textbooks. Another basic book read is 'Second Language Acquisition', by R. Ellis (Ellis 1997). This is an introductory book with an aim to make the essentials accessible to newcomers in this area. The book has a content overlapping the 'How Languages are learned' but the focus is slightly different. This book has a much more linguistic approach.

In 'An introduction to Second Language Acquisition Research' by D. Larsen-Freeman and M. Long (Larsen-Freeman and Long 1991) an overview of SLA research in general is presented. More in depth knowledge on the sociocultural perspective has been obtained from 'Sociocultural Theory and Second Language Learning' by J.P. Lantolf (Lantolf 2000) and 'Vygotskian Approaches to Second Language Research' by J.P. Lantolf and G. Appel (Lantolf and Appel 1994).

Finally, I have studied 'Language and Culture' by C. Kramsch (Kramsch 1998). This is another introductory book, investigating the relationship between language and culture.

Empirical methods

Since the observations have the character of an ethnographic study, I have read literature related to this subject. I have studied methods applied in this area in 'Fieldwork among children'¹ by E. Gulløv and S. Højlund (Gulløv and Højlund 2003). This book introduces methods and ethics in ethnographic research on children. Useful information has also been found in 'Observation and interview in kindergarten'² by G. Løkken and F. Søbstad (Løkken and Søbstad 1998). This book is mostly concerned with observations on children in the age 3-6, but I believe that the basic points in the book can be applied to a First Grade class too.

Then two Danish articles has been studied, one is written by K. Drotner, it's called 'Media ethnographic ways of presenting the problem - an overview'³ and is a historical review on ethnographic methods applied in media studies (Drotner 1993). The other one is called 'A child cultural perspective'⁴ by B. Olesen (Olesen 2000). This is on how a group of researchers have approached the task of observing children and children culture in relation to the use of interactive medias.

As the source of information on how to prepare, perform and evaluate an interview, I have used the book "Interview" by S. Kvale (Kvale 2001).

Theory supporting the development of the computer program

To support and create knowledge in areas related to the development of the computer program I have also been studying:

¹ In Danish, original title is 'Feltarbejde blandt børn'.

² In Danish, original title is 'Observation og interview I børnehaven'.

³ In Danish, original title is 'Medieetnografiske problemstillinger – en oversigt'.

⁴ In Danish, original title is 'Et børnekulturelt perspektiv'.

- Children's use of interactive media
Covered by a series of three Danish books from a large-scale research project called 'Children's use of interactive media' (Sørensen and Olesen 2000; Sørensen, Audon and Olesen 2001; Sørensen, Jessen and Olesen 2002) and a PhD-thesis report called 'Children, play and computer games'⁵ by C. Jessen (Jessen 2001).
- Interaction and interface design
This subject has been covered by studying 'Interaction Design, beyond human-computer interaction' by J. Preece, Y. Rogers and H. Sharp (Preece, Rogers and Sharp 2002) and 'Interface Design' by epic software group, Inc. (epic software group, Inc. 2002).
- Learning and Narrativity
This subject area has been covered by reading 'Learning and Narrativity in Digital Media' by O. Danielsen, J. Nielsen and B.H. Sørensen (Danielsen, Nielsen and Sørensen 2002). This is an anthology with a pedagogical perspective on ICT and learning, from a group of teachers behind this Master Education.
- Didactic Design
To supplement knowledge from Module 4: ICT and Didactic Design, I read 'Space for learning'⁶ by E. Prinds (Prinds 1999). It is a book describing theoretical and practical experiences with the implementation of ICT in learning situations.

Structure of the report

In Chapter 2: The Setting, I will present the setting of the project, the school, the class, the teacher and the children giving the reader a sense of the context of this study.

In Chapter 3: Theory, I will present a brief survey of the different literature within the fields of second language learning and the communities of practice theory hereby revealing the theoretical foundation of the project, and at the same time it will provide a short introduction for readers not acquainted with these subjects beforehand.

Chapter 4: Methodology, will describe methods applied in this study. I present the fieldwork and the implications of the different demarcations, restrictions and choices that have influenced the way empirical data was collected will be discussed. Finally, the way the data analysis has been carried out will be described.

In Chapter 5: Analysis, I will present my analysis of the empirical research done in this project. Results obtained will be discussed from the theoretical standpoints of Chapter 3. The chapter will end with a conclusion on the theoretical part of the project, which will lead on to the development of the computer program.

In Chapter 6: The Mr. Kiwi Program, the developing process and the developed prototype supported by the didactic considerations behind it will be described and discussed.

⁵ In Danish, the original title is 'Børn, leg og computerspil'.

⁶ In Danish, the original title is 'Rum til læring'.

In Chapter 7: Conclusion, I will discuss theoretical, methodological and pedagogical ideas and problems that have emerged through my work with this project, in order to outline possible further approaches and comment on how further development of the program can be carried out. Finally, I will reflect on my own learning process.

Chapter 2: The Setting

In this chapter, I will introduce the setting of this study, the school, the class, the teacher and the children. I will also tell a narrative story of daily life in 1B based on my observations.

The intention of this chapter is to give the reader a sense of the context of this study, presumably leading to a better understanding when I refer to the setting throughout the rest of the report.

The American International School of Budapest

The American International School of Budapest⁷ (AISB) is the largest international school in Budapest. The Elementary School of AISB is divided into two divisions, Lower Elementary, consisting grades Pre-K (4 year olds) - Grade 2 (7 year olds), and Upper Elementary consisting grades 3-5. AISB has two campuses; The Lower Elementary School is housed at the Buda Campus in the center of Budapest and the Upper Elementary is combined with the Middle and High School located in Nagykovácsi, a suburb of Budapest.

Enrollment at the beginning of the 2002-2003 school year was app. 700. The largest group is made up of U.S. citizens (20%), ten percent of the students are Hungarian, and the remaining 70% represent 48 other nationalities. While most of the teachers come from North America, seven other nationalities are represented in the teaching staff, thus making the school a truly international and multicultural environment.



Fig. 2.1: AISB collage (from the school website)

Class size is relatively small - 15 per class as an average, and a maximum of 20 in each class. Each class is carefully planned to give a good representation of the student population. All classes from Pre-K to Grade 1 have a class teacher and a full time teacher's assistant. The school prides itself in having a comprehensive Elementary School Program, providing a warm, nurturing and safe environment for multinational children, a statement I am fully in agreement with as a parent.

⁷ For a more thorough description of the school visit its website at <http://www.aisb.hu>

The program is a strong American elementary school program with an international approach (see Enc. C). About one-third of the students are enrolled in a special English a Second Language (ESL) program when they first arrive. The goal of the ESL program is full integration of the non-English speaking students into the social and academic routine of their English-speaking peers.

It is the school's belief that integrating language with content-rich instruction mainstreams ESL students more quickly. Classes are organized thematically and where possible coordinated with classroom teachers in the content areas of science and social studies. Maximum number of students in an ESL class is nine. Children in the ESL program are pulled out of the normal classroom for app. 1 hour pr. day.

The Class – 1B

1B is one out of 4 First Grade classes at AISB. School begins at 8:30 and ends at 15:00, four days a week an optional after-school activity program runs from 15-16:00 offering a variety of activities in sports, crafts and arts across the first and second grade classes. A typical school week in 1B follows the schedule shown in fig. 2.2.

Time	Monday	Tuesday	Wednesday	Thursday	Friday
08:30 - 10:00	Language Arts, ESL	Language Arts, ESL	Language Arts, ESL	Language Arts, ESL	Language Arts, ESL
10:00 - 10:30	Recess	Recess	Recess	Recess	Recess
10:30 - 11:00	Math	Math / Science / Social Studies	Math	Math	Math
11:00 – 11:35	Music		Hungarian		Library
11:35 – 12:05	Math		Math	Math	Math
12:05 – 12:40	Lunch	Lunch	Lunch	Lunch	Lunch
12:40 – 13:00	Science / Social	Science / Social Studies	Science / Social	Science / Social	Science / Social Studies
13:00 – 13:40	PE		PE	PE	
13:40 – 14:20	Science / Social	Music	Science / Social Studies	Science / Social Studies	Art
14:20 – 15:00	Computer	Science / Social			

Specialist teachers teach special classes (blue). The classroom teacher is in charge of the rest of the program.

Fig. 2.2: Weekly Schedule for 1B

The adults in the classroom are the classroom teacher and a full time teacher's assistant. On Thursday and Friday afternoons an ESL teacher joins the class to work with and support the children in the ESL program (ESLP).

The classroom has desks placed in groups of 3-4 tables (see fig. 2.3), and each child has their own desk. The children spend a lot of time during the day at many other places in the room and in Ms. Brockie's small office that is situated just next to the classroom. Much time is spent in the seating area on the floor, for instruction, for stories and sharing times during the day.

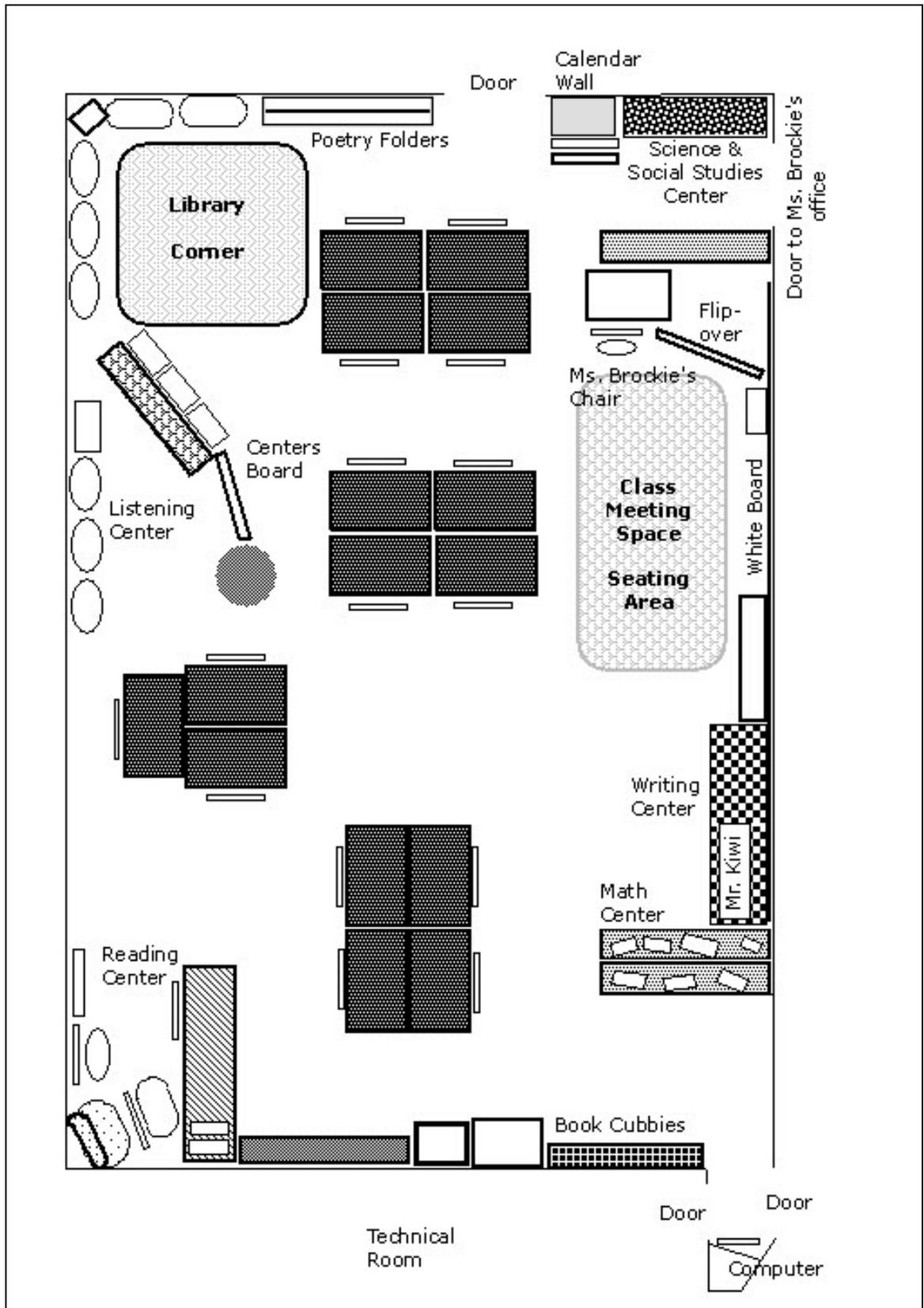


Fig. 2.3: Seating arrangement in 1B (made by Ms. Brockie)

The Classroom teacher in 1B

The classroom teacher, Ms. Brockie, has taught 1B at AISB for the last six years. Before that, she taught first and third grade at the Taipei American School, Taiwan for five years. Therefore, with a total of eleven years experience in the American International School system Ms. Brockie is a very experienced teacher. She is the team leader of the First Grade Team and as such responsible for organizing and planning activities across the first grade level. Ms. Brockie is also involved in the coaching of student teachers, meaning that she occasionally takes in a student teacher for a 12-week practice period in her class.

Ms. Brockie has an outstanding reputation in the AISB community. She has a very kind and pleasant way with the children in her class; I have never once during my time in the class heard her raise her voice, one of the things about her that my own son still remembers from his year in 1B. She has a strong focus on social behavior, promoting kindness, good manners, respect and friendships. The environment in the classroom is kind and caring and at the same time with sufficient structure and discipline to promote good work habits in a room that is almost never too noisy.

Ms. Brockie is a New Zealander, a fact that she makes use of during the school year. Early in the year, the children make a display of the Kiwis⁸ and they are introduced to the class mascot Mr. Kiwi. Ms. Brockie's intention with this is to create a special bond among the children in the class.



Fig. 2.4: The Kiwi display & Mr. Kiwi the class mascot

The teacher's assistant Mrs. Klári is Hungarian. She primarily assists with all the practical arrangements and preparations in the class. She finds and copies materials and gets and brings the children to and from the playground in the mornings and after recess. In the pedagogical work, she assists during group and paired activities.

⁸ The Kiwi is the national bird of New Zealand.

The Children in 1B

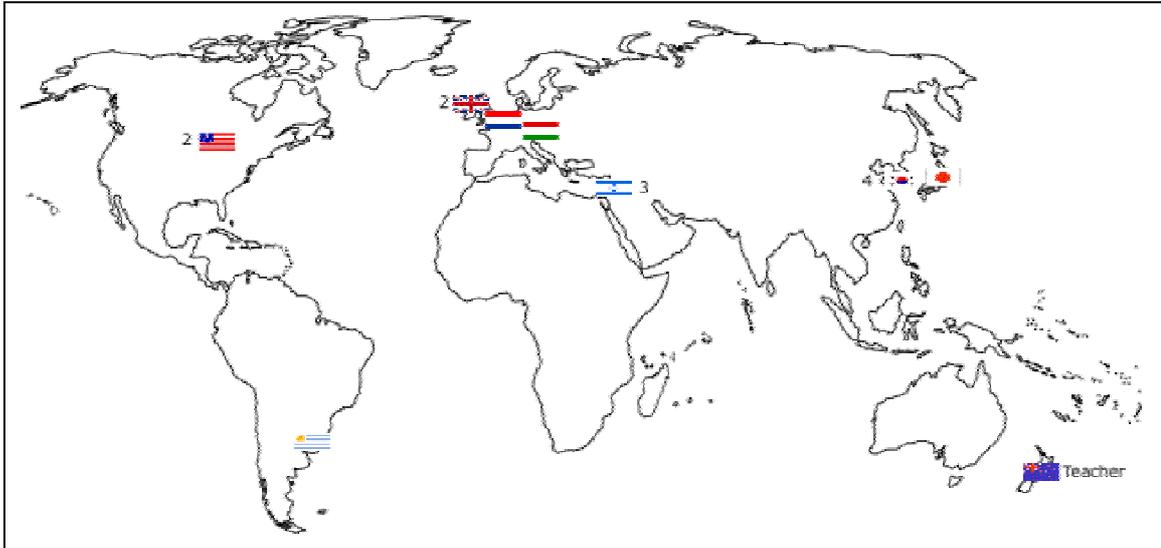


Fig. 2.5: Where do they come from? – 1B 2002-2003

Thirteen children, 7 boys and 6 girls, started the school year 2002-2003 in 1B. The group includes both native speakers of English and completely non-English speaking and a variety in between.

Student	Country	Native Language	Second Language	Started at AISB	ESL Level
Candela	Uruguay	English	Spanish	Pre-K	
Hye-In	South Korea	Korean		1B	beginner
Jesse	Holland	Dutch	English	Pre-K	as a native
Michael	Great Britain	English	Hungarian	Pre-K	
Julia	Israel	Hebrew	English	1B	intermediate
Alicia	Israel	Hebrew	English	1B	as a native
William	Great Britain	English		Pre-K	
James	USA	English	Hungarian	Pre-K	
Megan	USA	English	Hungarian	Kindergarten	
Heui Kyoo	South Korea	Korean		1B	beginner
Sung Woo	South Korea	Korean		1B	beginner
Ida	Hungary	Hungarian	English	Pre-K	as a native
Dai	Japan	Japanese	English	1B	intermediate
Se Yeon	South Korea	Korean		1B (Jan. 2003)	beginner
Tina	Israel	Hebrew		1B (Feb. 2003)	beginner

Fig. 2.6: The students in 1B 2002-2003

Monday in 1B just after the Fall Break

In closing this chapter that has introduced the setting of this study I will tell a narrative story based on my observations in the classroom. All events in the stories did actually take place, but not necessarily on the same day. I have tried to select events that I have found typical of life in the class. The narrative covers a full day, including the morning program where the ESLP children leave for their special ESL class. I have intentionally chosen events from the first third of the observation pe-

riod to illustrate some characteristics of the ESL children's behavior at the beginning of the year.

Excerpt 2.1: A Monday in 1B

It's Monday morning and the children have just come in from the playground. Everyone is talking to each other about the holiday while getting their coats and bags in place. They all seem happy to see each other again and are eager to share stories from their holiday. Sung Woo and Heui Kyoo are wandering around in the classroom together, talking in Korean and obviously searching for something.

