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EFL TEACHERS TALKING ABOUT THEIR USE OF COMPUTERS AT WORK: A DISCOURSE-ANALYTIC STUDY

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by

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Englantia vieraana kielenä opettavien opettajien tietokoneen käyttöä työssään on tutkittu niukasti. Tutkimukset on yleensä tehty käyttäen kyselylomaketta ja tulokset on esitetty taulukoina ja prosentuaalisina osuuksina. Englannin opettajien tapoja puhua tietokoneesta ei ole selvitetty.

Tämän tutkielman tarkoituksena on diskurssianalyysia käyttäen selvittää, miten englannin opettajat puhuvat tietokoneiden käytöstä opetuksessa. Aineisto koostuu kuuden suomalaisen englantia vieraana kielenä opettavan opettajan haastattelusta. Neljä opettajista työskenteli ammattikorkeakoulussa, yksi oli ollut töissä ammattikorkeakoulussa, mutta työskenteli nyt yliopiston opettajana ja tutkijana ja yksi opetti peruskoulun yläasteella, mutta opetti myös aikuisia ammattikorkeakoulun järjestämällä kurssilla. Tutkielmassa vastataan kysymyksiin: 1) Miten englannin opettajat puhuvat syistään tietokoneen käyttämättömyydelle opetuksessa? 2) Miten he puhuvat muutoksista, jotka tekisivät tietokoneen käytön opetuksessa mahdolliseksi? ja 3) Miten he puhuvat syistään tietokoneen käytölle opetuksessa? Tutkielma on laadullista tutkimusta.

Analyysin tuloksista ilmenee, että aineistosta löytyy kaksi opettajaryhmää tietokoneen opetuskäytön suhteen: uskojat ja ei-uskojat. Uskojat käyttävät neljää eri tulkintarepertuaaria eli toistuvasti käytettyjä kielikuvia tai sanastoa puhuessaan syistään tietokoneen käyttöön. Repertuaarit ovat maaginen, utilitaristinen, nonkonformistinen ja uskoja. Niillä uskojat rakentavat myönteisten ja hämmästyttävien kokemusten, resurssien hyväksikäytön, koulumaailmaan sopimattomuuden ja uskomisen kautta syitä tietokoneiden käytölle.

Ei-uskojat käyttävät kahta tulkintarepertuaaria puhuessaan käyttämättömyyden syistä. Repertuaarit ovat institutionaalinen ja individualistinen, joilla ei-uskojat ajanpuutteen, koneille pääsyn hankaluuden, priorisoinnin, väheksymisen ja turhautumisen kautta löytävät syyt käyttämättömyydelle joko muiden päätöksistä tai omista valinnoistaan. Tietokoneen käytön mahdollistamiseksi tarvittavista muutoksista ei-uskojat puhuvat käyttäen toiveajattelun repertuaaria, joka rakentuu toiveista pystyä joustavammin käyttämään tietokoneita opetuksessa ja löytää hyviä tietokoneohjelmia.

Asiasanat: EFL teachers, computer use, discursive research, interviews, qualitative

CONTENTS

1 INTRODUCTION

> We assume that readers are aware of what computers look like and how they are used. (Higgins, J. and T. Johns 1984: 5)

"I hate […] normal". Why would a Finnish teacher of English as a foreign language (EFL) say that when answering a question about her reasons for using computers in teaching? It is one of the topics,s that the present study sets out to discover.

I had been an EFL teacher in a vocational institute for about 12 years when starting to plan this study. I began working there in 1986, which meant teaching English all through the hectic years of computers entering the school world. I was enthusiastic about computers from the start but introducing them into teaching did not happen until the late 1990s. As I had mostly experimented with computers alone, and as it had not always been easy, I was keen to hear of other EFL teachers' experiences.

There seems to be little research on the EFL teachers' use of computers and information technology in Finland or abroad. The only Finnish study (Taalas 1996) that was found focused on gathering information from vocational EFL teachers of what types of programs are used in schools, and in what way and how frequently computers are used in the classroom. Like in the studies on large populations of teachers in general (Becker 1994, 2000), findings are reported as numbers and percentages, even in Taalas (1996).

The discursive approach was chosen for the analysis of the data in the present study because it looks into how language is used, and thus allows the researcher to try to find out what the speakers are doing with their talk. The

data consist of six interviews with EFL teachers, and the data are analysed in order to find answers to:

1. How do EFL teachers talk about reasons for the non-use of computers in teaching? Introducing computers into my teaching did not happened overnight, and so I wanted to find out what experiences other EFL teachers have.

2. How do EFL teachers talk about the changes enabling the use of computers in teaching? I can recognize some of the things that should be changed in my particular teaching situation in order to make better use of information technology in teaching. However, I was also interested to learn how other EFL teachers see their own situations.

3. How do EFL teachers talk about reasons for using computers in teaching? The studies reviewed for the present study show that teachers do use computers in teaching, even though the use is not perhaps as wide-scale as policy makers would wish, or has not increased as fast as hoped or predicted. Teachers have also turned into exemplary or successful users of computers but foreign language or EFL teachers have not been studied from that point of view. My share in the matter is to ask my interviewees for their reasons for use.

The data are closely read to find out what interpretative repertoires the speakers use when talking. The functions of the use of language are hypothesized based on the data, and the hypotheses made are reported in detail. Finally, the findings are discussed and some conclusions made.

The present study is organized into five chapters. The previous studies on teachers' use of computers and their critical comparison are presented in Chapter 2. Discursive research, data collection, coding, and how analysis was

done are reported in Chapter 3. The findings are reported in Chapter 4. They are discussed and some conclusions made in Chapter 5.

2. TEACHERS AS USERS OF COMPUTERS: PREVIOUS STUDIES

The use of computers in education is abundant in studies on what students could and should do with computers in classrooms or computer labs. The use of computers by teachers in general has also been widely studied. However, foreign language teachers' use of computers in teaching has not been researched much, and neither has there been much interest to study the use of computers by English as a second language teachers (ESL) or foreign language teachers (EFL). Chapter 2 will introduce some of the studies that have been carried out on educational use of computers by teachers in general, on exemplary and successful users, and the few studies on the use of computers by foreign language, ESL and EFL teachers I was able to find.

2.1 Teachers in general

The USA

In the 1980s, Cuban (1986) argued that educational use of computers was infrequent in US schools, and that it had not changed classroom practices of teachers towards more student-centred instruction. According to Cuban (2000), the situation was still much the same years later, despite the huge investments made in access to computers, the Internet, and software. Teaching practices had also remained the same.

Using some of the findings from the 1998 national Teaching, Learning, and Computing survey (TLC), Becker (2000) aimed to find out if Cuban's claims

that teachers were not seriously using computers in teaching or that computer-use had not reformed teaching practices as predicted was right. The survey sample included over 4,000 teachers working in over 1,100 schools across the US: 2,251 teachers teaching grades 4 to 12, and over 1,800 teachers teaching in schools with the most computer technology and in schools participating in reform programs. Approximately 75% of the schools participated and almost 70% of the teachers from these schools returned the questionnaire. The teachers were asked to answer questions about their beliefs and views about teaching, typical teaching practices, use of computers in teaching, and various features of school premises.

It was found that students on computer education courses used computers frequently, and so did students on business and vocational education courses. Frequent student use of computers was defined as more than 20 times per subject over about a 30-week period. Foreign language teachers in secondary schools were omitted because of the small size of the sample (N less than 50). There was frequent exploratory use in elementary classes, and frequent use of word processing of students' work presented to their teachers. In academic subjects, such as science, social studies, and mathematics the use of computers was very infrequent in secondary school classes. The infrequent use was explained in the study by 1) block scheduling (only 50-minute periods of study), 2) pressures to cover curriculum and content, 3) inconvenient access to computers, 4) teachers' limited skill and expertise in using computers, and 5) teachers' personal philosophical beliefs about learning.

Becker reports that in academic subjects (including foreign languages) with infrequent student use of computers, teachers most often had only one or two

computers in their classroom. Teachers who had one computer to every four students in their classrooms were more likely to use computers in teaching. Having access to a computer lab with more computers did not increase the use. When teachers had to plan for the use of computer labs well before the actual need, and when access to computers was only at intervals, computers did not become constructivist tools of classrooms.

The frequency of computer use in teaching was affected also by teachers' inadequate skills in using computers. The students of teachers with more advanced computer skills used more types of software. Academic subject-matter teachers of grades 4 to 12 using computers most frequently believed in a philosophy of learning that was associated with constructivism. The non-using teachers' philosophical beliefs about learning were closer to transmission pedagogy (a teacher transmitting knowledge to students).

According to Becker, having a constructivist philosophy about learning was not enough to make subject-matter teachers into frequent users of computers in teaching, but it was more likely. Adding two other factors – easy access (in their own classrooms, not in separate computer labs) to more computers and teachers having adequate computer skills – increased the frequent use of computers considerably, e.g. from 29% of all elementary and secondary academic teachers using word processing to 76% of highly constructivist teachers with improved conditions using it. If there was no change in conditions, the increase was from 29% to 44%.

Becker concludes that Cuban is correct in his claim that US teachers have not seriously been using computers in teaching up until 1998 (i.e. the collection of survey data). He based his conclusion on his findings from the TLC data,

which showed that only word processing was both widely and frequently used by elementary and secondary teachers in teaching. Frequent use of all other applications was usually limited to computer education courses. However, he also concluded that under the improved conditions (easier access to more computers and better computer skills) the use increased for the majority of constructivist-oriented teachers.

Scotland

A study (Williams et al. 2000) commissioned by the Scottish Office examined the current use of information and communication technologies (ICT) in Scotland with two aims: 1) to find out what knowledge and skills teachers needed for effective use of ICT and 2) to propose how to develop self- and staff-training to increase and improve ICT use in Scottish schools. The data were collected with a questionnaire from randomly chosen primary (300 schools) and secondary schools (100 schools). Surveys were completed and returned by 352 primary and 329 secondary teachers.

The questionnaires collected information about e.g. how much ICT was being used, what training and development needs teachers had and what made them use or prevented them from using ICT in teaching. In-depth scenario interviews of 23 secondary and 13 primary teachers, constituting a representative sample were also conducted. Interviewees were asked to talk about their responses in various situations to do with ICT.