The first children are getting ready and seat themselves on the floor, and slowly more and more join them. Suddenly Sung Woo and Heui Kyoo find what they were looking for; Elmer the Elephant had hid in the reading corner. They get Elmer and bring him to the group of children on the floor, in triumph, saying 'Look, Elmer!' The children on the floor laugh and Elmer is passed from kid to kid, while they pretend to greet him.

Now everyone is in place on the floor; Ms. Brockie starts the morning routine with a 'Good Morning 1B'. They all reply together with a 'Good Morning Ms. Brockie'. Then Ms. Brockie greets each child, today she is using the Korean good morning greeting, and each child greets back in different languages, not necessarily their own native one.

They continue with 'the Wonder Bag'. Dai has brought something from home, and he has it in a bag, called the Wonder Bag. The class tries to guess what Dai has in the bag by asking different questions and trying to narrow it down. While the questioning is going on, Heui Kyoo silently repeats 'questions, comments or compliments' over and over again to himself. When they think they know what it is they all say, 'I wonder what's in the Wonder Bag'. Dai reveals his toy from the bag – they guessed correctly. After demonstrating the toy Dai asks the class if there are any questions, comments or compliments. After the morning routine, the ESL children leave for their special ESL class.

The rest of the class talks about their holiday. Ida explains about her trip in a sleeping wagon. Then Dai wants to add to Ida's story, but as there are a lot of words he doesn't know, he tries to explain by making sounds. The rest of the class is willingly trying to guess the meaning of his sounds. Later on Candela tells about a trip to the fun park, but she can't remember the name of a Ferris wheel, Ms. Brockie and Michael help her find the correct word.

Next activity is 'Power Words'. They are learning a new group of words today. Ms. Brockie places one word at a time on the whiteboard. The class says each word aloud and they are all very excited when they are able to read a new word. All words begin with 'sh'. Ms. Brockie asks if they know more words than those already on the whiteboard. Alicia finds a word on one of the walls in the class; Michael immediately starts to look around to see if he can find another one.

They are grouped together in pairs to work on with the sh- words. They have to either write or draw all the words starting with sh- they know. One group gets a book to search in, another group sees that and immediately ask for one too. There is a lot of helping between the groups and they are very good at appreciating the help they get. Suddenly Ms. Brockie rings 'the Bell'. Everyone knows what to do – stop, look and listen.

Ms. Brockie explains the next activity; it's writing time and they have to continue their stories about Elmer, a work they began before the holiday, or start a new story about their holiday. While they write they go to Ms. Brockie one at a time to

read. Each day they get a new book to read. They begin the story with Ms. Brockie and are supposed to finish the book at home as homework. Each child gets a book that is chosen to suit the reading level of that individual child. During the writing and reading time the children are free to move around in the class. From time to time one or two children join Ms. Brockie and the child reading to watch and listen, or to help. Reading is a joint enterprise.

The ESLP children come back into the class; they walk around a little taking a look at what the rest of the class is working on, and then join the reading group. Then it's time for recess and they all get dressed, get their snack and walk out on the playground.

After recess it's 'Calendar Time'. William is the calendar person; he needs a lot of help. The class says what's needed to help him aloud, and finally they all say it together, 'Today is Monday the 28th of October'. While this is going on Sung Woo is silently singing the months of the year song to him self. Next William and the class count the days they have been in school on the abacus and finally he fills in today's date on the calendar and adds a tally mark on the days counter underneath the calendar.

They are now ready to begin their math work. Ms. Brockie asks 3 children to stand up, James, Jesse and Alicia. Ms. Brockie asks them to find a partner; Jesse and James happily get together and hug. Now Alicia is standing alone, Ms. Brockie asks her how she feels, 'Do you feel the odd one?' and Alicia replies 'Yes I do'. The next number is 6, so 6 children stand up and Ms. Brockie asks them to find a partner. They all quickly find a partner, Ms. Brockie asks again 'How does that feel – is it fair, kind of even?' and they all replies 'Yes, it's fair'. They continue with different odd and even numbers and a lot of the children try to be the one alone, and they are all asked how it feels.

Then Ms. Brockie takes the 'Silent circle'-sign and very quietly they move around on the floor until they form a circle and they can all see what's going to happen. Ms. Brockie places some bricks on the floor – 9 in all. 'Find a partner' – she says and makes pairs with the bricks. 'Ooohh...' they all say when one is left over. Dai notice that 2, 4, 6, 8 is skip counting by 2. They try different combinations, determining each time whether the number is odd or even.

They go to their desks. Ms. Klári, the assistant, has given each child some bricks. Now Ms. Brockie asks them to take out 7. Heui Kyoo shouts 'One', meaning it's odd. They all pair their bricks to see that it is odd. Next number is 10, then 15 and so on. Different children shout out if it's odd or even and why. Ms. Brockie helps Heui Kyoo sounding out odd. Finally they have to count all their bricks and tell Ms. Brockie or Ms. Klári if it's an odd or even number. When they are done they can go to lunch.

After lunch it is story time. Today Ms. Brockie reads a story about Odd-Todd and Even-Steven. The name Todd rings a bell with several of the children and they start to tell from where they know the name Todd. It gets quite noisy, and then Ida very politely asks if the class can be quiet because she would very much like to hear the story.

The story is on odd and even numbers and it gives the class a lot of opportunities to work with odd and even number problems. During the reading of the story the three ESLP children are doing small different things, like humming, silently playing with bricks and just moving around in the class. They obviously don't understand too much of the story. The rest of the class accepts that they are not participating. The story ends up in talking about feelings, a subject the class worked with in the beginning of the year, and now the ESLP children join the group again.

After the story they all have to make an odd/even poster. Some of the girls make it a copy of the one Ms. Brockie made, using the same colors for odd and even numbers. The rest of the class is more into making it colorful. There is much talking and moving around, checking each other's work, ideas and compliments are spreading around the room. Then suddenly it's time for music, so they line up and leave the class.

After music they are working on their mammals unit. The children can choose different activities to show what they know about mammals. They can write a story, draw a picture, use the computer or they can make a clay model. The 3 ESLP children and Ida choose the computer and go to the computer Lab together with Ms. Klári. The rest choose the clay model and stay in the classroom with Ms. Brockie.

They work very nicely and there is a lot of talking about the figures they make. In the beginning they have some concerns about the colors available, but they end up agreeing that color is not the most important feature. They praise each others models, saying things like 'nice' and 'cool'. Michael is using a lot of blue clay, but asks nicely if anyone else needs the blue before he uses it all. James approaches Michael to see what he is doing; 'Michael it's a very nice shape – I like the tail'. They give each other tips on how to apply different features to the figures. Michael goes to Megan, sees her figure and says, 'That elephant is cooler than my whale'.

James made a kangaroo. Jesse made a baby kangaroo. They start a conversation on the kangaroos:

Jesse: 'I'm the cousin'. William: 'I'm the friend'. Alicia: 'When I finish can I then be another friend?' James: 'Yes!'

Michael now makes a baby whale. William sees it and says, 'Oh, a baby, it's so cute Michael'. James has now made two kangaroos and is helping William to make one.

The children come back from the computer Lab. The two groups start showing each other what they made. They praise each others work. Then they also start to make clay figures.

Megan: 'Can anyone help me make a kangaroo?'. James: 'I can, I'm an expert on kangaroos'

In the end all the children play with their figures.

It's time to go home, so they all sit on the floor. Michael tells a story about his two whales. Next Jesse is to share his figures and he also tries to make up a story like Michael did. Jun Min shows her drawing from computer and Ms. Klári praises her for using the Mammals poem to remember all the facts. Ms. Brockie tells that a lot of the children did that when they had to tell her the 5 facts they have learned about mammals.

The homework folders are handed out. Hye-In and Alicia are helping Ms. Brockie, they take turn reading the student name on the homework folders. When their name is read aloud the children get up, go to Hye-In and Alicia, get their folder replying 'thank you' and then go to pack their stuff and go home – another day in 1B has come to an end.

I will return to this narrative in Chapter 5, for now the intention has only been to give an impression of life in 1B, later on in the analysis I will make interpretations of different events in the narrative.

Chapter 3: Theory

In this chapter, I will present a brief survey of the different literature I have studied within the fields of SLA and the CoP theory. Since SLA is not a part of the Master education curriculum, a short presentation of the subject is given here to introduce the reader to the most important stages in the development of this research area.

Theoretical approaches to explaining first and second language acquisition draw on fields like linguistics, psychology, neurology and sociology. Work within these areas has played and still plays an important role in the development of theories within first and second language acquisition. This creates a relation between these theories and general theories of learning as they have been introduced during the Master education. Many of the theories within language acquisition are used also as general theories of learning and vice versa.

The basis for SLA research has been theories for first language acquisition so this will be the starting point. I will first introduce individual focused positions in SLA and end up discussing some positions within the sociocultural theories.

After this survey of the SLA literature, I will move on to the CoP theory. First, I will argue for the reasoning behind using the CoP perspective on SLA. Secondly a more thorough description of Wenger's definition of a CoP and his framework for educational design will be given since this is the main theoretical viewpoint of this project. Consequently, the intention with this chapter is to reveal the theoretical foundation of this project.

First and second language acquisition

The field of research in language acquisition is characterized by a multiplicity of theories. None of the theories is complete but each theory provides its piece of information as to how a language is acquired. Most of the theories may be considered in both mother tongue (L1) and in second or foreign language⁹ (L2). In the next subsections, I will only introduce the most significant theories (for a more thorough overview, see Larsen-Freeman & Long 1991).

Individual positions in SLA

Behaviorism

Behaviorism is a general classic learning theory developed by E.L. Thorndike and B.F. Skinner. It is a psychological discipline concerned with studies of behavior. It comes within reach of a natural scientific approach, in the sense, that it is only concerned with issues that can be observed - the behavior (Hermansen 2001:40).

Behaviorism was very influential in the 1940's and 1950's especially in the United States. Traditional behaviorists believe that learning takes place because of imitation, practice and feedback. Children imitate sounds and patterns they hear around them and when they receive positive feedback, they continue to imitate and practice until they are able to produce the correct language form.

⁹ Foreign language learning refers to learning of a second (or third, or fourth) language in a context where the target language is not widely used in the community (for example learning French in China). This is often contrasted with second language learning, i.e. where the language being learned is used in the community (minority groups in the US. learning English e.g.)

Since behaviorists believe that learning is about forming habits, they also believe that learning a L2 starts from the habits formed in the L1. This leads to the assumption that if there are similarities between the first language and the second language the learner will learn the new structures with ease whereas differences in the languages will lead to difficulties in learning¹⁰.

Looking at the time children from different parts of the world spend in the special pullout ESL program¹¹ at AISB might support this belief. The children from Asia, having a L1 with no similarities to English, not in spoken nor in the written language spend considerably more time than children from e.g. Europe in the program.

Behaviorism offers a reasonable explanation for some aspects of language learning, especially learning of regular and routine aspects of the language. However, it falls short when trying to explain how more complex grammatical structures of the language are acquired (Lightbown & Spada 1999: 9-15).

Innatism

Linguist N. Chomsky has suggested an approach that has had a great influence in the development of theories of first and second language acquisition. Chomsky claims that children are biologically programmed for language acquisition in the same way they are programmed for other biological developments (Chomsky 1959).

The argument is that humans have a center in the brain especially programmed for language acquisition and that this center takes care of a lot of the construction of the grammatical rules. Another point in Chomsky's theory is that this center, also called the Universal Grammar (UG), only function fully in early childhood and that this is the reason why most people fail to learn a second language to the native level when they start later than the age of 10-12¹² (Ellis 1997: 65-7; Lightbown & Spada 1999: 17-22).

My son might be a good example in favor of Chomsky's UG. In his English learning process, he has not yet been taught the grammatical features of verbs in e.g. singular and plural, never the less he knows exactly which form to use. Asking him how he knows, e.g. when to use have or has, he replies, 'I just know!'

Chomsky proposed his theory in reaction to the inadequacy in the behaviorist theory, and as such has succeeded, in the sense that the innatist position is very successful when it comes to explaining the complex parts of language acquisition that the behaviorists fails to explain.

S. Krashen is another important innatist; he made the so-called 'Monitor Model' for second language acquisition that has inspired a teaching tradition called communicative language teaching¹³. His point is that learners gain knowledge in two ways: acquisition and learning¹⁴. Acquisition is what we learn from mere exposure to a language, very much in the same way as when we learned our first language. Learning is a conscious process of study and attention to form and rules. Krashen's

¹⁰ This is also known as the Contrastive Analysis Hypothesis (CAH).

¹¹ Mentioned in Chapter 2.

¹² This is also known as the Critical Period Hypothesis (CPH).

¹³ This approach to teaching emphasizes the communication of meaning over the practice and manipulation of grammatical forms.

¹⁴ I have tried to use the terms learning and acquisition so they comply to the way Krashen uses them, it seems like a reasonable distinction between different processes when it comes to language learning.

argument is that the acquired system initiates all our utterances; the learned system only functions as an editor or monitor (Lightbown & Spada 1999: 38-40).

Reflecting on my own experience with English, I have learned English as a foreign language within a teaching tradition with focus on form and rules before communication of meaning. I do experience that my written language is more advanced and grammatically correct than my spoken language. Using Krashen's monitor model this can be explained as the learned system being in control when I write, I have the time to think, to consult my language editor.

Criticism of the innate position is concerned with the little focus this theory has on the development process; too much weight is on the final state - the competence of adult native speakers (Ibid: 45).

Connectionism

Connectionism is a more recent view on language acquisition inspired by computer simulations. Connectionists differ strongly from the innatists because they do not see the need for the UG; they believe that learning a language can be explained in terms of learning in general (Ibid: 45).

Language learning is in the connectionist point of view seen as a complex system of units, interconnected in the mind as they are encountered together. The more often units are heard or seen together, the more likely it is that the presence of one will lead to the activation of the other. This model fails to account for the way language is acquired because it just studies how the brain makes the connections when a language is processed.

Connectionist research often involves computer simulations or very controlled laboratory experiments where people learn specific and very carefully chosen linguistic features. Critics of this approach point to the lack of reasonable generalization to the complexities in normal human language acquisition (Ibid).

Sociocultural positions in SLA

The interactionist position

The interactionist position is that language develops because of the complex interplay between the child and the environment in which the child develops. L.S. Vygotsky, in his theory on the '*Zone of Proximal Development*', made a very important contribution to this theory (Lightbown & Spada 1999: 22-3).

Vygotsky defines the Zone of Proximal Development as:

It is the distance between the actual developmental level as determined by independent problem solving and the level of potential development as determined through problem solving under adult guidance or in collaboration with more capable peers. [Vygotsky, L.S. (1978): Mind in Society: The development of higher psychological processes. p. 86] (Here quoted from Lantolf & Appel 1994: 10).

Vygotsky was a psychologist but his studies on conscious human behavior led him to investigate the role that language plays in human behavior. Vygotsky's point of view was that social interaction plays a significant role in the learning process. According to Vygotsky, two developmental levels or planes determine the learning

process: the social plane and psychological plane. He formulated the transition between the two planes as *a general law of cultural development*:

Any function in the child's cultural development appears twice, or on two planes, first it appears on the social plane, and then on the psychological plane, first it appears between people as an interpsychological category, and then within the child as an intrapsychological category. This is equally true with regard to voluntary attention, logical memory, and the formation of concepts, and the development of volition. [Vygotsky, L.S. (1981): The development of higher forms of attention in childhood. p. 163] (Here quoted from Lantolf & Appel 1994:11).

The role of language in this appropriation process as the primary symbolic cultural artifact is crucial. This could lead on to a closer look at the theory known as 'The Activity Theory', which is a unified account on Vygotsky's original proposals on the nature and development of the human behavior, developed by a group of his colleagues after his death, but it will be out of the scope of this work (See Lantolf 2000; Lantolf & Appel 1994, for an overview on the Activity Theory).

In conclusion, Vygotsky argues that language is the key to all development and words play a central part not only in the development of thought, but also in the growth of cognition as a whole. Within this framework, child language development can be viewed as the result of social interaction.

The Dialogic Perspective

Another important perspective belonging to the sociocultural theories is the Dialogic perspective, developed by M. Bakhtin. Like Vygotsky, Bakhtin believed in the importance of studying action situated in specific sociocultural situations and an important point in his theory is a situation he calls "*to come to voice*" (Toohey 2001: 13).

Bakhtin is concerned with L1 as well as L2. On L1 learning he explains:

We come to know our native language – its lexical composition and grammatical structure – not from dictionaries and grammars but from concrete utterances which we hear and which we ourselves reproduce in live speech communication with people around us. We assimilate forms of language only in forms of utterances... [They] enter our experience and consciousness together. [Bakhtin M. (1986): Speech Genres and other Late Essays (trans. V.W. McGee). p. 78] (Here quoted from Toohey 2001: 13).

This might at a first glance look like the behaviorist explanation, but a very important difference is Bakhtin's use of '*communication*' as the means to assimilate the language. It is in the communication, finding words to answer other people's utterances a person finds and develops their voice.

And another important explanation valid for L1 as well as L2 acquisition:

The word in language is half someone else's. It becomes 'one's own' only when the speaker populates it with his own intention, his own accent, when he appropriates the word, adapting it to his own semantic and expressive intention. Prior to this moment of appropriation, the word does not exist in a natural and impersonal language... but rather it

exists in other people's mouths, in other peoples concrete contexts, serving other people's intentions: it is from there that one must take the word and make it one's own. [Bakhtin M. (1981): The Dialogic Imagination: Four Essays. p. 293-4] (Here quoted from Toohey 2001: 13).

In Bakhtin's view, individuals never create their utterances out of nothing, it is always related to other people's utterances, it is from other people - in the dialog that we gradually appropriate language and makes it our own.

The consequence of Bakhtin's viewpoint is that we should understand a beginning language learner as doing the complicated linguistic, semantic and psychological task of constructing a voice within a specific context or within a specific community. Now it feels straight forward to move the perspective a bit further and view this specific community as a community of practice – but before doing that we will take a short look at other factors affecting second language acquisition.

Factors affecting second language acquisition

Common to all the theories mentioned so far is, that they to a certain extent rely on a common set of factors or learner characteristics, when it comes to determining the success of the individual L2 learner. These characteristics are: intelligence, aptitude, personality, motivation and attitudes, learner preferences, learner beliefs and age (Lightbown & Spada 1999: 49-69).

If the position is a sociocultural position it is worth mentioning the relationship between language and culture, which seen in the light of the multi-cultural student population at AISB, is very relevant. Language can be seen as a system of signs having it's own cultural value. Culture can be seen as the social and historical aspects of communities.

Summary on first and second language acquisition

As mentioned in the introduction part of this section on first and second language acquisition the field of research is characterized by a multiplicity of theories. I have introduced only a few of them in the preceding subsections, but already these few theories present a somewhat confused picture because they have very different focus and foundations.

Still the total picture does make sense if we try to see the different theories for what they are: explanations to different aspects of language acquisition. Behaviorist and connectionist theories may explain the learning of simple vocabulary and grammatical morphemes. Innatism seems reasonable in explaining the acquisition of complex grammar. Sociocultural theories may be useful when trying to understand how children create form and meaning in language and how they interact in conversations.

In addition to the different explanations on the process of learning the second language, we also need to take learner characteristics and the relationship between language and culture into consideration when trying to create a full picture of a language-learning situation.

The purpose of this project is not to investigate the process of learning ESL from any of these positions, but since they all contribute to the broad picture I have found it relevant to present them and I have used the knowledge I have gained

studying them as the basis for working with the CoP perspective. I will return to them throughout the rest of the report when it seems appropriate.

Communities of Practice

In the preceding section, I introduced different views on SLA. In Chapter 1 I stated that a natural extension to the language socialization perspective, the sociocultural position, would be to apply a Community of Practice perspective to the language learning process, and ending up in Bakhtin's dialogic perspective it seemed a logical next step.

Now I will argue in favor of this statement from the foundation of the CoP theory and then in the next subsections I will present relevant aspects of Wenger's theory on Communities of Practice.

Reasoning behind a CoP perspective on young children's SLA

Wenger is widely known for his work, in collaboration with J. Lave, on what is known as the 'Situated Learning Theory' (Lave & Wenger 2003). Situated Learning is as Vygotsky's Zone of Proximal Development and Bakhtin's Dialog perspective situated in the field of sociocultural theories. It has a foundation in ethnographic case studies of midwives, tailors, quartermasters, butchers and non-drinking alcoholics. As a part of the theory, Lave and Wenger defined a CoP as: '*... a set of relations among persons, activity, and world, over time and in relation with other tangential and overlapping communities of practice*' (Ibid: 83, my translation).

In CoPs, newcomers learn from old-timers by being allowed to participate in certain tasks relating to the practice of the community and progressively move from peripheral to full participation in the community. For Lave and Wenger Legitimate Peripheral Participation (LPP) is the defining characteristic of apprenticeship as a form of learning. Newcomers learn the practice of the community by being situated in the practice and by having access to established members. LPP is part of the process by which a newcomer becomes an established member of a CoP. LPP is not merely learning situated in practice but learning as an integral part of practice (Ibid: 31).

In the cases, that Lave and Wenger base their theory upon, learning is a means to participate in the CoP and create the product of that specific CoP. This is a central point in the characterization of the basis of a CoP, that learning is a means to participation, not a goal in itself. Stated in relation to the non-drinking alcoholics as: '*For the newcomer the purpose is thus not to learn [from] speak as a replacement for legitimate peripheral participation; it is to learn [to] speak as a key to legitimate peripheral participation*' (Ibid: 93, my translation).

This central point can be used as the argument in favor of using the CoP theory as a perspective on the learning process displayed by the young children learning ESL in a Grade 1 classroom. For them learning ESL is a means to participate in the everyday life of the class and take part in the learning of subjects defined by the school curriculum, not a goal in itself. The compliance of the observations in the classroom to the characteristics of a CoP will eventually verify the reasonable ground for this choice of perspective.

Key factors in a CoP

In their 1991 book, Lave and Wenger focused on the concept of legitimate peripheral participation to characterize learning. In his 1998 book Wenger explains:

The concepts of identity and community of practice were thus important to our argument, but they were not given the spotlight and were left largely unanalyzed. In this book I have given these concepts center stage, explored them in detail, and used them as the main entry points into a social theory of learning (Wenger 1998: 11-12).

This is the reason why I have selected Wenger's work on CoP as the main theoretical resource in this project.

In the interest of being able to identify and later on transfer key factors in the ESL CoP to the computer program I will present and discuss these key factors as presented by Wenger (Ibid).

To develop a practice the members of a community need to engage with each other and recognize each other as members of the community. Engaging in the practice of a community develops relations, which defines a member's place in the community. It defines, among other things: who has a specific expertise, who is central and who is peripheral.

People learn how to work, they learn how to engage with each other and as they do so they play a part in the relations that define the community. They also learn how to interpret and use the community's repertoire of practice. This includes the community's artifacts, actions and language.

Wenger defines the CoP as being characterized by three dimensions: mutual engagement, joint enterprise and a shared repertoire, as shown in fig. 3.1 (Ibid: 73):



Fig. 3.1: The three dimensions in a CoP

One difficulty in working with Wenger's theory is that he defines the CoP using the three dimensions. The three dimensions are defined by all the key factors mentioned in fig. 3.1, but when explaining the theory, not all the factors are being explained, and others are drawn in.

In the following sections, each key factor will be described to the extent that Wenger describes them (in Wenger 1998).

Mutual Engagement

Mutual engagement is what defines a CoP. An important point is that a community in this sense is NOT just an aggregate of people defined by some characteristic; it is not a synonym to a group, a team or a network. A CoP exists because people are engaged in actions whose meanings they negotiate with one another.

The key factors defining the mutual engagement are (Ibid: 73-7):

- *Engaged diversity*, is seen as the need to understand and accept that to be in a CoP homogeneity is not a requirement, it could happen as a result of being in a CoP, but in general, the diversity is seen as a strength. It is however stressed that it is often useful to be in both kind of communities, the homogeneous and the diverse.
- *Doing things together* is one of the factors that Wenger does not explain explicitly, but it is an underlying assumption in the whole theory, that it all arises from doing things together.
- *Relationships* come out of being mutually engaged and doing things together. These relationships can be good and positive as well as negative and destructive.
- *Social complexity* is only mentioned in connection to the competence of the individuals in a learning environment. '*Competence thus stripped of its social complexity, means pleasing the teacher, raising your hand first, getting good grades*'. I take social complexity as meaning that competences and actions of the members in a community need not to be mainstreamed. Every member contributes his or hers abilities and talents, and everyone in the community need not perform the same tasks.
- *Community maintenance*, making and keeping a mutual engagement possible is crucial to any community; no engagement means no membership in the community. Enabling engagement takes work, work that is often undervalued or totally unrecognized – the task of community maintenance.

Mutuality is the key aspect of engagement. Practice exists because people engage in actions, the meanings of which they have to negotiate with each other. Therefore, Wenger states that practice is not to be found in books or tools, although it may involve many kinds of artifacts. He defines practice as: '*The concept of practice connotes doing, but not just doing in and of itself. It is doing in a historical and social context that gives structure and meaning to what we do. In this sense, practice is always social practice*' (Ibid: 47). Practice is to be found in the community '*and the relations of mutual engagement by which they can do whatever they do*' (Ibid: 73).

Joint Enterprise

Wenger states three points about the type of negotiated enterprise that keeps a CoP together (Ibid: 77-8):

1. It is a result of a collective process of negotiation.
2. The participants in the very process of pursuing it defines it, it is a matter of the negotiated meaning.
3. It's not just a stated goal, it's creates mutual accountability that becomes an integral part of the practice

The key factors defining the joint enterprise are (Ibid: 77-82):

- *Negotiated enterprise*, since mutual engagement does not result in homogeneity, a joint enterprise does not mean agreement in any simple sense. Disagreement might as well as agreement be a part of the negotiated enterprise. The point here is that the enterprise includes all aspects of our lives, the personal, the interpersonal and the work, or practice, related thus making it very complex to conceive.
- *Mutual accountability*, negotiating a joint enterprise gives rise to relations of mutual accountability among participants. These relations define a mutual viewpoint on the matters of the enterprise – what is important, what is not, what to do and not to do and so on. Becoming good at something involves developing specialized sensitivities that are brought to bear on making judgments about the quality of a product or an action. That these become shared in a CoP is what allows participants to negotiate the appropriateness of what they do.
- *Interpretations*, the regime of accountability becomes an integral part of the practice, and being able to make the right interpretations of what's going on is a vital competence becoming an experienced member of a CoP since the negotiation of the joint enterprise is constantly ongoing.
- *Rhythms*, the meaning of rhythm is very briefly referred to making analogy to music; in the way that enterprise is part of practice the same way that rhythm is part of music.
- *Local response*, CoP comes in different forms; some grows out of very informal circumstances other grows within formal institutions. No matter if the CoP grows out of a formal or informal circumstance, local response is the way the members of the community produce a practice to deal with what they understand to be their enterprise.

Joint enterprise is the key to keeping a community together. As we have seen, it is not simply a stated goal. Rather relations of mutual accountability created between and among the members of the community and thus become part of the practice. The members of the community define the joint enterprise as they are in the process of pursuing it.

Shared repertoire

Over time, a CoP develops a shared repertoire. It includes routines, words, tools, ways of doing things, stories etc. that are produced or adopted during the life of the CoP. The repertoire reflects a history of mutual engagement; it remains inherently ambiguous and thus is the basis for future negotiations of meaning.

The key factors in the shared repertoire are (Ibid: 82-4):

- *Stories* are the glue, reflecting the history of the CoP.
- *Styles* are ways of expressing forms of membership and identity as members of the CoP.
- *Artifacts*, tools and words used in the CoP in pursue of its practice.
- *Actions*, as artifacts actions are created in pursue of practice.
- *Discourses* are the ways the members create meaningful statements about the world surrounding the CoP.

- *Historical events*, more specific than the stories, the historical events are facts about the presence; the stories might be reifications of historical events.
- *Concepts* are a common set of ideas and perspective shared in the CoP.

Possible characteristics defining a CoP

Wenger gives directions on how to use the concept of community of practice as an analytical tool. He recommends that one does not view a specific interaction, being it a conversation or an activity as the way to capture the meaning of a practice – it would attach too much meaning to the moment. Nor does he recommend viewing broad constellations, like nations, a culture or a corporation as one community since this will leave out the importance in the localities.

Instead, Wenger provides a list of possible characteristics, which he feels define a CoP, for example (Ibid: 125-6):

- There are sustained mutual relationships, be they harmonious or conflictual.
- There are shared ways of doing things together.
- There is a rapid flow of information and propagation of innovations.
- Introductory preambles are non-existent. It is as if conversations and interactions are simply continuing - an ongoing process.
- Problems to be discussed are set up very quickly.
- When members offer a description of who belongs there is substantial overlap in the descriptions.
- The members know what each other know, what they are able to do and how they can contribute.
- The members are mutually defining identities
- The appropriateness of actions and products is easily assessed.
- There are specific tools, representations and other artifacts.
- There is a shared background – stories, inside jokes.
- The members have their own language in the form of jargon.
- There are certain styles, which indicate membership.
- There is a shared discourse reflecting a certain perspective on the world.

Many of these characteristics match the key factors described above.

Summing up one can argue that it is not possible to create a single, tight definition, but rather it is preferable to use the term CoP as an umbrella term:

Calling every imaginable social configuration a community of practice would render the concept meaningless. On the other hand, encumbering the concept with too restrictive a definition would only make it less useful. It is not necessary, for instance, to develop a simple metric that would yield a clear-cut answer for each of the social configurations ... by specifying exact ranges of size, duration, proximity, amount of interaction or types of activities (Ibid: 122).

Framework for an educational design

In a CoP, it is important to emphasize the social aspects. Several of the characteristics described above point to the importance of the social features. A CoP cannot be created, merely facilitated, for without the internal motivation and the relationships that the members develop a group will fail to evolve into a CoP.

To assist the process of facilitating learning Wenger sets up a framework for an educational design that can be used as a guideline when planning learning environments. The main point in this framework is that issues of education should be addressed primarily in terms of identities and modes of belonging, and only secondarily in terms of skills and information (Ibid: 263).

The framework consist of four dimensions (Ibid: 264):

1. *Participation and reification* – how much to reify learning, its subject and its object.
2. *The designed and the emergent* – the relation between teaching and learning is not one of simple cause and effect.
3. *The local and the global* – educational experiences must connect to other experiences.
4. *Identification and negotiability* – there are multiple perspectives on what an educational design is about: its effect on learning depends on inviting identities of participation.

In the following subsections, I will go a little more into detail with each of the dimensions.

Participation and reification: learning as negotiation

Codification of knowledge into a reified subject matter, for instance, in the form of a textbook or a curriculum is an activity traditionally associated with educational design, and Wenger states, that this kind of educational reification creates an intermediary stage between practices and learners (Ibid: 264-6).

Wenger's point is that educational design is about balancing the production of reificative material with the design of forms of participation that provide entry into a practice and let the practice itself be its own curriculum.

Wenger suggest that questions to make when making an educational design on this dimension include (Ibid: 266):

1. *To what degree should the subject matter be reified for educational purposes?*
2. *What forms of participation are required to give meaning to the subject matter?*
3. *How much should learning itself be reified as a process?*
4. *At what point is such reification more a distraction than a help?*
5. *What forms of participation can be designed that do not require reification of the subject matter beyond what is already part of the practice?*

The designed and the emergent: teaching and learning

A focus on teaching is not equivalent to a focus on learning. The two are not even mirror images. Learning and teaching are not inherently linked. Much learning takes place without teaching, and indeed much teaching takes place without learning. Teaching does not cause learning; it creates a context in which learning may take place, as do other contexts (Ibid: 266-7).

This point made in Wenger's book is a mirror of the shift in learning paradigm that has taken place in industrialized countries as a consequence of these countries transformation into knowledge based societies. The shift is from a traditional paradigm with focus on transfer of knowledge from the teacher to the students to a new paradigm with focus on the learner's learning process and developing of problem solving strategies, creativity and critical thinking skills.

Wenger lists the following questions to pose when making an educational design on this dimension (Ibid: 267):

1. *How can we honor the emergent character of learning?*
2. *How can we minimize teaching so as to maximize learning?*
3. *What kind of rhythm and shifts of focus will allow learning and teaching to inform each other?*
4. *How can we maximize the processes of negotiation of meaning enabled by that interaction?*

The local and the global: from practice to practice

Educational design is caught in a tension between the local and the global. In this tension, the challenge is to balance the scope of educational experience with the locality of engagement, the need to be detached from practice with the need to be connected to it. The ability to apply learning flexibly depends not on abstraction of formulation but on deepening the negotiation of meaning. From this perspective schools gain relevance not just by the content of their teaching but also by the experiments of identity that students can engage in while there (Ibid: 267-9).

Being a school in a multicultural community, like AISB, creates special demands for concerns on this dimension. Being able to find the right balance between the local - the classroom, and the global - the community and create opportunities for all the children to experiment with identities that are not only valuable in the local but also in each and every ones global community regardless of culture, language and nationality is the challenge.

Relevant questions to make when making an educational design on this dimension include (Ibid: 269):

1. *How can we broaden the scope of coverage without losing the depth of local engagement?*
2. *How can we create links to other practices so that education does not become self-contained?*
3. *How can we enable transformative experiences that change students understanding of themselves as learners and thus their ability to move among practices and learn whatever they need to learn where they are?*

Identification and negotiability: identities and participation

An educational design competes with other sources of identification and negotiability. One problem of the traditional classroom format is that it is both too disconnected from the world and too uniform to support meaningful forms of identification (Ibid: 269-70).

Lave & Wenger throughout their work do exhibit a general skepticism towards learning in the scholastic system. In his book Wenger, after explaining how our beliefs must influence our organization of learning, ask this question '*If all this seems like common sense, then we must ask ourselves why our institutions [schools] so often seem, not merely to fail about these outcomes, but to work against them with a relentless zeal*' (Ibid: 10). The task must be to find schools where this perception is not true and study how the educational design looks in those settings.

Relevant questions to make when making an educational design on this dimension includes (Ibid: 270):

1. *Which sources of identification does an educational design compete with and which does it offer?*
2. *What broader economies of meaning¹⁵ is it part of? What kinds of economies of meaning does it generate internally? And how are the two articulated?*
3. *For whom is the design an opportunity to build an identity of participation?*
4. *Who defines success and failure, and how is this definition negotiated among the parties involved?*

Summary on Communities of Practice

The theory on Communities of Practice as described by Wenger offers an opportunity to analyze a learning community from a social perspective. The theory includes possible characteristics to use as an analytical tool in determining whether a group has evolved into a CoP. It also includes a set of key factors defining important features of the CoP and finally a framework that can be applied either for planning the facilitation of a learning community or questioning planned education for its potential in facilitating the creation of a CoP.

In the next chapter, I will present a study applying the CoP theory to SLA and use that as a guideline for choosing suitable methodologies to apply in this project.

¹⁵ Wenger defines "economies of meaning" as a social configuration that reflects relations of legitimacy and power, and also captures the inherent fluidity of these relations, which are themselves shaped through the negotiation of meaning (Wenger 1998: 199-200)

Chapter 4: Methodology

In this chapter, I will first present a study applying the CoP theory to SLA and use that as a guideline for choosing suitable methodologies.

I will then outline the methods I have applied in this study. I will present my field-work and discuss the implications of the different demarcations, restrictions and choices that have influenced the way empirical data has been collected. I will also describe how the data analysis has been carried out before presenting it in the following chapter.

Applying the CoP theory on young children learning ESL

In her book 'Learning English at School – Identity, Social Relations and Classroom Practice' K. Toohey reports on observations of ESL kids in a Canadian school for three years, from kindergarten to Grade 2 (Toohey 2000).

The Kindergarten observation's primary goal was to investigate identity formation and the way schooling practices produce different possible identities in the children. The focus is on how assignment to a special ESL class or to a special resource teacher influences the children's identity in the ordinary classroom. It is also considered whether it influences the teacher's view on the children that she has to grade them (Toohey 2000:22-79).