The main findings about the use of ICT were as follows: 1) word processing was the most frequent use for primary and secondary teachers in

classroom practice, professional development, personal use and administration, 2) primary teachers' use of e-mail or the Internet was very infrequent (probably due to lack of availability), 3) the Internet was available in most of Scottish secondary schools but the use was comparatively low, 4) secondary mathematics, science and language teachers had lowest user scores, business and management teachers had the highest user scores, 5) those who had a more positive attitude toward ICT, used it more, 6) mathematics, science and language teachers had more negative attitudes, 7) teachers using computers at home used them more with students (cf. Taalas 1996).

The teachers surveyed reported several reasons for not using a wider range of ICT: 1) lack of access (takes precedence over other factors in determining use), 2) lack of skills (e.g. the Internet, e-mail, desktop publishing), 3) ICT resources were inappropriate (more than 10% of secondary teachers considered e.g. e-mail inappropriate), 4) lack of familiarity (13% of computing teachers said this about the Internet and video conferencing), 5) lack of technical support, and 6) lack of time.

Teachers' priorities for development and training were reported to include technical skills and knowledge, application of ICT for general and pedagogical use, general and classroom-oriented management skills and knowledge related to ICT, and teaching ICT. In interviews, many teachers talked about a need to learn how to use ICT effectively in the curriculum.

Finland

Sitra (the National Fund for Research and Development) was asked in the spring of 1997 to assess the state of ICT in Finnish education (Sinko and

Lehtinen, 1998, 1999). Finland had had a special information society strategy since the middle of 1990s and now it was time to evaluate the progress of the strategy and the effect that the substantial financial investments had had on education. The report comprised several sub-reports on different levels of the education system. The questionnaires were usually sent to teachers, students, and administration but here the sections on comprehensive, upper secondary and polytechnics teachers will only be reviewed.

Foreign language teachers were not surveyed on any level of the education system as a separate group; they were part of the general group of “teachers”. They were only mentioned in one statistical piece of information in connection with comprehensive and upper secondary schools. Foreign language teaching was shortly reported in one specific article (Sinko and Lehtinen 1998) where foreign language teaching was discussed more generally and in connection with media education.

The teacher questionnaires were sent only to teachers who were using information technology in teaching. The survey of teachers inquired about ICT skills, equipment being used, the frequency of use; also teachers’ views on learning and knowledge and how these views reflected on teaching practices were surveyed. The response rate was 62, a total of 609 questionnaires were returned.

It is argued in the Sitra report that one prerequisite for teachers to use ICT in teaching and to develop their own skills was to have a home computer. 83% of the respondents reported having a home computer of their own. The other prerequisite was to have a computer in classrooms that teachers use for teaching. Of the respondents, 46% reported having a computer in their

classrooms, and 71% of them were able to use computers elsewhere in their school.

ICT was used daily in teaching only by 15% of the respondents; 36% used it weekly. Most frequent use was made of word processing, WWW services, e-mail, and CD-ROMS. ICT was used relatively little integrated into other subjects as a daily tool. Students reported that, for example, only during approximately 12% of foreign language lessons was ICT used frequently; in over 20% of foreign language lessons ICT was never used.

The sample of vocational schools included 56 schools (Sinko and Lehtinen, 1999). The questionnaires were sent to three groups of people: principals and persons responsible for information technology in schools, teachers using ICT, computer support personnel, and selected groups of students. Teachers were both professional and general subject teachers (including foreign language teachers) from different fields of study. Teachers from 32 schools filled in the questionnaires, the respondent rate being 66%; a total of 264 teachers completed the questionnaire.

Teachers assessed their own ICT skills to be reasonably good e.g. in word processing, operating systems, e-mail, and WWW browsing; poor skills were reported e.g. in simulations and groupware. They reported using ICT at least monthly e.g. in writing student assignments, preparing lectures and presentations, and finding new information and source materials.

As barriers to using ICT in teaching, teachers emphasised lack of pedagogical skills and support. Other barriers reported were e.g. (starting from more important ones) lack of time, level of ICT skills, inadequate skills for producing materials, and lack of suitable educational software and materials.

The polytechnics questionnaire was sent to 350 teachers representing various fields of study (Sinko and Lehtinen, 1999). A total of 180 teachers responded. Teachers reported that their skills in using word processing, e-mail, and WWW browsing were good. Teachers' skills in using e.g. groupware, videoconferencing, profession-related games, simulations, and work-related applications were poor.

Teachers reported making most frequent use of educational ICT in preparing lectures and presentations, writing student assignments and in contacts with other members of the academic community. Polytechnic administration reported teachers' lack of time and reservations about ICT, and lack of technical and pedagogical support to be the biggest barriers to ICT use. Teachers also saw lack of time as a big barrier to ICT use, in addition to poor level of technical and pedagogical skills, and inadequate technical and pedagogical support.

Exemplary users

In addition to the studies on ways and frequencies of teachers' computer use, exemplary or successful use has been researched. Drawing on data from the 1989 probability sample survey of teachers and administrators in approximately 1,400 US schools as a part of the I.E.A. computer education survey, Becker (1994) set to find out differences between exemplary and more typical computer-using teachers.

The probability sample included computer-using and non-computer-using elementary school teachers and middle and high school mathematics, science,

English and computer education teachers. Principals and school-level computer coordinators also completed the questionnaire. Exemplary use was defined through standards that were determined by first examining eight sets of questions from the mathematics, science, English, and elementary questionnaires. The questions indicated: 1) the teacher's goals for computer use, 2) the frequency of students' computer use, 3) the most important computer approaches used for the major learning activities in class, 4) the amount of experience students had with using certain types of software, and 5) the general functions that computers played in class.

For each teacher group 12 to 15 standards were selected. The selected standards were different for each group of subject teachers, and differed between secondary and elementary teachers. Based on the selected standards a pilot index was counted for each teacher. The scores were correlated with each of about 25 other answers for the same eight sets of questions. Six to eight items were added to the original pilot indexes in order to achieve a more complex index for each group of teachers. The components of the index included e.g. statements like "one of the most important goals for computer use is "doing scientific investigation" or "when making charts or graphs students use computers at least 25% of the time".

To distinguish exemplary computer-using teachers from more typical ones an arbitrary cut-off score was used. The criterion was decided to be that the exemplary teacher had to achieve at least a majority of the standards for his or her teacher group. Of the 516 teachers in the sample, only 45 teachers achieved the majority of standards for their group. The proportion of computer-using

teachers in the USA meeting the majority of standards was concluded to be about 5%.

Differences between exemplary and other computer-using teachers were examined through three factors. The interest concentrated on the factors that can be changed by reallocating resources. Firstly, differences in teachers' school and classroom environment were examined, including the socio-economic status of schools. The largest difference was found to be that the total number of other computer-using teachers in the exemplary teachers' school was higher. More exemplary computer-using teachers were found in schools where students' computer work was planned to achieve something, e.g. through writing for an audience; in school districts where investments were made in staff development and support for computer-using teachers, and in schools with more resources e.g. in the form of smaller classes, fewer students per computer and more software.

Secondly, the background, teaching, and computer experiences of exemplary, and other computer-using teachers were examined. It was found that exemplary teachers used over twice as much time on computers at school than other computer-using teachers but there was only a small difference in home computer use. Exemplary teachers had more formal computer education for using computers and for using them in teaching (cf. Hughes 1998). Increasing training or having better access to computers did not explain all the differences, as exemplary teachers also had more credits and degrees. The choice of undergraduate major also indicated a difference: 63% of exemplary computer-using teachers majored in mathematics, science, the social studies, or the humanities, but only 40% of other computer-using teachers. Gender was

not expected to influence differences but it turned out that as only 25% of other computer-using teachers were male, of exemplary teachers almost 50% were male.

Thirdly, differences in teaching practices, and views on teaching and computers were examined. Even though the study was not designed to measure changes in teaching practices affected by computers, it was argued that by comparing the two groups of teachers (exemplary computer-users and more typical computer-users), it is possible to get some sort of picture about the potential of computers. The most significant result was that the statistics show exemplary teachers reducing the importance of some areas of curriculum content in order to get time for computer activities that make deeper concentration on some other areas possible. The survey results seemed to imply that with the help of computers it might be possible to get rid of outdated instructional content.

In 1989, the educational use of computers was still in its early stages, so it is not surprising that both exemplary and other computer-using teachers reported not having enough computers or software. On the other hand, exemplary teachers put greater demands on the resources available and have greater expectations of their usefulness.

According to Becker, the survey showed that when certain conditions are met, the presence of exemplary computer-using teachers is more likely. Many of the conditions are such that they can be extended to other computer-using teachers. It is expensive but so are almost all the other suggested proposals for improving teaching practices.

Successful users

Using a case study approach, Hughes (1998) aimed in her study at deeper insights into "a learning path" of teachers who have become successful technology users. She argues that a case study allows a closer understanding of an individual teacher's learning than a survey does. She also wanted to look at these learning paths in context, and consider a teacher's "professional landscape" (Hughes 1998: 11) that includes e.g. relationships between people and tools and the influence that the professional landscape has on a teacher.

Hughes collected stories of four fifth-grade teachers (one female and three males) from Michigan, USA. The teachers were successful technology-users chosen because they had won technology- and education-related awards and/or had been recommended or recognised for their innovative technology projects. Hughes chose to study elementary classroom teachers because when teaching several subjects, technology-use may include a wider range of subjects and not be determined by the subject.

Hughes interviewed the four teachers at their school and asked them to describe their school environment, their development after the initial start of technology-use, their possibilities for professional development, and the availability of technological resources. She also interviewed principals and three students, collected e.g. student work, web pages, newspaper articles, conference presentation outlines and school technology goals. She observed the teachers in their classrooms for two to four hours. Based on the information collected she drew a "learning path" in the form of a chart for each teacher.

Interviews and other materials were used to confirm, extend, or prove wrong differences and similarities that became apparent across the cases.

The patterns of differences and similarities that were found concerned five areas: 1) the relationship between a teacher and a principal, 2) formal technological education, 3) philosophies for using technology in education, 4) role of in-service learning, and 5) collegiality and school technology goals.

The four teachers mentioned the provision of hardware and software as an administrative support but they especially emphasised the importance of such a relationship between a principal and a teacher that allowed discussion about the ideas for technology use. They appreciated the interest and attention that their principals showed for their use of technology in classrooms.

Two of the four teachers had a formal education in technology, and they knew when starting to teach that they would use technology. The other two started to use technology later in their career, tried out different ways, and partly through luck found their own ways of using technology. The achievements in the use of technology were similar for all four. Their philosophies for using technology were also similar. They did not teach computers but computers were tools to realize the curriculum.