In Grade 1, Toohey is studying how the classroom setting influences the possible social relations that the children, especially the ESL children, can make in the class. In this class, every table is separated and the teacher makes sure that no children speaking the same first language are placed next to each other. At the same time, the children are not allowed to leave their seats to join others or borrow things when they are working. Oral repetitions and copying others written work were also not allowed – the reason for this rule seemed to be a wish to have everyone doing 'their own work' (Ibid: 80-96). The analysis was based on Lave and Wenger's concept of LPP and their first description of a CoP (Lave and Wenger 2003).

Finally she studies how the different discursive practices in Grade 2 open opportunities for the ESL students to develop their language in dialogues that don't expose them to the risk of degradation because they can't answer questions asked. She studies three different types of dialogues, teacher led with the whole class, student-student dialogue in group work and student-student dialogues in informal discussions in between work. In this part of the study, the perspective is no longer CoP, but SLA with a primary interest in the analysis of specific utterances and the interpretation of the meaning of those utterances (Toohey 2000:97-123).

The theories applied are a combination of SLA and CoP. The observations were made in the years 1994-97. Toohey had much more manpower and technical possibilities than I do. She had audio as well as video recordings from the class, interviews with both teachers and parents, and several assistants doing not only all of the transcription work, but making a lot of the interviews and some of the observations too. Never the less I find that many good parallels can be made to my project.

Choosing a methodology

In the observations in the Grade 1 classroom Toohey had her focus on community economic practices, understood as actions that are *'repeated, shared with others in a social group, and invested with normative expectations and with meanings and significances that go beyond the immediate goals of action. The practices here are economic in the sense that they are concerned with the access of children to classroom resources'* (Ibid: 81). This was chosen to investigate the ESL children's access to classroom resources, seen as access to a wide range of ongoing activities, to old-timers or masters and other members of the community, and to information, resources and opportunities for participation.

My intensions are somewhat similar to the point of origin in Toohey's Grade 1 study. I intend to get to know and understand the ESL children's daily life in the classroom and study how that daily life and the resources available to the ESL children influence their second language acquisition. Bakhtin, here quoted from Toohey, also stresses the importance of the everyday practice: *"...Bakhtin also urged attention to everyday, ordinary practices... as he claims that it is in our everyday world where life's most fundamental meanings are created"* (Ibid: 81).

Inspired by Toohey's methodology I decided to use a long-term ethnographic study in the classroom supplemented with one formal interview with the classroom teacher.

Another argument for the ethnographic approach arises from my perception of children and childhood. I believe that children can be regarded as competent individuals constituted in a social context and their knowledge and perception of their own lives has its own validity in its own right. According to Gulløv and Højlund (Gulløv and Højlund 2003:57) childhood perceived as a social construction is best studied using an ethnographic approach.

The choice of a long-term study is further supported by this recommendation:

A stay on site for a longer period is moreover a condition to be able to separate the typical from the unique, to get insight into patterns and important repetitions and to get confidence in roles, routines, language and social conventions. Shorter field studies involve a risk for making conclusions on loose ground on context and causality (Gulløv and Højlund 2003:17, my translation).

I will apply the CoP theory and educational framework in the following way:

1. I will investigate the way education is planned in 1B. This will be done primarily based on an analysis of the pedagogic approach used by the teacher. Using Wenger's framework for educational design I will verify the first part of my project hypothesis (see Chapter 1) that the teacher's pedagogical approach actually facilitates the creation of an ESL CoP. The interview will serve as the main material for this task.
2. I will investigate the evolvement of a CoP in 1B. This will be done using the CoP theory as an analytical tool as suggested by Wenger. The characteristics of the group of children in 1B will be compared to the characteristics set up by Wenger to verify the second part of the project hypothesis that an ESL CoP actually exists in the class. The long-term observations will serve as the main material for this task.

3. I will identify the different key factors in the ESL CoP and describe their appearance in this setting. Then I will discuss which of the key factors that can be transferred to the computer program and the expected outcome of doing so. Again, the long-term observations will serve as the main material.

For task number two and three I will use all my informal talks and discussions with Ms. Brockie as a triangulation device.

Before going into detail with my applied methods, I will dwell for a while on my qualifications and personal motives brought into this project.

My background and personal motives

My professional background is in Electrical Engineering (High Current). Since my graduation some 13 years ago, I have worked with research, development and education. I have been a high school math and physics teacher for 3 years and during that period I took an exam in applied pedagogic. For the last 6 years, I have worked as a lecturer at an engineering college teaching electrical machines and advanced math and computer simulations. First full time and for the last 3 years, I have been teaching a distance learning course¹⁶ part time.

I have been living in Budapest, Hungary with my family for the last 3 years. This has given me a unique opportunity to follow this Master of Information Technology, IT Learning education. This education situated in the field of humanities in many ways has been a challenge for me, to my very scientific approach to the world and to my way of working.

I deliberately chose a subject for this master thesis as far away from what my professional background should predict. I did this to face myself with the ultimate challenge: to change my scientific view of the world and my working style and finish this education on its own premises.

Another advantage and/or challenge arising from doing this project alone and here in Hungary has been that I alone have been responsible for doing all observations and the interview. So far in the education all the empirical investigations related to tasks and projects, I have been involved in, have been done in Denmark by my fellow students. This has therefore been my very first experience with practical fieldwork.

My experiences with children in the age group relevant to this study is limited to my experience as a mom to my now 8-year-old son, and then of course to the experiences from time spent in 1B during the year my son was in that class.

In relation to the setting of this study, AISB, I will say that I am very familiar with the school, its purpose, beliefs and goals. For more than two years, I have made daily visits to the school. I have served as a contact parent for all my sons' classes these 3 years and been active in the Parent School Association. So this study is situated in a community that I myself belong to, giving rise to certain perspectives that have to be considered.

Furthermore, my relation to Ms. Brockie is relevant to mention, since it also calls for methodological considerations. First, I admire her work tremendously and I am

¹⁶ A visit to the course web site will give an idea of the very different nature of my "normal" work: <http://www.iot.dk/msd>

convinced that she is the best teacher my son will ever have. Secondly we do have what I will call a friendly relationship, involving that we from time to time get together outside school for different activities. We did that before the beginning of this study and we have continued to do so during this project. Finally, she has become very involved in the project, not only as the classroom teacher, but also as a very valuable partner. I have counted on her to fill in on many of the functions other group members would normally take in group work.

These three circumstances probably have an effect on my way of viewing and interpreting her actions in the class, a very friendly and positive filter that I have to be aware of when I do the analysis.

The field work

After this reasoning for my choice of methodology and short presentation of my personal background and conditions for working with this project I will turn to my fieldwork and discuss the implications of the different demarcations, restrictions and choices that have influenced the way empirical data has been collected. First, I will comment on the interview and after that I will describe the observation process and my role/s in the class.

Comments on the interview

I made the formal interview on November 6, 2002. The reason for making the interview at this very early stage was to make sure that the answers from Ms. Brockie were authentic; in the sense that they were not influenced by any discussions, we might have had on either the project or the Communities of Practice theory.

Because of my lack of insight into the Communities of Practice theory as well as specific learning theories regarding second language learning and children's learning at the time of the interview, I decided to make it an open one. I did make an interview guide (see Enc. A), but had very open and broad questions, and in the beginning of the interview, I emphasized that we could talk about anything that we might find relevant. The idea was to try to let Ms. Brockie do most of the talking, and just use the questions as guides to the different directions, that I at the time found would be interesting to have initial thoughts on.

The interview was recorded on video, simply because I did not have a tape recorder available. The transcription is not a word for word representation. Spoken language is full of half completed sentences, repetitions, incorrect grammar and so forth. It tends to remove focus from the meaning if the spoken utterance is reproduced. Actually I did at first make a word for word transcription of the interview that revealed this, but it was not before I made the first draft of the analysis of the interview I realized that this was a problem.

Ms. Brockie was given the draft for her approval, so that she had a chance to react if she found that I was misinterpreting her statements. Her reaction to this analysis draft was different from when she approved the transcription. The reason was that in the word for word transcription all the language was in the same form, spoken utterances with all the mentioned errors. In contrast, the analysis was extracts from the transcription put into a context where the written language contained correct form and grammar, thus making the extracts look silly. On Ms. Brockie's request, I decided to edit the transcription into its current form. Ms. Brockie made suggestions for proper written formulation of the utterances used in the analysis

draft, and then I edited the rest of the transcription aiming at the same form, and of course keeping a focus on meaning. Finally, Ms. Brockie approved the full edited transcription. The full interview is available in transcript (see Enc. B).

Even though we were both complete beginners at the roles we assumed in the interview, I believe it went very well. According to Kvale (Kvale 2001:149) you can set up these quality criteria's for an interview (my translation from Danish):

1. The extent of spontaneous, rich, specific and relevant answers from the interviewed.
2. The shorter the questions posed by the interviewer and the longer the interviewee's answers the better.
3. To which degree the interviewer pursues and clarifies the meaning of relevant aspects of the answers.
4. The ideal interview is to a high degree interpreted during the interview.
5. The interviewer tries to verify his or her interpretations of the interviewee's answers during the interview.
6. The interview is 'self-communicating' – it is a history, contained in it self and it does not demand many further comments or explanations.

Looking at the transcription of the interview, I find point 1), 2) and 6) fulfilled to a very high degree. In the next chapter, I only present extracts from the interview, so it is highly recommended to read the full interview to get the full 'history'.

The observation process and my role/s in it

I started the observations 3 months ahead of the thesis project period and therefore before reading the theory. This was done to be able to observe the ESL children from the earliest time possible, giving the best picture of their development over time. Starting to observe before reading the theory has also had the implication that my observation strategy has been very intuitive and open.

Observations in the classroom were made over a period ranging from late October 2002 until mid April 2003, 6 months in all. Observations were made approximately one day a week reaching a number of 24 days in total.

Being Mrs. Jensen – 'the adult watching us learn'

The first day in the class Ms. Brockie introduced me to the children, letting them know that I was going to be with the class from time to time this year to watch them work. She did not go into detail about the purpose of my stay in the class and she did not tell them about the computer program that I would make. The same day the children brought home a note with detailed information on the reason for my stay in the class (see Enc. D).

The observations were done just by being in the classroom and taking notes, I had a small A5 notebook, in order to be as discrete as possible. Focus has been on home classroom practice, which means that I made no observations in special classes (like Music, Physical Education, Art etc.) or at recess. This choice has been made for several reasons, first because the focus of the project is on practice in the home classroom, secondly for demarcation reasons and finally for practical reasons. Staying in the classroom means that only the classroom teacher and her assistant had to be involved. The consequence is that many interesting aspects on how e.g. friendships evolve on the playground are left out.

My position in the class in the beginning was next to the door behind Ms. Brockie's chair giving me a good view over the group of children especially when they were seated in the seating area. The children did seem to take some notice of me being there the first couple of times, but very quickly, it seemed like they stopped paying attention to me when they were engaged in their different activities. I specifically asked Ms. Brockie of her view on this sometimes during the middle of the project and her viewpoint was that she did not feel that it had any noteworthy effect on her and she was quite confident that my presence did not change the children's general behavior.

I did answer their questions when they asked what I was doing, typically replying that I was studying how they learned new things in the class. I would also help to tie shoelaces and zip coats if they asked me to, but I did not take initiatives towards the children. If they asked me about things related to their work I would tell them to ask Ms. Brockie or Mrs. Klári. This position as a detached observer was chosen because focus was on the children and their actions and interaction. Goodwin express a similar intention with the use of a detached position:

By making use of ... the documentation of the sequential organisation of indigenous events, we can avoid the pitfalls of 'interpretive anthropology', which tends to focus its attention on ethnographer/informant dialogue rather than interaction between participants. This will enable us to move ... towards an 'anthropology of experience' concentrating on how people themselves actually perform activities [Goodwin 1990:287] (Here quoted from Gulløv and Højlund 2003: 40).

This was the beginning of my first role in the class, as Mrs. Jensen – 'the adult watching us learn'.

Being an ESL learner too

The main challenge while performing the observations has been to try to see the classroom practice in the eyes of the children. Not that I have had any illusions on being able to see the world as they do, but I hope that I have been able to get a profound impression on their knowledge and actions that will make it possible to formulate reliable statements on their perception of life in 1B. This is a very difficult task, and I think it is fair to add that to observe children not speaking your own language makes it even more difficult.

In the beginning, I was not conscious of the fact that I too am an ESL learner. It hit me one day when the class was doing an activity on mammals. They were divided in three groups, each group had some animals and the sound of those animals and they had to pair the animal with the correct sound. Ms. Brockie and Mrs. Klári worked with the two groups that stayed in the classroom and I went with the last group to observe them work in Ms. Brockie's room.

They worked independently for a while, matching the first three animals with sounds, but then they still had three to go and none of them knew what the sound-words meant. Since I was the only adult in the room, they apparently found it appropriate to ask me even though they by this point had got used to not asking me questions related to their tasks. Now the problem was that I did not know the meaning of those words either, which at first was a huge surprise to the children, and they started to laugh about it. After a good laugh, I joined the children on the floor where they worked and together we tried to make reasonable guesses to what the solutions could be.

This episode had two different effects on my role in the class. First it made me aware of the fact that I too was an ESL learner, learning new words almost every time I was in the class – its actually amazing how many small everyday words you don't know even though you consider yourself a reasonably good speaker of a foreign language. I believe that the reason for this can be explained by the difference in learning a language as a second language compared to learning it as a foreign language. Until relocating to Hungary and becoming a part of an English speaking community, I have spoken English as a foreign language not a second language (see Chap. 3: note 9). Secondly it changed the children's approach to me, after this episode they started to ask me questions more often, not expecting that I would have the right answer but expecting a dialogue on possible solutions. Some of the children also started to invite me to play games or read with them when they had center time¹⁷.

Being Mrs. Jensen – 'the computer genius'

The development of the computer program was initiated just before the winter holiday. Ms. Brockie and I had a brainstorming meeting where we discussed the observations so far and brought up all the ideas we had that could be implemented in the program. During the winter holiday, I made a first draft of the main screen in the program and an alphabet memory game. At their first computer lesson after the break, we made a small presentation of the program to the children. We showed them the main screen and introduced them to the main character Mr. Kiwi. They also tried the memory game while seated on the floor. They played the game together by watching the overhead projection and passing my wireless mouse between each other.

They were very excited about the program, and again I got a new role. Suddenly I became Mrs. Jensen – 'the computer genius'. After this day, I always got responses related to the program when I came to the class. Some were questions on the progress and others comments or compliments on the games they could play so far.

During the rest of my time in the class, I could switch between these three roles. When I had my notebook ready and was seated in my spot behind Ms. Brockie they would treat me as Mrs. Jensen – 'the adult watching us', and they were actually very good at respecting that I was 'working' when I did that, even though they did tend to ask me questions more often than in the beginning. When I sat with my computer or at their computer I turned into Mrs. Jensen – 'the computer genius'. The rest of the time I was considered a member of the classroom just as Ms. Brockie and Mrs. Klári and was asked task related questions by the children closest to me, and received invitations to play and read.

Comments on the observations

Before starting the observations I had thought that I would have to point out a few of the key factors in the CoP theory and focus on those during the observations, but since I started the observations before really having a good sense of what they were about I decided just to watch everything. Therefore, what I did was to take notes describing the different activities and events in the class. I did not change this approach because evidence on most of the key factors showed up continuously.

¹⁷ Center time is small periods during the day, most often in the afternoon just before school is over, where the children can choose different activities in the classroom. They can play board games, play with Lego, play on the computer, read a book, draw a picture and so on.

The descriptions I made would usually be on a level where I simply described who did what. I rarely was able to note down specific utterances, simply because I could not manage to listen and write quickly enough. This means that I do not have material suitable for a SLA analysis, but on the other hand, that was never the intention, even it could have contributed valuable information on the language development displayed by the children in the ESL program.

It is important to be aware of the fact that when making observations and taking notes you as an observer makes interpretations right there on what is important and what is not. The writing on paper is not what really happened but your interpretation of what happened. Gulløv and Højlund also emphasize this:

In anthropology the term 'empirical data' is not the same as the positivistic perception of data. To understand and analyze human actions and perceptions of life is a hermeneutical process, including a positioned interpretation. We have to think in our own construction of reality as a condition in any research process. The data we select as empirical data is not the same as the reality, it is a perspective on reality (Gulløv and Højlund 2003:25, my translation).

The advantage of this method is that you get material with a relatively high degree of clarity.

To test and clarify different observations I used informal discussions with Ms. Brockie. After each visit to the class, I would go home and read my notes. If I felt insecure of my interpretations or had any other concerns or questions related to the day, I would write Ms. Brockie an e-mail with the questions. She would then have time to think about them until my next visit where we would discuss them over lunch.

There has been no use of video or audio recordings due to a request from the school. Being an American International School in the world today means dealing with parents with special concerns for security and anonymity. For the same reason all the children's names have been changed in this report. The use of video and audio recordings would have enabled much more direct and detailed information on the children's actions and utterances and would also have given the opportunity for me to go back and question my interpretations of different parts of the material during the analysis work. The disadvantage of using audio and video is that you get very comprehensive material requiring lots of manpower to analyze.

When making the observations the focus has been on positive behavior and evidence on the existence of a CoP. Of course, conflicts and non-appropriate behavior occur from time to time, but it was considered out of the scope of this project and was therefore not noted down during observations. Again this choice has several explanations, one is demarcation another is the fact that the observations are the basis upon which the computer program is built – and since it only makes sense to transfer positive elements, it made sense not to pay too much attention to it.

Performing the data analysis

Before presenting the data analysis in the next chapter, I will shortly describe how I have gone about that part of my work.

The interview

The aim of the interview analysis is to analyze the pedagogic approach used by Ms. Brockie and thereby verify, using Wenger's framework for educational design, that her approach actually facilitates the creation of an ESL CoP. It was logical to use Wenger's educational design framework as a tool in this analysis.

Immediately after performing the interview I watched the tape several times, to get a general impression of the content. At the time the richness of the interview struck me, as there were many things from the interview situation, which I did not remember. I guess that during the interview I was so focused on interpretations of answers and trying to verify those interpretations by asking the right questions that I did not get a real feeling of the broad picture.