The two teachers with a formal education in technology did not much appreciate the in-service workshops or courses that they attended; they were below their level and thus not useful. One of the other two did not have access to any district or local in-service courses, but the other one recognized their value, though he would have liked to see them to concentrate on two to three topics per year in order for teachers to apply what they have learnt. Hughes

argues that limited exploration of technology might prevent a teacher who is new to technology from starting to use it.

Hughes found that in schools where everyone accepted the technological goals, teachers seemed to support each other's efforts to use technology more. The two teachers whose schools had not set the goals did not get support for technology activities from their colleagues. The only support inside the schools came from the principals; otherwise, support was found outside the school.

Hughes concluded that barriers to technology use found in previous studies were present also in her study but they did not prevent teachers from becoming successful users of technology. In her view, this justified using the type of in-depth research that her study represents. Her study also showed that there was not just one way of becoming successful; some of the common features for successful or accomplished technology-using teachers in the other studies were found in the stories of the four teachers but the cases demonstrate complex blending of factors for each individual teacher and when comparing the teachers with each other.

All the studies reviewed above have been about teachers in general. Next, I review some studies that have been carried out on the use of computers by second or foreign language teachers.

2.2 Language teachers as users of computers

Technology in teaching culture

Moore et al. (1998) studied whether foreign language teachers used available technology for teaching culture, how they used e.g. videodiscs, interactive video, CD-ROMs and the Internet, and how they included this technology in classroom work. The survey sample was foreign language teachers from Texas, USA. The researchers mention that they realize the limitations of a survey study but considered it a good method of collecting data from a large sample and over long distances.

The survey questionnaire had six pages and respondents used a Likert scale in their answers. The teachers were asked to respond to questions such as how often they taught and tested culture, what topics they taught and tested, what sources (technological and others) they used to locate cultural information, and what type of testing they used. In open-ended questions the teachers had a chance to talk about classroom routines and how they made technological resources part of their lessons. They were also asked e.g. about the type of school they taught, their educational background, the languages taught (Spanish, French, German, Japanese, Russian, Latin and Portuguese), the knowledge of the target culture, how they felt about their own skills and ability to teach the target culture and what restrictions they faced in teaching culture.

A total of 2000 questionnaires were distributed to school districts, 388 questionnaires were returned, the response rate being almost 20%. The researchers thought this satisfactory taken into account the size of Texas.

Almost half of the responses (46%) came from teachers with over 11 years of teaching experience and from different types of schools. There was so much data that only technology in teaching culture was reported on in this study.

The quantitative part of the study was analysed using statistical methods. The teacher's educational background seemed to influence the frequency of technology use (the Internet, videodiscs, CD-ROMs, videos) in teaching culture; teachers with a doctorate degree had higher scores but only the score for the Internet use was statistically significant. Teaching experience seemed also to influence the frequency of use, but less experienced teachers used CD-ROMs more frequently, perhaps because they had encountered them in their collage education recently. Teachers of Japanese had higher scores in everything but the only statistically significant was the Internet use; the reason probably was their state-wide professional development program that included the use of computer bulletin services. Teachers from rural schools had lower scores for everything, and teachers at elementary level had lower scores than other teachers.

Open-ended questions were analysed descriptively. Only few of the surveyed teachers gave examples or explanations about how they used the Internet, videodiscs, or CD-ROMs but many reported on the use of videos. Twenty-seven Spanish, four French and four German teachers reported using the Internet; mostly students were reported surfing the Internet for information e.g. on specific geographical areas, historical topics, or famous people and sharing what they found with the rest of the class orally or in writing. The use of videodiscs was very low; 14 teachers mentioned using them. Videos were

used most widely. CD-ROMs were used most frequently by younger teachers but very little to teach culture.

Moore et al. (1998) concluded that the teachers surveyed used technology very little in teaching culture, and especially the use of computers was infrequent. General reasons given for this were that the school did not have the equipment or there were no suitable materials. The teachers did not mention that they would not have the necessary skills or knowledge to use technology. Moore et al. recommend that training in the use of technology should be included in pre-service and in-service teacher education.

Second language teachers and technology

Lamm (2000) wanted to find out why second language teachers had decided to use technology in teaching, why teachers had decided not to use it and what the reasons were behind these decisions. The study was motivated by the accusation against second language teachers that they were “technophobes” who did not want to use technology. Lamm defined technology as any machine that can be used in language teaching.

The data were collected by interviewing ten second language teachers but as they all used audiocassettes and videos, only the decisions not to use computers were examined. The interviewees were Lamm’s colleagues (four males, six females). Five teachers taught English, three taught Spanish, and two taught French. One teacher taught at the elementary school level, one taught at the intermediate school level, one taught children, adolescents and adults at private language schools, and the rest (seven teachers) taught adults.

They worked in countries like Canada, Japan, France, Iran, and Hong Kong. The teaching experience varied between 2 to 20 years and ages between 25 to 50 years. They had different educational backgrounds but all had been second language learners; all had a home computer but only five had used computers in teaching; no one had attended any courses on educational technology.

The interviewees completed a questionnaire on the professional, personal, and educational background, and they were interviewed. Interviews were not limited to the set questions but explanations and clarifications were asked. The transcripts and completed questionnaires were subjected to content analysis; no statistical analysis was done. Four main categories were found: 1) teachers' standpoint on technology, 2) reasons for using technology, 3) reasons for not using technology, and 4) other factors influencing decisions to use technology.