Later as I made the first word for word transcription, I again became aware of many new angles and perspectives in the interview.

The analysis work was organized by the four main categories in Wenger's framework:

1. Participation and reification.
2. The designed and the emergent.
3. The local and the global.
4. Identification and negotiability.

I used those as themes when reading the transcription again. I tried to group utterances into natural units. Since the interview was not directly designed to answer the questions posed by Wenger, some of the units would fit into more than one category and some didn't belong to any of the themes and were then left uncategorized. For each unit I decided to which theme it primarily belonged and marked it with the corresponding number 1-4. I also noted if I saw the unit as a positive or negative indicator of the related theme.

I used my observations in the class as a triangulation device during this marking of the interview. My general perception of Ms. Brockie's actions in the class and notes on specific events were used to back up her different statements.

Finally, I looked at all the utterances assigned to a theme and formulated my condensed view on the meaning contained in those utterances.

The observations

The aim of the analysis of the observations is twofold. First, it is to verify that an ESL CoP actually exists in the class. This verification will be based on a comparison of the characteristics of the group of children in 1B to the characteristics set up by Wenger. Secondly, it is to identify the key factors that successfully can be transferred to the computer program.

Working with the analysis of the observations has been done very much in the same way as the analysis of the interview. I had the choice of either using the 14 questions set up by Wenger or using his three categories defining a CoP and including all the key factors. I chose the second option for two reasons; it would give me only three main themes to sort the observations by, instead of 14. At the same time, I could focus on the key factors and their importance in the ESL CoP.

I made an initial analysis of the observations after the first 6 visits to the class. As with the interview I looked through my observation notes and grouped events into natural units. For each unit I again decided to which theme it primarily belonged and marked it with the corresponding number, this time 1-3 corresponding to Mutual Engagement, Joint Enterprise and Shared Repertoire and I also noted the main key factor involved.

Based on the categorization of the observations I wrote a small status report for Ms. Brockie with a review of my way of working with Wenger's theory. This first analysis was discussed with Ms. Brockie and we used it as a basis for the brainstorming meeting we had on ideas for the computer program. Subsequently I would go over my new observations after every 3-4 visits and analyze them using the categories again. I did this for two reasons, first I used it to confirm or alter my perception of the different key factors and they way I worked with them and secondly the observation and analysis was continuously used as inspiration for the program development, making it a dynamic, iterative process.

The final part of the analysis has been to answer the questions indicating the existence of a CoP based on the observation analysis and supplying with information from the interview analysis.

Chapter 5: Analysis

In this chapter, I will present my analysis of the interview and the observations as described in the preceding chapter. The interview with the classroom teacher will be analyzed related to Wenger's framework for an educational design supporting the creation of a CoP. The observations in the classroom will be analyzed based on Wenger's characterization of a CoP. I will then join the two analyses together in a discussion based on Wenger's indicators of a CoP. The chapter will end with a conclusion on the theoretical part of the project, which will lead on to the following chapter in which the computer program will be described.

Thoughts on an educational design – analysis of the interview

Teachers need to act as themselves – as adults and thus as doorways into the adult world – rather than constantly acting like teachers, that is as representatives of the institution and upholders of curricular demands, with an identity defined by an institutional role. They should act as members and engage in the learning that membership entails, and open forms of mutual engagement that can become an invitation to participation – it is as learners we become educators! (Wenger 1998).

My primary intention with the interview and this data analysis is to test the first part of the project hypothesis, that the pedagogic approach used by Ms. Brockie facilitates the creation of an ESL CoP in the class.

Before going into detail, I will mention a small comment made by Ms. Brockie in one of our informal discussions some time after the interview was made and after discussing the Communities of Practice theory. I asked her on her viewpoint on the theory, and her answer was "*It is mostly common sense and a lot of it is a natural part of education*". This is an interesting viewpoint considering Lave and Wenger's skepticism against the formal scholastic system (see Chap. 3:28).

Asked in the interview about her pedagogical point of origin, Ms. Brockie replied:

I believe that children learn best through a process of discovery. ...- like an inquiry-based approach. As their teacher you have outcomes for them, but you want them to try and go through the process on their own, learning from certain mistakes they make, and learning also from others during cooperative activities. Of course it's best if activities are fun and at this age very hands-on, so lots of work with manipulatives and pictures and equipment that interest them. The subject matter has to be relevant to them and it's best if they have some background experience with it. ... Also there need to be lots of opportunities for speaking and sharing ideas. You have to make sure that you're catering to different learning styles, to visual learners and auditory learners and to those that learn through tactile activities (Enc. B:1-2).

To me these statements show, that even without knowing the CoP theory, it is a natural and integrated part of Ms. Brockie's practice, and this is what I set out to verify in the following analysis. The focus will be on the establishment of an ESL CoP in the classroom.

Participation and reification: learning as negotiation

Participation and reification has to do with the subject matter of education and to what extent the educational design succeeds in letting the practice be the curriculum itself and to what degree meaningful participation relates to the subject matter.

In 1B, two kinds of subject matter exist. There is the curriculum for Grade 1 at AISB, common to all the first grade classes and defined by the school. It consists of six units: Feelings and Friendship, Mammals, Matter, Our Home Country, Landforms & Medieval times (see Enc. C). The other kind of subject matter is the learning of English, for most of the students as a second language, and reading and writing skills. It is totally up to the individual teacher to plan and decide upon how to handle these matters. Obviously, considerations from Ms. Brockie regarding subject matter will be a mixture of the two.

Using physical items reifies the learning of English in 1B; exposure to the new language and the subjects requires reificated items that can help the students to create meaning. Focus is on activities that they can relate to because they would have some background experience with it. In addition, emphasis is on having fun and creating opportunities to work with manipulatives, pictures, and equipment that interest the children. For the ESLP children it is especially important to accompany verbal instructions with visual aides such as pictures and objects. The verbal and visual can then be linked (Enc. B: 2, 3, 11).

Two kinds of participation are catered for; the first is related to the learning of English, Ms. Brockie uses different ways of grouping the children to give them a variety of methods to engage in and negotiate meaning. Sometimes they will be grouped with children speaking their own language, e.g. the Koreans giving them an opportunity to work and discuss in their native language and then report back in English, and other times they will be grouped with a native speaker who is a good language model (Enc. B: 3-4).

On the second kind of participation, related to the curriculum Ms. Brockie explains:

Certainly every kind of learning situation I create involves some sort of participation, whether it is with others, or with equipment or with a piece of written material, or with a pencil and paper. I think through that participation you learn where you have made correct decisions or followed a correct path, and you learn where you could have made a better choice and done things a different way (Enc. B: 14).

This example shows that for almost all activities in the class the children get exposure to the subject matter by some kind of participation related to it.

Creating learning situations with opportunities to do things the way the children do it outside of school, gives them the opportunities to engage in the subject matter in a way that is natural to them, and this way reification is avoided. It can be discussing in your mother tongue or reading with a friend instead of reading with the teacher (Enc. B: 3, 5).

At AISB, the ESL program is where the reification of learning English as a process mostly takes place. In this setting, a more formal language training with focus on language structure, grammar and pronunciation is given. As mentioned in Chapter 2 there is an emphasis on trying to relate the ESL program to the subjects in the

home classroom curriculum (see Chap. 2:9). Since these classes are smaller than the normal classes, each child gets more time and opportunities to practice their speaking (Enc. B: 6-7).

Overall, I would say that when it comes to letting the practice be the curriculum itself, the educational design in 1B to a high degree succeeds in this when the subject matter is seen as the learning of ESL. When it comes to the school curriculum I also think it works well with the high focus on a practical, hands-on approach. In the interview, Ms. Brockie expressed a concern regarding the pressure she feels from the extensive curriculum: '*...our time is very short and valuable. I feel that I have a lot to teach in a short amount of time*' (Enc. B:17). The loaded curriculum is a consequence of the American school tradition and the individual teacher just has to act in accordance with it.

The designed and the emergent: teaching and learning

The designed and the emergent is concerned with the challenge of designing education with focus on the learner's learning process and developing of problem solving strategies, creativity and critical thinking skills.

First of all the emergent character of learning is honored in 1B by letting the importance that play and having fun with others have at this age take an important role in the planning of learning activities. As Ms. Brockie states: '*learning occurs best in a social kind of way*' (Enc. B: 12).

There is not much formal teaching going on in 1B, understood as the teacher standing in front of the class teaching a lesson. As we already have seen, most of the time, the children are the active ones. When a teaching, instruction or guiding role is required, the children seats in the seating area and Ms. Brockie will be sitting in her chair. However, the most important role Ms. Brockie uses in terms of facilitating learning is participation:

I find it important to show the children that I'm also interested in the subjects we are working with, so often I will have the same homework as them. Then when it comes to sharing in the class I can participate. So the last two mornings I have been the first to share. Tomorrow I will let someone else start, and I will just join the group. So all I had to say was 'Form a silent circle' and after the circle was formed I started my sharing by saying 'Guess what – my mammal...' – and then I would read from my fact sheet. After this I would get the next started by asking 'How about you?' This way they saw what they had to do and they didn't need any further instructions because I had shown them how to share their information (Enc. B:19-20).

This example is a very typical example of Ms. Brockie's approach. Just like the highlighted quote by Wenger in the beginning of this section states: it is by being a participant in the community instead of a teacher and by inviting to different kinds of mutual engagement that teaching is minimized and learning maximized.

As already mentioned the more formal teaching of the English language occurs in the ESL program. The thematic organization of these classes, coordinated with the classroom teacher, around the content areas of science and social studies creates a daily rhythm for the ESLP children where they can make immediate use of new vocabulary learned in the ESL program in their home classroom (Enc. B: 3). According to Krashen's Monitor Model (see Chap. 3:17) this creates an opportunity for the

children to acquire the new vocabulary instead of just learning it; in Wenger's terminology, it allows learning and teaching to inform each other.

To further support the negotiating of meaning for the ESL students, student work decorates all walls, which creates the opportunity for continuous negotiation. It also generates a visible history of the subjects taught in the class over the year (Enc. B:10).

It is important in a learning 'paradigm' with focus on the learner's learning process that the students understand themselves as learners. To facilitate this Ms. Brockie uses self-assessment activities:

I try to do a lot of self-assessment activities. The children are asked to think about the ways they like to learn and how they learn best. They have a portfolio of work that they put samples into at regular intervals and the samples shows their development over time. The samples also show examples of ways they have responded to questions about their own learning e.g. 'Do you like to share your ideas best through talking, reading or writing or making things?' or 'What is your favorite subject?' or 'Do you prefer to work with a partner, independently or in a small group?' I do ask these kinds of questions of them and have them think of themselves as learners and they start to be aware of what their style is (Enc. B:8).

This is a good example showing how to do this at this early age. Portfolios and reflection also work in Grade 1.

The local and the global: from practice to practice

The challenge for the educational design in 1B is to be able to find the right balances between the local - the classroom and the global - the AISB community. To be able to create opportunities for all the children to experiment with identities not only valuable in the local but also in every ones global community regardless of culture, language and nationality. It is all about broadening the scope, creating links to the world outside and thereby making it relevant to the children outside school.

One way of broadening the scope is by involving the parents primarily by getting them involved in homework, where they can assist the children and discuss subjects with them in their L1. This allows the children to go deeper into the subject matter than their proficiency in English might allow and this broadens the scope for the ESL children (Enc. B:3).

The issue of making the school relevant and connected to the children's life outside school calls for many considerations. First of all the teachers have made an effort to choose a curriculum that is relevant outside school. In math problem solving related to real world situations are used when ever possible, and an effort is made to make homework connected to life outside school by including activities such as interviewing people at home. Writing activities are also when possible related to the children's activities outside school. E.g. they could be asked to send a postcard when they go on holiday, or it is made purposeful by displaying the work on the classroom walls or publishing it in small books (Enc. B:15). Presentations of projects to other classes or to the parents or inviting parents to come to the class to share traditions from their family, culture and country is also a way of creating the important relation between the local and the global (Enc. B:19).

Identification and negotiability: identities and participation

I think the examples so far have already proven that this classroom is not a traditional classroom as Wenger sees them. However, before jumping to further conclusions we will take a closer look at the last theme related to the importance of identity creation.

We have already seen in Chapter 2 how Ms. Brockie makes use of her identity as a New Zealander and New Zealand's national bird the Kiwi to create a common identity among the children. Mr. Kiwi becomes a friend, which they all seem to enjoy. The children treat him as a good friend and they seem to believe that he has a personality (Enc. B:8). Ms. Brockie also offers the students herself as a source of identification, as illustrated in this statement:

At this age promoting reading skills and the enjoyment of reading is important. I model that by showing that I like to read myself. I might say 'Oh I was reading these books while you were at the library and I just...' or 'I would really like to share this story with you'. Little things like that show them that you value reading too (Enc. B:18-9).

Other students can also be the source of identification, for the ESL children the native speakers offer an obvious source (Enc. B:5). Although there is no direct statement supporting this, it seems obvious throughout the interview as an underlying assumption that Ms. Brockie's approach aims to benefit all the children in the class, ESL as well as native speakers.

Finally, two quotes from the interview on success and failure and how this definition is negotiate between Ms. Brockie and the children:

I will often remind them before I send them off to do a group activity or a paired activity, that I will be checking their listening on completion of the task. I will then bring them back together again and I will ask one partner to report on what the other has said. This shows me who has really been working well and listening to their partner. I may say 'Candela what did Ida tell you about her mammal?' or 'Hands up if you are really proud of your partner for listening to you'. The importance of working cooperatively is reinforced (Enc. B:9).

I gave out Kiwi candy today and it was the first time this year. I'm not personally keen on a lot of those kinds of treats. I like the children to compliment each other and for them to enjoy the good feelings they get inside from that. I think it's a reward in itself to receive the compliment without thinking 'What do I get?' (Enc. B:13).

Failure is not occurring often in this environment. The children and Ms. Brockie define, praise and celebrate the successes.

Summary on the interview analysis

The intention of this data analysis has not been to give a full coverage of all considerations made by Ms. Brockie to all the questions in Wenger's framework; rather it has been to present enough examples to validate the hypothesis.

In an article with the title 'The School as a Community of Engaged Learners' Wenger and a pair of colleagues (Eckert, Goldman & Wenger 1997) present some statements as principles of learning that will encourage new patterns of participa-

tion in accordance with the CoP theory. As a part of the interview Ms. Brockie was presented with 6 of the 7¹⁸ statements and asked to explain her immediate reaction to the contents and implication of them, did she agree or disagree, and why (see question 10 in Enc. A). She immediately declared her agreement to 4 of the statements, the last two she wasn't sure of the meaning, but after a discussion on both of them she agreed with those also (Enc. B: 13-20).

I believe that this together with the data presented in this section is enough to support the first part of the hypothesis, that the teacher's pedagogic approach does facilitate the creation of an ESL CoP in 1B.

The observations made in the class over a long period does, as we shall see in the next sections support this conclusion.

Learning ESL in a CoP – the analysis of the observations

Learning is not an end, but means to building social relationships and engaging in meaningful activity. What does this mean for our schools?

If we are to be a nation of lifelong learners, school has to become a place where students take charge of their learning for life – where they become eager constructors of knowledge, and view the entire world around them as a rich and welcome resource (Eckert, Goldman & Wenger 1997).

The intention of this section is to verify the second part of the project hypothesis; that an ESL CoP actually exists in the class and that this community of practice is built upon the composition of children with very different English language skills, ranging from native speakers to completely non-English speaking.

I will refer to the narrative story in Chapter 2 for examples of different kind of behavior and I will present new examples taken from my logbook to authenticate my arguments. To help the reader to keep track of the different key factors, I have underlined them throughout this section.

Mutual engagement

Mutual engagement is what defines the CoP and people who are engaged in actions whose meanings they negotiate with one another are the basis of the existence.

The children in this environment have a background experience with language learning¹⁹, that makes it normal to be a language learner and different level of proficiency are completely accepted. Many of the children in the class, most of the native English speaking included, speak one more language, so most of the children know what it's like being a L2 learner – creating the ground for the engaged diversity in the group of children.

They are very keen to help each other explaining the meaning of words, e.g. in the narrative where they talk about their holiday (Chap.2: 13), and there seems to be a general acceptance of the fact that the ESLP kids have a hard time concentrating on instructions and at story times. E.g. during the story reading of Odd-Todd and

¹⁸ One statement was left out because Ms. Brockie at the time of the interview wasn't familiar with the CoP theory and therefore couldn't be expected to have a meaning on communities in this context.

¹⁹ See fig. 2.6 in Chapter 2.

Even-Steven it was accepted by all the other children that the three ESLP children were doing other activities (Char. 2:14). The group accepts a large deviation from what seems to be normal appropriate behavior in the group.

The children in 1B seem to understand and accept that they are indeed not a homogeneous group when it comes to speaking and understanding the English language. Wenger did state though that it would be beneficial to be part of both homogeneous and diverse communities (Wenger 1998:75). As far as the ESLP children are concerned, this is fulfilled in the sense that their homeroom class is diverse, where as their ESL class may be considered homogeneous when it comes to the language dimension.

In the class, a lot of work and attention are devoted to the creation of positive relationships. As mentioned already many activities are designed as paired or group work which itself reinforces the building of relationships. The children do definitely show all signs of enjoying doing things together. Different gestures showing appreciation – hugs, big smiles and things like that, always accompany making groups and pairs for working activities.

Excerpt 5.1: A letter on Elmer

Michael came in from recess a little earlier than the rest of the class, when most of the children have got themselves seated on the floor Michael finds Elmer and a note in an envelope. Ms. Brockie asks Michael to bring the letter to her. It turns out to be a note from Michael to the class saying that he is sorry about his behavior in the past. The class accepts his apology.

This small event is one of much evidence that proves that the children are actually performing community maintenance all the time. Ms. Brockie has a thing called 'Kindness Hearts', they are small hearts put up on the wall with the students name on if another student report that they have done something really nice, e.g. helping a friend that got hurt on the playground or sharing snack, things like that. It could also be a child asking some or the rest of the group to be quiet, like Ida in the narrative when it got too noisy during reading time (Chap. 2:14), or the widespread use of praising each others efforts, the comment, question or compliment routine (Chap. 2:13) and so on.

In the Grade 1 classroom Toohey was studying, the teacher tried to create a uniform classroom, where all the children were seated facing her and not allowed to leave their seats during activities. In addition, it was not acceptable to copy the utterances of others, making it very hard for the ESL children to come to voice if we use Bakhtin's dialog perspective (see Chapter 3:19-20).

The approach in 1B is opposite. The children work in either groups or pairs as we have seen. When working alone at their tables they are seated in groups with the ESLP children spread so they all have access to at least one native or competent English speaking peer. If possible, they are also seated with a child speaking their own language, giving them the opportunity to discuss subjects in their own language too. They are free to move around in the room during activities to watch the work of others and to ask for help, which they do as a normal part of almost all activities. This honors the social complexity in the class and it plays an important role in giving the ESLP children access to class resources.

The next extract from the logbook also shows the use of the social complexity as a positive factor. It offers resources to an ESLP child but it also gives the ESLP child

the opportunity to be a resource to a peer:

Excerpt 5.2: Giving and receiving help

Sung Woo finishes his math and goes to Alicia sitting in another group. He looks at her work and then says 'this is NOT' several times. Alicia doesn't seem to understand, but then he says 'Good, Good, Good, Not'. Now Alicia understands that something is wrong, she smiles at Sung Woo saying 'Thank You'.

Ms. Brockie gives Sung Woo a picture-word game to make. He goes to the reading corner and starts to unpack the game. Then Alicia and Ida finish their work and Ms. Brockie asks them to help Sung Woo with the game. The girls take turns reading a word and Sung Woo is putting the word-card on the right picture. They work nicely and concentrated until its time to stop.

Joint enterprise

The joint enterprise is the key to keeping a community together. The members of the community define the joint enterprise as they are in the process of pursuing it.

The negotiated enterprise is visible on different levels. There is the high level defining each child perception of what the enterprise 'going to school' means. Then there is a lower level defining each task or activity as an enterprise that the children negotiate how to work with or solve. Most observed examples show the lower level negotiation, e.g. the discussion in the narrative on the importance of having the right color when making clay animals (Chap. 2:15).

Excerpt 5.3: You can have mine!

They are going to make mammals posters. They get to choose a colored cardboard for their poster. Dai chooses a black and says that it is because his mammal lives in the dark. The next children to choose colors follow up on Dai's idea and try to pick colors that are suitable for their animal's habitats. Some are working at their tables, others on the floor. Jesse would very much like to have blue cardboard but they are out of blue, Michael kindly offers Jesse his blue, and says that he can do fine with another color.

Mutual accountability is most visible in all the small actions the children make to show each other that they are ready to help, eager to share and work together, like Michael in this extract.

In 1B, I primarily see the daily routines as being the rhythm of the CoP. It seems very helpful to the children in the ongoing process of negotiating the enterprise. As illustrated in the narrative in Chapter 2, the day has several routine events repeated each day, the morning routine where everyone says good morning to Ms. Brockie (Chap. 2:13), the Wonder Bag (Chap. 2:13), Calendar Time after Recess (Chap. 2:14), Story Time after lunch (Chap. 2:14) and finally the closing with the hand-out of homework folders (Chap. 2:15).

For the ESLP children especially interpretations are a big part of the work they do in the class. They struggle with it all the time and in the beginning, this is very obvious. The process is visible in the way they act; they do a lot of talking to themselves when instructions are given or activities are on the way, e.g. Heui Kyoo saying 'comments, questions or compliments' over and over again in a sharing session (Chap. 2:13), or Sung Woo, during Calendar Time, naming the months (Chap. 2:14). Observing the interpretation work of an ESLP child actually seems to be a

good indicator of their progress in understanding what is going on in the class. The longer they have been in the class and the more developed their English language skills become the more infrequent the visible signs of interpretations become.

Shared repertoire

We have already encountered several important parts of the shared repertoire in 1B, some of them previous in this section and others in the narrative:

- Stories, Mr. Kiwi and Elmer – soft toys introduced in the very beginning of the year and used to create a common identity and to promote friendships and teach the quality of being a good friend (Enc. B:9-10).
- Styles, codexes for appropriate behavior and the 'Kindness Hearts'.
- Artifacts, the Bell (Chap 2:13) and the Silent Circle sign (Chap 2:14) were both included in the narrative. When Ms. Brockie rings the Bell, it is a signal to 'stop, look and listen'. The Silent Circle is a signal to form a circle on the floor. When they make the Silent Circle, they very quietly move around on the floor until they form a circle so they all can see what is going to happen.
- Tools, mentioned in the narrative were the displayed work on the classroom walls (Chap. 2:13) and learning poems by heart (Chap. 2:15). Both are very important tools used by the ESL students to find, learn and remember facts and specific words.
- Actions, themes in the curriculum, not specifically mentioned, but obvious in the sense that most activities in the class are organized to fulfill the curriculum subjects.
- Historical events, project and themes worked with during the year and displayed in the class.
- Concepts, the structure of different everyday events – e.g. Calendar Time and Story Time.

Of course the shared repertoire is much more extensive than this, but explaining all elements will require considerable space which is not available.

Summary on the observation analysis

It is a difficult task to present six months of observations in a few pages, and difficult to bring forward all the interesting and relevant details. But the end result is, that life in 1B is life in a classroom full of resources and opportunities to build social relationships and engage in meaningful activities, just as Wenger and his colleagues calls for in the quote in the beginning of this section.

The children are eager constructors of knowledge and language, their own and their peers, and they do view the entire world around them as a rich and welcome resource. The way the resources in the classroom are available to them at all times, creates an environment where helping and sharing is normal behavior.

Discussion - Indicators on a CoP

From the two summaries on the interview analysis and the observation analysis it appears that my belief is that the first project hypothesis is verified, an ESL CoP does exist in 1B. In the following discussion, I will answer those of Wenger's indicators, again underlined in the text, on the existence of a CoP that I find relevant to a language appropriation perspective and at the same time discuss the implication I see them having on the ESL children.

There are sustained mutual relationships, most of them very harmonious, but from time to time, they can also turn out conflictual like the events leading to Michael's letter to the class. The members are mutually defining identities. The strong focus Ms. Brockie has on social behavior, promoting kindness, good manners, respect and friendships facilitate a way of recognizing each other in a positive way. The widespread use of praise for each other's ideas and effort allows for ongoing interaction between the children in all learning situations and leads to mutually defined identities of good friends and successful learners. The ESL children benefit from these harmonious sustained mutual relationships and the positive identities they gain. It gives them the confidence to speak out because they have a genuine feeling of being surrounded by friends that are eager to help.

There are shared ways of engaging in doing things together. Working in pairs, groups or when working alone being free to move around and ask for help from peers or the teacher creates this environment, where resources are available at all times. The positive effect on the ESL children can be understood from a SLA viewpoint. They can be seen as being in the Zone of Proximal development and the development of their language skills is facilitated by the social interaction that these shared ways of doing things creates.

There is a rapid flow of information and propagation of innovations. This is evident every time they start working on a new task, like when they chose cardboard for the mammal poster or when they made clay animals. The working practice in the class where talking to each other, moving around, sharing ideas, even in different situations copying ideas, facilitates this flow and propagation. In addition, discussion of problems is set up very quickly; indicating that negotiation of enterprise and meaning is working. It is helpful for the ESL children as it gives them easier access to an understanding of what tasks and projects are about, again leading to a greater confidence to act and speak.

Introductory preambles are non-existent. It is as if conversations and interactions are simply continuing - an ongoing process. The daily routines in the class contribute largely to this. In addition, there are specific tools, representations and other artifacts, and as mentioned by Ms. Brockie during the interview, this is especially important for the ESL children. They need exposure to as many visual aides as possible as these create links to new language. These indicators are a big help for the ESL children in their interpretation work; it helps them to gain confidence in the daily routines and helps them to figure out what is going to happen next.

The members know what each other know, what they are able to do and how they can contribute. This is definitely true, both when it comes to skills in the English language, but also in the subjects taught in the class. If we apply Bakhtin's dialog aspect, this is helpful to the ESL children. They know that they can come to a voice by scaffolding on the utterances of their peers, because their peers know how to help and do so.

There is a shared background – stories, inside jokes. This is also true, on two different levels. Firstly, they have the shared background of being children in an international and multicultural community, leading to a shared understanding and respect for each other's cultures and traditions. Secondly, most of them share the experience of being second language learners, and finally they from the very first day in 1B start building common stories in the class, e.g. stories about Mr. Kiwi and the reading of the Elmer books. There are certain styles, which indicate membership – showing respect and good manners and having a helping attitude are styles that indicate membership in the ESL CoP in 1B. These are not indicators directly

influencing the language appropriation, but they are definitely creating positive social relations that in turn can be the basis for the appropriation of the language.

Conclusion

CoP is not a special learning theory but more it is a framework for discussing different aspects of the social part of learning. Aboulafia & Nielsen in an article discussing Lave & Wenger's original theory on situated learning wrote:

'Situated learning' is a social analytical approach, describing some special conditions for learning, but it is not capable of covering and separating the psychological processes in learning, as e.g. internalizing, appropriation of knowledge.... It is valid within the activity of social relations where practical experience-based knowledge can be negotiated (Aboulafia and Nielsen 1997, my translation).

The follow-up work on the Situated Learning theory done by Wenger leading to the Communities of Practice theory has not really changed that fact; it is still a social analytical approach. This is not a problem in itself, it is just important to keep in mind when drawing conclusions based on the theory, as I am about to do.

I did mention in Chapter 4 that several aspects of my relation to the school community and especially to Ms. Brockie would demand methodological considerations. My relation to the school community has given me the advantage of being acquainted with the larger setting of my study and thus I did not have to spend time in the project period on this aspect. I do not feel that my relation to the school community has had any negative influence that I have to take into consideration; I guess one could describe it somewhat like doing a project in ones own workplace but without the problems that can arise from relations to colleagues and administrators.

When it comes to my relation with Ms. Brockie the situation is different. I did mention that our relationship would probably cause me to apply a very friendly and positive filter when interpreting her actions in the class. I have tried to be conscious about this during the observations and when making the data analysis. One way of doing so has been the way I took notes during observations – I made an effort to only note facts about who did what. In addition, I tried to keep the focus on the children's actions more than on Ms. Brockie's actions. Looking at the analysis I cannot deny that it has all come out very positive and part of it might be because of my positive attitude. It is my belief though that most of it is due to fact that I deliberately have chosen to focus on positive factors enabling the appropriation of language. In addition, there seem to be a reason behind the outstanding reputation Ms. Brockie has in the school community - studying life in 1B is in my opinion a study of best practice in teaching and learning.

My first project hypothesis that an ESL CoP exists in 1B has been guiding the theoretical and empirical investigations carried out in this project. The aim has been to gain a suitable theoretical knowledge on SLA and a genuine understanding of life in 1B based on the CoP theory. This knowledge has been used as a basis for the development of an edutainment product, designed for supporting the appropriation of ESL especially in this setting.

In Chapter 1, I raised two questions, answering those will sum up on the work presented so far. My first question was: 'How does a child speaking no English at all create meaning and a voice in an English-speaking classroom during the first

months?’ and the second question was: ‘How are second languages learned under these circumstances?’ Answering of the second question is possible based on the theoretical studies of SLA and answering the first one is possible based on the empirical investigations.

In Chapter 3, I presented a short survey of different theoretical approaches to explaining first and second language learning. My initial thought with regard to the second question was that the learning process itself seemed to be a combination of different kinds of learning. The total picture of the theoretical approaches presented was somewhat confused because the field does not have one unified theory - different theories explain different aspects of language acquisition.

Combining my initial thought with the different theories offers this answer to the question, ‘How are second languages learned under these circumstances?’:

- Behaviorist, cognitive and connectionist explanations may explain the acquisition of simple vocabulary and grammatical morphemes and thus might offer an answer to how part of the language can be learned from formal language instructions.
- Adding learning from exposure to spoken and written language in the environment to the formal language instructions will according to the innatist position offer a reasonable explanation to the acquisition of complex grammar.
- Finally, the sociocultural explanations may be useful when trying to understand how children create form and meaning in language and how they interact in conversations when they learn from participation in a learning community.

In addition to the different explanations on the process of learning the second language, learner characteristics and the relationship between language and culture also need consideration when trying to create a full picture of a language-learning situation. It has not been the purpose of this project to monitor the development of individuals nor has it been to focus on the full picture, so considerations on this last aspect have been left out of this study.

The empirical analysis based on the CoP theory offers an answer to the first question ‘How does a child speaking no English at all create meaning and a voice in an English-speaking classroom during the first months?’:

I find the most significant contribution from the CoP theory to the answer of this question in the Joint Enterprise. Interpretations and the negotiation of the enterprise describes the way the ESLP children create meaning, a work that seems to take all their effort and energy in the beginning and a work that fades out with time as the children gain more and more confidence in their classroom practices.

To support this work done by the ESLP children, other key factors offer suitable solutions. I find that the rhythms in the CoP, here understood as the daily routines in the class seem very helpful to the children in the ongoing process with interpretations and negotiation of the enterprise. In addition, the Shared Repertoire helps them to gain confidence in the daily routines and helps them to figure out what is going to happen next.

Finally, the key factors belonging to the Mutual Engagement dimension create a social setting, where helping, sharing and being friendly and kind to each other give the ESL children the confidence to speak out and come to a voice.

Chapter 6: The Mr. Kiwi Computer Program

In this chapter, I will present the product of this project, the prototype for The Mr. Kiwi computer program.

First, I will add theoretical consideration to the reasoning of using a computer program and discuss which key factors to transfer from the CoP and the expected outcome. I will then turn to the description of the prototype and the process of making it.

Why use ICT²⁰ at all?

Forming the idea to transfer elements from a CoP might at a first glance look like a paradox – how and why should it be possible to transfer elements from a social construction to an individual-based computer program? We have to search for the answer in the hope to do a little extra in a setting that is already a well functioning ESL learning community.

In his book, 'Space for learning'²¹ Prinds (Prinds 1999) suggests a division of the organization of learning activities into three learning spaces: the teaching space, the training space and the study space. To each space, he attaches different roles for teachers and students and at the same time, he addresses the use of ICT in each space. Summarized, the characteristics of the three spaces look as follows:

	<i>Teaching Space</i>	<i>Training Space</i>	<i>Study Space</i>
<i>Activity</i>	Transfer of knowledge	Training of subject matter	Project
<i>Teacher role</i>	Teaching Teacher organizes	Coach Teacher defines assignment	Consultant Student defines assignment
<i>Student role</i>	Receiver	Apprentice	Student
<i>Organization</i>	Classroom	Individual/Group	Individual/Group
<i>ICT</i>	Presentation tools Note taking	Simulation Training	Internet Communication

Fig. 6.1: Learning Spaces Characteristics (after Prinds 1999)

When searching this model for possible ways of offering that little extra aid to the ESL student's, the training space draws attention. In the training space, the student takes the role of an apprentice and the use of ICT can create options for simulation and training – exactly what we are looking for; a space where the ESL students get the opportunity, free from the sea of noise in the classroom, to train for different activities in the classroom.

Transferable key factors in the ESL CoP

In conclusion of the preceding chapter, I summarized the key factors in the ESL CoP. Now I shall look at them again and discuss how they can be meaningfully transferred to a computer program.

In the Joint Enterprise, the most significant key factors are interpretations and negotiation of meaning. These two key factors are what we need to simulate in the training space. We have seen a relationship between the ESL student's work on

²⁰ ICT is an abbreviation of Information and Communication Technology, covering computers, audio, video, television, Mobil phones etc.

²¹ My translation, it is a book in Danish.

interpretations and negotiation of meaning and their appropriation of language. Therefore, the expected outcome of simulating these key factors will be a faster acquaintance with the routines of the CoP, helping to remove the sea of noise.

We have also seen that other key factors are helpful to the children in the ongoing process with interpretations and negotiation of the enterprise. The rhythms in the CoP being the daily routines in the class are the most important, thus we shall try to transfer as many of the daily routines in the classroom to the program as possible, giving the ESL students the opportunity to practice them. When applying the daily routines, the use of elements from the Shared Repertoire will help ease the transition and at the same time, it will increase the children's familiarity with those elements.

Finally, the key factors belonging to the Mutual Engagement dimension create the social setting. The important characteristics of the social setting are: helping, sharing, and being friendly and kind to each other. These will be the most difficult factors to transfer, but it will be important to create the same feeling of being secure and cared for as the children experience in the normal classroom.

In the following sections, I will describe and explain the transfer of the selected key factors.

A general description of the prototype

As a framework for describing the general structures of the prototype, I will apply a method for computer game analysis, developed by L. Konzack (Konzack 2002). The aim of the method is to analyze computer games and involve analysis of technical, aesthetic and socio-cultural perspectives. The reason for using this framework is that I feel it helps to structure the description and ensures that the presentation covers all relevant aspects. However, the method does not include the learning aspects of computer games; therefore, the didactic considerations will be described in a separate section.

Describing the game

The second project hypothesis defines the program as an edutainment product therefore it should entail educational as well as entertaining elements.



Fig. 6.2: Photo from 1B and the main screen in the prototype

To achieve this the program has two different spaces. The entrance to the first space is also the main screen of the program.

Fig. 6.2 shows a picture from the 1B classroom and the main screen in the prototype. The similarity is obvious and intentional; the purpose is to make the children feel at home. I have found this to be a good way to create a space that simulates the classroom. In the classroom, different learning activities are available to the player, these being the educational part of the program. I will address them one by one, when describing the didactic considerations behind the games.

The element of entertainment is primarily found in the part of the program where the player travels to New Zealand to find missing Kiwis.

Fig. 6.3 shows the main screen of that part of the prototype. From the New Zealand main screen the player can choose between different destinations. Each destination shows a famous place in New Zealand. The kiwis shown at the bottom of the screen are hiding in the destinations and the task is to find them all. The intention is to have more than seven destinations and five Kiwis in this part, but due to time limits in the project, these are the numbers implemented in the prototype.



Fig. 6.3: The New Zealand main screen

Entertaining elements are also present in some of the learning activities; I will wait in describing these.