All the teachers in this study viewed technology for its usefulness. No one felt threatened by technology, and technology-based language teaching was seen as supporting and supplementing other teaching. The most important reason for using technology (seven out of ten) was the possibility to present many kinds of language; motivating students was seen as important.

Five of the ten teachers never used computers in teaching. Reasons given were: lack of knowledge about using it in second language teaching, lack of access, lack of confidence in own computer skills, and inadequacy for students' needs. When asked whether they would use computers under different conditions, two teachers said yes, one said no (he was teaching abroad in a country where the language on computers was different from his own), and two had reservations.

Some of the factors influencing decisions to use technology (computers, audio cassettes and videos) were as follows: 1) possibilities for professional development in technology use and integration being adequate or not, 2) insufficient resources and money, 3) student background (immigrants who had never before seen a VCR or a computer), 4) administrators' attitudes (both negative and positive attitudes were mentioned, but positive attitudes did not always lead to technology use, and Lamm argues for technology use being a personal decision), and 5) lack of time to search for suitable materials.

Some of the results of this study can be found in other studies, e.g. that technology motivates students, and a lack of access to equipment hinders use. Underlying most of the reasons for technology use was the need for it to help students learn better. It also came apparent that several of the teachers could not see a connection between computers and language teaching. The decision to use technology seemed to depend on whether a teacher was personally convinced of its usefulness. According to Lamm, this is a fact that has not been stressed enough in previous studies.

Lamm argues that it is unfair to call second language teachers technophobes. Decisions to use or not to use technology are based on personal beliefs, not on fear. Teachers, who do not use computers, never mentioned fear as a reason. The results also showed that just equipping classrooms with technology is not enough. Teachers have to be convinced of the usefulness of technology for their students' learning. Lamm notes that the limitations of her study were that it was preliminary and that the sample was not representative.

Computer use of Finnish EFL teachers in vocational schools and commercial colleges

A study by Taalas (1996) on the use of computers of Finnish vocational and commercial college EFL teachers seems to be the only one conducted in Finland, or even elsewhere, that has been done on the use of computers of foreign language teachers in vocational schools. Taalas defined her study as being a qualitative and partly quantitative survey. Its data were collected using questionnaires that were sent to 184 schools. A total of 201 questionnaires were returned from 121 schools: 67 Finnish speaking and 8 from Swedish speaking vocational schools, 42 from Finnish speaking and 5 from Swedish speaking commercial colleges. 186 teachers were from Finnish speaking schools (92.5%) and 15 (7.5%) from Swedish speaking schools. The data were collected in the spring of 1993. The questions inquired about computer use, availability and use of software, access to computers, scenarios of use, advantages and disadvantages of use and barriers of use, teachers' general attitude, staff development and background information. The results were discussed and reported in table form based on the responses.

The computer use in foreign language teaching in vocational schools was so low that defining typical use was difficult. Some teachers in both vocational schools and commercial colleges used computers as part of their classroom practices but most did not use them at all or used them very little. When computers were used in teaching, they were mostly used for drill-type exercises.

A clear discrepancy between the number of courses attended and the transfer of new knowledge and skills into teaching was found. Almost 63% of the teachers had attended computer courses, and almost 33% had been to general computer courses and CALL (computer assisted language learning) courses, but still they reported very little use of computers in teaching. Taalas argues that the available courses did not seem to be appropriate for teachers' needs, and that the courses gave teachers a very narrow view of the possibilities offered by educational technology because almost 90% of the teachers in the study thought lack of interaction to be the gravest failure in CALL.

According to Taalas, it seemed that teachers did not have time for learning about the new possibilities or adapting software to their own teaching purposes. This argument was based on the fact that the teachers who did not use computers or those who used them only infrequently complained about the poor quality or small selection of available software. The study also confirmed that the courses that the teachers attended did not lead to changes in ways of teaching towards more constructivist ones, as they still preferred students doing tasks on their own.

Preparing students for the changing labour market did not influence computer use in vocational foreign language teaching. One reason the teachers gave for justifying the non-use of computers was that students used them so heavily in other [vocational] subjects that to use them in language teaching would have burdened students too much.

Taalas also notes that based only on the collected data too hasty conclusions should not be drawn about the real levels of computer use in these

schools. However, it seems that there were no policies or philosophies about the use of educational technology in general subjects (e.g. foreign languages, mother tongue, social studies) or further education programs for language teachers in computer use in teaching. The study did not confirm the assumption that a teacher using a computer for private purposes would transfer the use into teaching, as nearly 60% of the respondents reported daily administrative and private use but only 9% reported daily educational use.

The analysis of computer use also aimed to create teacher profiles based on educational use. The profiles were created by forming three groups of users: the non-users, low integrators, and medium integrators. Other factors were combined with the use (e.g. gender, school type, years as a teacher, use of computers for private and administrative purposes, computer courses, number of computers in the classroom, constructivist conception of learning with computers, reasons for non-use), and the numbers of cases across the groups were compared. It was e.g. found that the non-users and low integrators had attended more computers courses than the medium integrators. For every user type the lack of access to computers was the greatest barrier to use. The differences, however, between the user types were so slight that noticeable factors were difficult to detect. The differences in use between genders or generations cited in other studies did not emerge.

Taalas argues that her study proves right the claim of instructional technologists having completely ignored the fact that learning on primary and secondary level is dependent on teaching. The investments have mostly been made on software and hardware but training teachers to become proper developers and users of educational technology has been neglected.

The study confirms the assumption that teachers often blame external factors for their non-use or infrequent use of computers even though they acknowledge the benefits of computers. Almost 70% of the teachers considered institutional factors to be the main reason for the non-use. Taalas argues that if teachers had better access to computer labs or were given computers in their classrooms, computers would be used more frequently. Only 7% of the teachers admitted feeling fear or inadequacy in relation to computers.

Taalas suggests that as new recruits into foreign language teaching will hardly have necessary skills and concepts to include computers in curricula, in-service training of teachers is essential. Clear goals should be set for the use of educational technology in vocational schools, and those goals should be included in staff development programs.

2.3 Critical comparison

The studies reviewed above reveal facts and numbers, views and opinions on the technology and computer use of teachers in general and of foreign language teachers in particular. The majority of the studies reviewed (five out of eight studies) used a survey questionnaire for collecting data. In only one study (Moore et al. 1998), the limitations of surveys are expressed, but so is the usefulness of surveys for collecting data from large populations also mentioned (Moore et al. 1998: 112).

Surveys can be analysed using statistical methods developed for the analysis, so the researcher does not have to create new methods (Hirsijärvi et al. 1997: 191). If the questionnaire is designed carefully, the data can quickly

be saved on a computer. The schedule and costs of using a survey for collecting data in large numbers can be estimated fairly accurately.

Some of the disadvantages of a survey are that a researcher cannot know if respondents gave careful and honest answers, or how successful the alternatives given were from the respondents' point of view. Besides, it is difficult to control misunderstandings. Survey data can also be considered superficial; it does not allow in-depth inquiries (Hirsijärvi et al. 1997: 190).

In one of the studies reviewed above (Williams et al. 2000) 36 teachers (out of the 681 teachers that completed and returned the questionnaire) were also interviewed. Reporting the results was, however, mostly based on the questionnaires, and interview responses were used as examples and/or confirmation of the numerical results. In the other survey studies reviewed (Becker 1994, 2000; Sinko and Lehtinen 1998, 1999; Moore et al. 2000), no interviews were used.

In these survey studies, the individual teacher is largely left behind the numbers and percentages, as part of a larger mass. Their responses are given a numerical shape and hardly any personal voice is heard. In the only study reviewed using a case study approach (Hughes 1998), the researcher both interviewed the four teachers and observed them in their classrooms. She notes that she "encouraged teachers to tell me the story of their technology learning and use" (1998:11), and that she used interview data, with other materials, to confirm, extend or prove wrong differences or similarities that became apparent across the cases. In reporting each case she used stretches of interview talk quite a lot, and by doing so, she allowed the reader to get a much closer

look at each individual's thoughts and experiences with technology learning and use.

Lamm (2000) collected her data with semi-structured interviews but did not only stick to the list of questions prepared in advance. She analysed transcripts and background questionnaires for content and formed larger descriptive units of common elements and recurrent patterns. In reporting the results, examples from interviews were used under the four main categories found through content analysis, and shorter quotes were used within the running text.

The way the interview data were used in Lamm's study lets the reader learn about these teachers' reasons for the use or non-use of computers in teaching. It does not let the reader have so close a look as Hughes' study (1998) does. However, the subjects in Hughes' study were elementary school teachers, and in Lamm's study foreign language teachers and not EFL teachers who are the focus of my study.

EFL teachers' computer use in teaching has not much interested researchers. English is taught on every level of Finnish education system, and schools have been equipped with computers for some time now, but only one study (Taalas 1996) seems to be have done in Finland on the subject of EFL teachers and computers. Besides, Taalas collected her data of vocational EFL teachers in 1993, and the situation is very different now, as the Internet has come of age and has spread to almost every corner of the school world. If data similar to the one collected by Taalas were gathered now, I doubt it would be possible to report that e-mail was used very little, as reported in 1996 (Taalas 1996: 41).

Chapter 3 first outlines the research questions, and then goes on introducing discourse analysis.

3 DISCURSIVE APPROACH TO ANALYSING TALK ABOUT COMPUTERS: THE PRESENT STUDY

3.1. The research questions

As the studies reviewed above show, teachers do use computers in teaching, even though the use is not perhaps as wide-scale as policy makers would wish, or has not increased as fast as hoped or predicted. Teachers have also turned into exemplary (Becker 1994) or successful (Hughes 1998) users of computers. Unfortunately, the use of computers by foreign language or EFL teachers has been paid only scanty attention.

Finnish polytechnic EFL teachers' computer use in teaching has not been studied previously. I wanted to interview polytechnic EFL teachers to obtain my data, as I have also worked in a polytechnic besides being a vocational school EFL teacher. I did not want to use questionnaires or any other approach where I had to interpret numbers. Instead, I wanted to find a way to listen to and study EFL teachers' talk about computers in teaching as closely as possible to see how they talked about them and whether they shared any of the experiences I have had with computers over the years.