The program has one main character, Mr. Kiwi. The intention behind Mr. Kiwi is that he should be helpful, friendly and kind to create the same spirit as found in the real classroom.

Mr. Kiwi is a very important part of the Shared Repertoire and the children already consider him being a friend. Bringing him to life in the computer should have the extra effect of motivating the children to play the game.



Fig. 6.4: The real and the game Mr. Kiwi

The prototype is a stand-alone program, intended for one player, but as with many other computer games the children can play together at the same computer, helping each other to solve the tasks. The reason for making it a one-player program is that the children should be able to play the program at home, as well as in school. This could be for fun or as a homework requirement.

Hardware

The Mr. Kiwi prototype runs on either PC or MAC. The reason for choosing the PC/MAC solution is that the children should be able to play the program both in school and at home. AISB has only MAC machines so this solution was compulsory.

Adding the PC option allows the program to run on both types of computers; I expect many families to have PC and not MAC computers.

To play the game a mouse must be available; a one-click mouse common at AISB machines is sufficient.

Program Code

I used Macromedia Director²², a multimedia-authoring tool, to develop the prototype. Director can incorporate photo-quality images, full-screen or long-form digital video, sounds, animation, text, hypertext, bitmaps, etc.

Director has a graphical drag and drop interface where I implemented the basic features in the prototype, such as layout of screens and placement of figures and images. I made the implementation of more advanced features, such as animation and random setup of the different games in the programming language Lingo, which is an integrated part of the Director program.

I did not have any experience with Director or any other multimedia-authoring tool before starting this second year at the Master education. Lingo though shares many structures and expression with the programming languages Pascal and C++, which I was familiar with beforehand, making it a reasonable task to learn how to program in Director.

Functionality

The functionality in the developed prototype has a very strong focus on linking the visual with the verbal. The full prototype is played only by clicking the mouse, thus the children can concentrate on the actions on the screen, they don't need to pay attention to e.g. the keyboard for typing.

Some of the games in the prototype are dynamic, meaning the setup is random making every game new and different from the previous one. Others are static, meaning that the setup is the same every time the player starts the game.

Access to the different parts of the program is random; the player can go anywhere he or she chooses to go at any time. Clicking icons and images with the mouse selects all functions in the program. In the main screen, mouse-over effects combined with sound and a changed mouse-icon signals that an option is available. In the games, the player selects options in a menu with icons. The menu icons are gray when disabled and when enabled with color display and a changed mouse-icon.

Gameplay

The Gameplay of the prototype is not fully developed, so I will only give a short description of the basics. In the conclusion chapter, I will return to the full Gameplay idea.

The player takes part in the program being an off screen friend. He or she plays games with Mr. Kiwi as their helper. Mr. Kiwi cheers and gives positive comments to the user's action. He reads text, asks questions and gives direction to the actions needed.

²² For more information on Macromedia Director see the product web-site at <http://www.macromedia.com/software/director/>

For most of the learning activities, the player earns points on successful completion of tasks. On most tasks, the user gets more than one try and more points are awarded the quicker the correct answer is chosen.

Meaning

Inspiration and material for the creation of the user interface in the program comes primarily from the 1B classroom. I created most of the images used in the interface, by taking digital photos in the classroom and then editing them in Adobe Photoshop. The rest of the images, mostly bitmaps, used in the interface come from different free-ware sites on the Internet. The overall intention of the use of images from the classroom is to create a feeling of actually being in the classroom and at the same time maintaining a cartoon-like look.

At AISB they use an alphabet called D'Nelian (see fig. 6.5), and since Grade 1 is the class level where the skills of reading and writing are emphasized, I have found it to be a good idea to support this by using the D'Nelian alphabet as much as possible throughout the program. The font is not normally available and has to be purchased. Therefore, at places in the prototype where I entered text via a text editor I have used another font, Comic Sans MS. It is the font, I have found to be closest to D'Nelian. Whenever a text is a part of an image, I have used the D'Nelian alphabet.

The sound in the program consists mostly of Mr. Kiwi's voice. He has to be a native speaker and have a voice appropriate for the age of Mr. Kiwi, being somewhere between seven and eight. I asked my own eight-year-old son to be the voice of Mr. Kiwi. His English language skills are comparable to a native speaker and furthermore has the advantage of having been a student in 1B, knowing the routines, poems and he has also been easily accessible for recording.

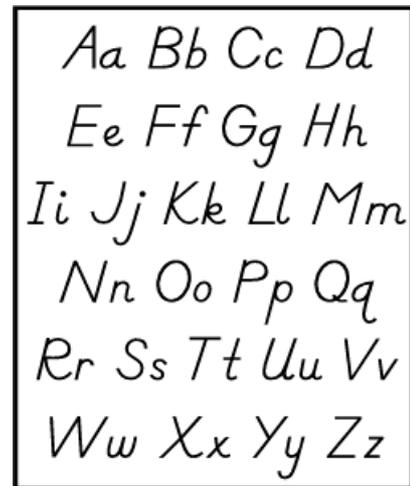


Fig. 6.5: The D'Nelian alphabet

Referentiality

The structure of the program including an adventure part and a home-room with different learning activities is inspired by a Danish series of children edutainment programs called 'Skipper and Skeeto' from Ivanoff Interactive²³.

The adventure part consists of a journey to New Zealand searching for missing Kiwis. Choosing New Zealand and the Kiwis allows for the use of Ms. Brockie's identity and follows up on her own use of this and is a unifying thing. The search for missing Kiwis is closely related to popular children books like 'Where is Waldo'²⁴, where you have to find objects in very detailed and colorful pictures.

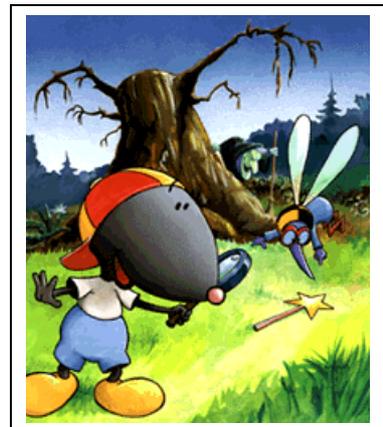


Fig. 6.6: Skipper and Skeeto

²³ The program title in Danish is "Magnus og Myggen". Program homepage at <http://www.ivanoff.dk/>

²⁴ "Hvor er Holger" in Danish

I made a first draft for the look of Mr. Kiwi; much inspired by the look of the real Mr. Kiwi (see fig. 6.4) and Skipper (see fig. 6.6). Skipper has the advantage of being simple, and with a thin neck, making it is easy to animate motion of his head. I have a nephew age 14 with a great interest in drawing by hand and on the computer, and he has willingly helped me to improve the first draft and make all the rest of the drawings of Mr. Kiwi.

Socio-Culture

The Socio-Cultural intention of the Mr. Kiwi program is obviously to give the player a feeling of belonging to 1B. Playing the different learning games should develop the skills needed to understand the meaning of the routines in the ESL CoP. The adventure part and the program in general should build on the community identity and feeling of belonging.

Didactic considerations behind the different games

After this general description of the prototype, I will turn to the different games and go more into detail on considerations behind the structure of the different games.

The Main Screen

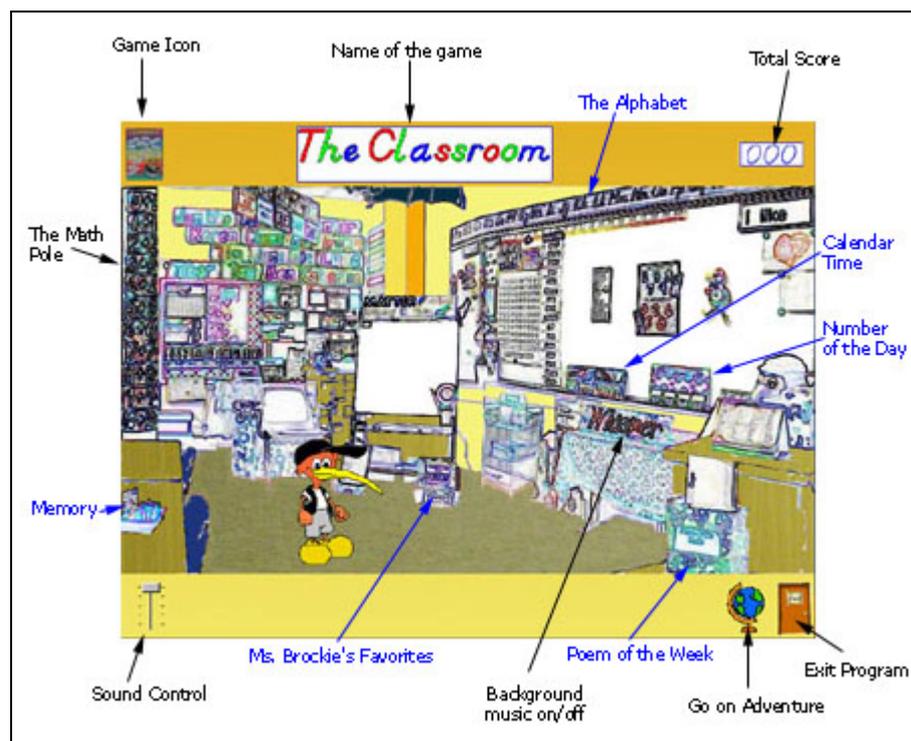


Fig. 6.7: Elements on the Main Screen

We have already discussed the similarity of the Main Screen and the psychical classroom of 1B (see fig. 6.2). The images marked with blue text and arrows in fig. 6.7 are the places to click to go to the different learning activities, I will describe those one by one in the following subsections. Here I will explain the screen elements marked with black text and arrows.

In all the learning activities the top bar from the main screen appears. In the left corner is a Game Icon indicating to which group of activities the game belongs. This

makes it easier for the children that have not yet learned to read. To them the Name of the game in the middle of the bar will not make much sense in the beginning. To the right is a counter keeping track of the players Total Score.

The bottom bar appears in some of the learning activities and in the adventure game. To the left a Sound Control lets the player adjust the volume. To the right the player finds the Go on Adventure icon and the Exit Program icon. On all other screens the Go on Adventure icon is replaced with a Go to 1B icon looking like the Game Icon found in the upper left corner on this screen. The Exit Program icon has a mouse-over effect that opens the door, and behind it you look out at the children's cubbies in the hall, again emphasizing the impression of actually being in 1B.

Finally, two more features are available on the main screen. In addition to Mr. Kiwi's voice, a background tune plays on the main screen. I recorded the tune from a music box that Ms. Brockie has in the classroom. If the player wants to turn the background music on or off, he or she can do so using the Whisper/Silence Sign. I have not mentioned this sign before in this report, so a short explanation is in order. The Whisper/Silence sign stands on a table within the Writing Center (see fig. 2.3). Normally the Whisper side of the sign is facing the class, but if Ms. Brockie finds that an activity requires the children to work in silence or if a child finds the room too noisy they can turn the sign so that the Silence side faces the class, thus making the children work quietly.

The last thing available on the Main Screen is The Math Pole. In 1B, there is a pole decorated with basic addition facts. The children use it as they use all the other materials on the walls. In the game, a mouse-over effect activates the Math Pole. When the player moves the mouse over one of the math facts, Mr. Kiwi will say the fact, and if the player keeps the mouse there until Mr. Kiwi is finished talking, the sum will pop-up as shown on fig. 6.8.



Fig. 6.8: The Math Pole in the class and in the game

The Alphabet

Excerpt 6.1: Using the Alphabet

James and Jesse want to play Junior Scrabble. Candela and Hye-In ask if they can play too. They discuss who should start. Candela suggests doing it in alphabetic order. They all look at the alphabet over the whiteboard. James and Jesse decide that they want to be together because they both start with a J.

Learning the alphabet is crucial in Grade 1, and some of the children in this setting are learning those letters for the very first time, especially Asian children who have completely different systems in their native language. Even though work with the alphabet is not a repeated daily activity, I found it valuable to implement an Alphabet learning activity in the program, because the children will benefit from the learning of those letters in almost all the other daily activities, the alphabet is an important sign system in the ESL CoP.

In the Alphabet learning activity the player can practice both letter recognition and pronunciation. The player can also train the letter sounds by clicking the pictures with words starting with the letter.



Fig. 6.9: The Alphabet, seeing and hearing the letter and finding the matching picture

In the design of the screen emphasis is on giving it a familiar look. This is achieved by placing the alphabet from the classroom over a whiteboard making it look just like that found in 1B. Adding Ms. Brockie's chair makes the impression stronger. Children standing on their chair when sharing something important is an approach used in 1B, having Mr. Kiwi standing on Ms. Brockie's chair reproduces that experience.

The player chose a new letter by clicking on the alphabet. It has a mouse-over effect making the selected letter red, like O in the first picture of fig. 6.9. When the player selects a letter Mr. Kiwi will say 'This is the letter...'. The player can now click the letter or the picture on the whiteboard, making Mr. Kiwi say the letter or the word. This can be done as many times as the player wishes to. Clicking the blue question mark will reveal screen 2, shown to the right on fig. 6.9. Here the player is asked to click on the picture starting with the selected letter. The three wrong pictures are randomly selected, making this part of the game dynamic. If the player selects a wrong picture, it is removed and the player can try again.

An extra feature has been added to this game. If the player clicks the radio next to Ms. Brockie's chair, an alphabet song is played and the letters above the whiteboard will highlight as they appear in the song. The song is called 'ABC Rock', so in order to add an entertaining part Mr. Kiwi will transform into a rock star and play a guitar during the song. The song has been added to cater to different learning styles and intelligences according to Gardner's theory on the multiple intelligences (Gardner & Hatch 1990). The children in this year's 1B are performing the song.

Memory

One more learning activity is available in the prototype facilitating the learning of the alphabet – it is the Memory game. It is a traditional memory game, where the player turns two cards at a time and finding the matching cards is the goal.

The game has three different levels; the player can choose to have small letters on one card and the capital letter on the matching card, or the letter in both forms on one card and the picture of a word on the matching card or finally a combination

with pictures and words (see fig. 6.10). The pictures used are the same as those used in the Alphabet game.

The feature that differentiates this memory game from traditional memory is that Mr. Kiwi will say the letter or the word every time a card is turned, in this way the player will combine the sound with the image – the visual clues that are so important to the ESL learners.

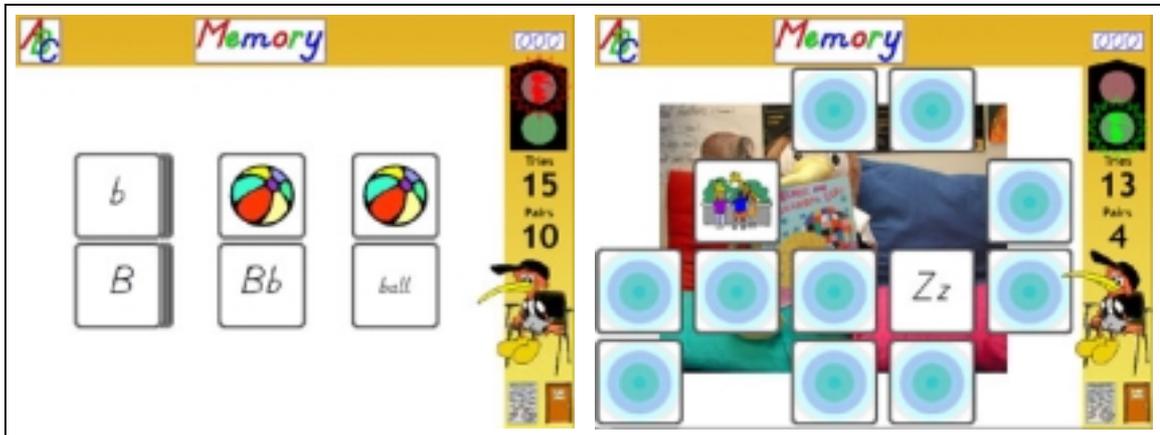


Fig. 6.10: The Memory, level selection and a game in progress

When setting up a new game the program randomly selects 10 letters, giving 20 cards in all and they are placed randomly on the playground, making every game a different game. In the background, a picture will show in each new game. All the children in the class as well as the real Mr. Kiwi have a photo in the program and the background picture is randomly selected from all those photos. This small feature supports the community feeling.

Poem of the Week

Excerpt 6.2: Learning the poem by heart

They start to read the Mammals Poem aloud; Ms. Brockie holds the poem and points to the words one by one as the class reads it. Julia is doing the whole poem with her eyes closed, and they have just read it for the first time a few days ago. Next Ms. Brockie turns the poem around, so no one can see the text. Then they all say the poem again.

This extract from my logbook shows a typical use of poems in the class. Because of the rhythm and rhymes in the poems, it helps the children to remember important facts about different subjects. The children all have a Poem of the Week folder they take home on weekends.

The Mr. Kiwi game has a Poem of the Week learning activity. Here the children can read and hear different poems from the classroom. Each child in 1B has chosen a favorite poem and illustrated it and those are available in the prototype. Three of the poems have the form I intend them all to have in the completed program – a read-a-long style. Those three poems are illustrated with images and when Mr. Kiwi has read the poem clicking an image will make Mr. Kiwi repeat important information.

The learning goal of this activity is learning poems and facts by heart. The read-a-long style will at the same time foster beginning reading skills when the child connects the sound of the word to the image highlighted in the poem.



Fig. 6.11: The Poem of the Week selection screen and a read-a-long poem

At this point, the rest of the poems show the illustration made by the child that selected it, and Mr. Kiwi reads aloud the poem text.

Calendar Time

Calendar Time is an important activity that takes place every day. Each day a new child has different tasks related to the day's date and the number of days the children have been at school (see the narrative in Chap. 2:14).



Fig. 6.12: The class rehearsing "Today is..." and "Today is..." in the game

Playing the Calendar Time learning activity in the prototype will primarily practice the important parts of this everyday routine.

First Mr. Kiwi will say the sentence 'Today is ...' while the different parts of the sentence get highlighted on the screen, just as in the Poem of the Week game. Next the player can practice the name of days and months as Mr. Kiwi asks the player to find out what day and what month it is today. The answers to these questions are given by selecting images on the screen. These images have a sound mouse-over effect that makes Mr. Kiwi say the name of the day or month, so the player can

hear them repeatedly while searching for the correct answer. The player can make as many guesses as needed to find the correct answer.

On screen 2 of the Calendar Time learning activity the player can practice ordinal number names and the concepts of yesterday and tomorrow using a monthly calendar view like the one they complete in the class.



Fig. 6.13: Filling in the Calendar

The calendar in the game is filled out with the real calendar of the month and as in the classroom, it is only filled in until the current date (the 15th on fig. 6.13). This way the calendar in the game looks exactly like the real calendar in the classroom, helping the children to understand the concept of the calendar. Clicking any date in the calendar will make Mr. Kiwi say the ordinal number of that day.

The last feature in the Calendar Time game is the weather icons under the calendar. As a part of the Calendar Time routine, the child has to place a marker on the picture that illustrates today's weather. In the game these pictures can be clicked, and Mr. Kiwi will say the weather type, e.g. 'sunny'.

Number of the Day

Excerpt 6.3: Making numbers, big and tricky ones

Ida gets to make the Number of the Day, she chooses a 3-digit number, 356. The class together find the different numbers that can be made from the digits 3, 5 and 6. Then they go to their desks and each of them get their own 'Number of the Day' game. They all make 4-digit numbers. Ms. Brockie circulates and listens to the children reading their numbers aloud and gives them challenges like: 'try making the biggest possible number using those digits'.

The next day they do the Number of the Day again, this time the whole class is working together. They try to make different 3-digit numbers using the digits 2, 9 and 9. When trying to make a fourth number, Ida and Alicia have been asked if they can come up with another one and they try. After a little while they start laughing and Alicia whispers something to Ida. Ms. Brockie asks what she said. 'We can't make anymore!' Ms. Brockie looks astonished, saying 'but yesterday we could make 6 different numbers, I wonder why that is?' A lot of the children are very eager to answer. Alicia is asked and says 'It's because two of the digits are the same!'

The Number of the Day is a math activity with focus on the learning of the names of numbers and their value dependent on the placement of the digits in three and four digit numbers.

Again, in the screen design, emphasis is on a look that resembles the real classroom activity. The goal of the learning activity is to practice the value of numbers and the concept of bigger and smaller numbers.

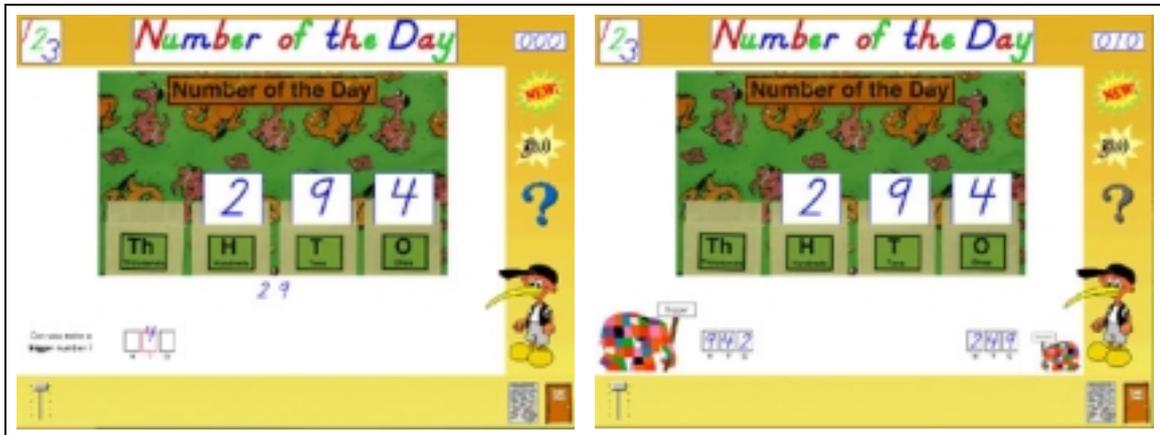


Fig. 6.14: Making bigger and smaller numbers, Elmer joins in

The program generates a random number, in the beginning 3-digit numbers and after a number of games, 4-digit numbers to increase the difficulty of the game.

If the player clicks on the numbers on the Number of the Day board, Mr. Kiwi will say the digit number value e.g. 'nine tens'. On the first click on the question mark, the task is to make a bigger number. This is done by dragging the small number images to the boxes to the right of the question: 'Can you make a bigger number? When a number is dropped in a box Mr. Kiwi will name the new digit value e.g. 'four tens'.

If the player makes a smaller number Mr. Kiwi will tell the player that the number is smaller than the original number, and the player gets a new try. If the number is bigger, Mr. Kiwi will say 'Look Elmer now it's bigger!' and Elmer the Elephant will walk in from the right carrying a sign saying 'Bigger' (see fig. 6.14).

The next click on the question mark will ask the player to make a smaller number, and the action is similar to the one just described. An Elmer coming in with the 'Smaller' sign is smaller in size than the Bigger Elmer, illustrating the concept in a visual way. Clicking the two Elmer images will make Mr. Kiwi tell facts about the current numbers.

Including images of the Elmer character in this game is another example of how the Shared Repertoire can be used in the computer program to generate a feeling of being familiar with the setting.

Ms. Brockie's Favorites

Ms. Brockie's Favorites is an activity which simulates Story Time. The reason we have called it Ms. Brockie's Favorites and not Story Time is that it relates to the box of books in the classroom I have used as the image for this activity on the main screen. This box has the name 'Ms. Brockie's Favorites'.

In this activity the player can watch videos of Ms. Brockie reading her favorite stories. For the prototype, we have only prepared one recording, that is Ms. Brockie reading the first book in the Elmer series to 1B, but again as with the Poem of the Week, the idea is to have a number of books to choose in the completed program.

Again, as with the song in the Alphabet activity adding video to the application will increase the number of intelligences catered for in the program and at the same time I anticipate that the children will enjoy having Ms. Brockie 'live' on their computer during their year in 1B, but also in the years after.

Summary on didactic considerations

In the development of the prototype, I have tried to implement examples of how different elements from a CoP successfully can be transferred to the computer program.

What I set out to do was to first illustrate how a feeling of being secure and cared for, as the children experience in the normal classroom could be created. The game character Mr. Kiwi plays the most important role in caring for the player, by being helpful, friendly and kind. In addition, the feeling of being secure is facilitated by the user interface that shares so many similarities with the real classroom that it almost is like being there.

The next goal was to illustrate how daily routines from the classroom could be transferred to the program. Here I find that the Number of the Day and Calendar Time learning activities are good examples of how a simulation that comes pretty close to the real activity can be created using the same artifacts as in the real activity. At the same time these two activities illustrates how elements of the Shared Repertoire can be transferred, e.g. the use of Elmer in the Number of the Day activity.

With Poem of the Week and Ms. Brockie's Favorites I have tried to illustrate how learning of more complex language structures can be mediated in the program without losing the focus on the CoP characteristics, and while still implementing well-known elements of the Shared Repertoire.

The outcome of playing the program should be the development of skills in the trained activities leading to a stronger confidence that in turn will facilitate the work on interpretations and negotiation of meaning.

The development process

All the work presented in the preceding chapters has served as a preliminary enquiry for the development of this prototype. Therefore, the development process has been somewhat different from what one might expect from a software development process. There has been no use of any of the traditional development tools, like scenarios, model users, mock-ups and so on.

Since December 2002, after the first two months of observations, the development of the program and the observations have been an alternating process where observations in the class have given the inspiration to new ideas in the program. Ms. Brockie and I had several dedicated brainstorming meetings, but we would often discuss ideas on the fly as they emerged.

Whenever a new game was ready to play it was installed on the computer in the classroom and a couple of times we demonstrated and discussed new versions with the children in the Computer Lab.

During my observations in the class I would join children at the computer during center time. As with my normal observations I primarily just observed them playing different games on the computer and I was never the one to encourage the children to play the Mr. Kiwi program. Ms. Brockie did that from time to time, but as the development was progressing they increasingly played the program entirely on their own initiative. They even ended up playing it on days where I was not at school, so it was not only to please me that they played the program.

When I was present and children were playing the program, I used them as 'users' as recommended by M. Pedersen (Pedersen 2001):

Children can participate in a design process either as user or as designers. As users children can contribute on different aspects:

- *Children are good at giving unreserved criticism to something existing (e.g. a prototype).*
- *Children can give feedback on both contents (what is fun?) and structure (what is motivating?).*
- *Children can evaluate interactivity and different designs.*

(Pedersen 2001).

I asked them specific questions on what they liked and what they did not like and observed them playing to see if they were able to figure out what to do without my instructions.

In addition, to the input from the users, the children, I had Ms. Brockie as a valuable partner. As mentioned, she helped in generating new ideas but also in evaluating the implemented games. On one occasion, we had an informal meeting with one of the ESL teachers; Ms. Tiffany and she too contributed comments and new ideas.

Input from the children and Ms. Brockie as well as new ideas from the observations would lead to changes made in the different games, making it an iterative and dynamic process.

The test of the final version of the prototype

On May 9, 2003 we made a final test of the version of the prototype that is handed in with this project. Ms. Brockie had booked the Computer Lab and the children knew that they were going to be test pilots on that day. In the weeks leading up to this test they had been more actively involved in the development process than previously. They had recorded the 'ABC Rock' song for the Alphabet game, they had selected and illustrated poems for the Poem of the Week and had finally made the video recording of Ms. Brockie reading the Elmer story to the class. Moreover, they had not seen the results of those contributions yet, so they were very motivated. As an extra bonus I had the New Zealand journey made, but that was a surprise.

I shortly introduced all the new features using the projector and explained the purpose of the test to them. I emphasized the importance of having both positive and negative comments on the program. After this, they all played the program. Ms. Brockie and I were available in the room while they played, and helped the ESLP

children find the different places in the program with their poem and the Elmer video.

After playing the program for app. 30 minutes we stopped the children and got together for 'questions, comments or compliments'. They are a very kind and thoughtful group of children and there were many compliments, most of them stated that they liked it a lot, all of it.

Then I asked them to try to come up with things they did not like so much, and they contributed with these very thoughtful comments:

- Some did comment on the quality of the video, that the sound quality was poor. This is an undisputable fact, due to not having a microphone for my digital video camera, so this is definitely something that needs improvement.
- The Calendar should be with different dates, it is not so interesting when it is only today's date. This was very interesting to hear, because we considered that when making the game, but decided that we believed that it would confuse the children if Mr. Kiwi said 'Today is...' with a wrong date, but they all agreed that it wouldn't be a problem
- In the Poems it should be possible to stop listening and go back to select a new poem, if you have taken the wrong one. Also a reasonable request, but now that is not possible, you have to listen to it all or quit the game by going to the classroom.
- They all most enjoyed playing the memory game and the New Zealand; find the Kiwi game even though there are only 5 Kiwis at the moment. So charging points to go to New Zealand will motivate them to play the games that award points.

This last comment verifies my initial hypothesis on the computer game, that making it an edutainment product would motivate the children to play the game.

Chapter 7: Conclusion

In this concluding chapter I will discuss theoretical, methodological and pedagogical ideas and problems that have emerged through my work with this project, in order to outline possible further approaches and comment on how further development of the program can be carried out. Finally, I will reflect on my own learning process.

In chapter 5 I made a conclusion on the theoretical part of the project (see Chap.5:49-51), so in order not to repeat myself I will primarily consider issues related to the connection between the CoP theory and the developed prototype in this chapter and first of all focus will be on my problem statement, asking 'How can a computer program support the process of becoming a member of an English as a Second Language Community of Practice?'

The short answer to the problem statement is: by identifying and transferring key factors in the ESL CoP into an edutainment environment. As an overall conclusion of the project, I will state that I have found it to be possible to develop a computer program that can support the process of becoming a member of an ESL CoP, and hereby reduce the sea of noise that the children experience when being newcomers to this setting.

Being my old scientific me for only a short second, I would argue that there is no proof of this statement in this report, and this is in fact true and logical, since there are no newcomers to test it on at the time being. This will stand as my assertion and proof can first be found at the beginning of the next school year. This also points to one off the weaknesses of the selected solution, the program has no broader application; it is only valid in this specific setting, 1B at AISB taught by Ms. Brockie. It is also though one of its strengths, that the appearance on screen is so close to the real setting, making interpretation and negotiation of meaning meaningful for the ESL children in both settings at the same time.

Theoretical concerns

Working with the observations and the implementation of the prototype has called for many theoretical considerations. I briefly mentioned in the concluding part of chapter 5 that the CoP theory not can be called a unifying learning theory in itself, merely a framework for discussing different aspects of the social part of learning.

Looking thoroughly at the didactic considerations in the last chapter reveals, that by using the CoP theory as a basis for the implementation a focus is generated on circumstances leading to learning more than on the basic learning mechanism involved. If I for a moment try to focus on which basic learning mechanism that actually is brought into play by the implemented solution, I reach the somewhat disappointing result that most of the learning activities are facilitated by the behaviorist approach. The disappointing part arises from believing in a learning paradigm with focus on the learner's learning process and developing of problem solving strategies, creativity and critical thinking skills, something definitely not catered for using a behaviorist approach. The behaviorist approach leads to simple transfer of knowledge and skills by imitation, practice and feedback.

I believe that this is the most serious criticism that can be raised against the prototype. To overcome this obstacle focus needs to be directed towards the learning theories, SLA and learning theories in general. Review of SLA theories point to a central correlation between SLA and general learning theories. When discussing the

behaviorist position the term learning is most often encountered as a synonym for that simple transfer of knowledge and skills mentioned above. Whereas when discussing the innatist position there is a shift in the use of terms, now the term acquisition is used to describe the effective way of learning and it is opposed to the term learning as used by behaviorists.

Finally when taking the sociocultural position a new shift in term arise, then the term used to describe the learning process is development in a much broader understanding than both the behaviorist use of learning and innatist use of acquisition apply.

Therefore, what I am implying here is more need for studies of general learning theories to find better ways of implementing the learning of basic skills and at the same time facilitating development of problem solving strategies, creativity and critical thinking skills.

Methodological problems

Methodological problems can be addressed on two levels. I think that the arguments for the suitability of the long-term ethnographic study supplemented with a formal interview as the basis for the verification of the first project hypothesis holds, but one can question if this will be enough if the theoretical investigations were to be broaden as just suggested. If a deeper understanding of the basic learning mechanism were the goal then other methods, such as video and audio recordings with focus on the development of utterances would be needed.

The second methodological problem already brought up in this report is my personal relation to Ms. Brockie. After seeing the result of the project, the developed prototype, I believe that I can conclude that it has not had any questionable consequences; maybe the consequence can be seen as being positive in a project of this type. It is true that I have had a very positive attitude and it is more than likely that my analysis on certain parts related directly to her part in the classroom is too positive. On the other hand, this positive attitude has been mutual resulting in her very engaged participation in all aspects of this project. It is important to stress though that this only works because of the primary focus on the children and on positive elements in the class. If the aim of the observations had another perspective more related to Ms. Brockie's actions and teaching style, I would definitely not be the right person to do the observations and data analysis.

Pedagogical ideas

The developed prototype aims especially at the ESLP and ESL children in the class. Including the curriculum subjects in the learning activities will broaden the usefulness of the program. This would make it more relevant also to the native speaking children to play the program, and in this way the program itself could become a natural and integrated part of the Shared Repertoire in the class, not only a program played by ESL or ELSP children.

Ms. Brockie and I have already discussed many ideas for this extension of the program, and it is our intention to include the activities utilizing the flip-over in the classroom main screen. In the prototype, the sign over the flip-over can be altered between three of the six curriculum topics, and this is how the navigation between them is intended to work. The selected activity should then be available for activation by an image illustrating the specific activity on the flip-over itself.

Further development of the program

When describing the different parts of the prototype in the preceding chapter I promised to return to one aspect not fully developed in the prototype, the Gameplay.

In the completed program the Gameplay of course should be fully developed. As in the Skipper and Skeeto programs that have been the inspiration for the structure of this program, earning points in the learning activities and spending them again in the adventure part is what ties it all together.

This means that the adventure part, the journey to New Zealand searching for missing Kiwis has to be further developed. If it is to stay only a searching for missing Kiwis game, first more missing Kiwis should be added, the numbers included in the prototype is only due to the time constraint.

One idea to spend points in the adventure could be to animate the travel around the North and South Islands. Making routes by bus, by plane and by boat and let each route have a certain price in points could be a solution. In addition, a narrative surrounding the Kiwi search has to be made, making a logical connection to the classroom. An idea could be that Mr. Kiwi returns to an empty classroom after the summer holidays because all his classmates are missing, the task is to find them all, and on completion of the game, they could all fly back to 1B and appear in the classroom. Moreover, more interaction in the different screens could be considered, and narration introducing the different places could be a good way of adding meaningful words and conversation for the students to listen to and appropriate.

Last comment on the possible further development of the prototype; there are an infinite number of ways to make activities in the program which would be meaningful to the students in 1B, and the list of ideas from our brainstorming sessions not yet implemented are very long.

What did I learn?

I will once again turn to Wenger when trying to describe my own learning experience during the work with this project:

Education, in its deepest sense and at whatever age it takes place, concerns the opening of identities – exploring new ways of being that lie beyond our current state. Whereas training aims to create an inbound trajectory targeted at competence in a specific practice, education must strive to open new dimensions for the negotiation of the self. It places students on an outbound trajectory toward a broad field of possible identities. Education is not merely formative – it is transformative (Wenger 1998: 263).

Working with this project has truly been a transformative experience, just as I aimed for by choosing a subject for this master thesis as far away from my professional background as possible. It has been fun, interesting, challenging and personally developing and I certainly feel that I have succeeded on my personal goal of finishing this education on its own premises.

My final comment will be another quote from Wenger – let it be my tribute to this exceptional learning experience I have had:

In the life-giving power of mutuality lies the miracle of parenthood, the essence of apprenticeship, the secret to the generational encounter, the key to the creation of connections across boundaries of practice: a fragile bridge across the abyss, a slight breach of the law, a small gift of undeserved trust – it is almost a theorem of love that we can open our practices and communities to others (newcomers, outsiders), invite them into our own identities of participation, let them be what they are not, and thus start what cannot be started (Wenger 1998:277).

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