I chose discourse analysis as the approach to be used in the present study, because it allowed me to work with the use of language drawing on the transcripts of the interviews and not on any numerical transformation of them (Wetherell and Potter, 1987: 172). In discourse analysis language use is understood to be action (Jokinen et al. 1999: 238), and things are done with words, sentences and conversations. It aims to do justice (Wetherell and Potter,

1988: 183) to the subtlety and complexity of lay explanations used in natural contexts. It focuses on analysing (Jokinen et al. 1999: 245) people's skilful actions in everyday or institutional interactions and orientation to each other's actions.

Understanding what some EFL teachers actually do when talking about their use of computers was what I finally set to do. Interwoven with it was my personal quest of trying to understand my own experiences with computers. The research questions achieved their final form after countless readings of the interview data, even though I did have preliminary questions at the beginning. The research questions are as follows:

1. How do EFL teachers talk about reasons for the non-use of computers in teaching?

2. How do EFL teachers talk about the changes enabling the use of computers in teaching?

3. How do EFL teachers talk about reasons for using computers in teaching?

3.2 Discursive research

> Diskurssintutkija löytää itsensä keskeltä rikasta ja suunnatonta maata, joka on täynnä kummallisia, moniselitteisiä tapahtumia ja niitä ymmärrettäväksi tekeviä selontekoja. Siellä on ihmisiä, jotka ovat valmiita tappamaan joidenkin mielestä moraalisesti tuomittavasti, joidenkin toisten taas ymmärrettävistä syistä, toisinaan jopa ylevien ihanteiden pyhittäminä. Lapsi leikkii totutellen kulttuurin sensitiivisiin merkityksellistämisen ja vuorovaikutuksen tapoihin. (Jokinen et al. 1999: 34)

The quote above is the beginning of a story that Suoninen (Jokinen et al. 1999: 34) uses to sum up the principles and hypotheses of discourse analysis that he and others use in research in the social sciences. I was charmed by the land that

Suoninen writes about when I was searching for an approach to deal with my interest in the EFL teachers' computer use in teaching. As shown by the studies reviewed in Chapter 2, research on the computer use of large populations of teachers in general using survey questionnaires as an instrument are easy to find. I was specifically interested in hearing and listening to what EFL teachers would say about their computer use, and eventually how they would say it, was not at all tempted to do a survey study. That is why for the analysis of my data I chose to apply the discursive approach that is based on research done in the 1980s by British social psychologists (e.g. Potter and Wetherell 1987).

Functions. An important component of discursive research is its focus on language functions (Potter and Wetherell 1987: 32-34; 1988: 169-170; Jokinen et al. 1999: 18-20) whose analysis should not be understood as simply categorizing pieces of speech but depending on how the analyst interprets the context. Talk is seen as action (Edwards 1997) and orienting to many different functions, and with time, considerable variation emerges through the study of language. The functions can be global or specific, and a person's talk varies according to the function.

Variety. Discursive research maintains (Potter and Wetherell 1987; Potter 1997; Jokinen et al. 1999) that function involves construction of versions, and that function is shown through language variety. The term 'construction' is appropriate because 1) accounts of events are constructed with the existing linguistic resources, 2) it implies active choice, and 3) emphasizes the powerful and consequential character of accounts. Most social interaction is based on relations between events and people, which are experienced only in terms of specific linguistic version, or accounts.

Unit of analysis. Discourse analysts use interpretative repertoires as an analytic unit (Potter and Wetherell 1987: 138, 149; 1988: 172). Interpretative repertoires are the language, often construed around metaphors and figures of speech, that the speakers of a language resort to when talking about various things in life. They are constructed out of a limited linguistic supply and used in a particular stylistic and linguistic manner. In the analysis, the uses and functions of different repertoires and the problems raised by their presence have to be revealed.

According to Potter and Wetherell (1987: 155-57), interpretative repertoires have the advantage, firstly, of not being construed as entities inherently linked to social groups, so the often problematic identification of natural group boundaries has not impaired research. Secondly, discourse analysis does not attempt to achieve consensus in the use of repertoires. Going through life having to deal with ever-changing situations, people are forced to resort to very different repertoires to find the one suiting to a particular situation. From this theoretical perspective, variability rather than consensus is predicted. Consistency is important in discourse analysis and it is useful when identifying the situations where some people resort to one repertoire and other people to another. The analysts do not, however, assume that on other occasions these people would necessarily produce the same repertoires. Thirdly, in discursive research the interest lies firmly in language use, in how accounts are constructed and in their various functions.

Craft skill. Potter also argues (1997: 147-149) that discourse analysis is a craft skill. It requires developing an *analytic mentality* (italics original), which is a characterization borrowed from conversation analysts, and involves a lot of

hard work to acquire. Describing discourse analysis is also a laborious thing to do but, according to Potter, it does not mean that it is difficult to evaluate. Finding out e.g. whether the participants accept the results and what the readers' evaluation of the analysis is can be used as a method of assessment.

Potter (1997: 154-55) discusses two features of the analytic mentality. Firstly, like conversation analysts discourse analysts want to use the evidence from the data rather than base their interpretations on their own presuppositions about people, society, and other matters. Secondly, discourse analysts have been more willing to combine materials from talk and texts and have tried to avoid any difference between the two. Both talk and text are understood to orient to action.

Making things understandable. Suoninen notes (Jokinen et al. 1999: 18; see also Potter and Wetherell 1987) that discourse analysis is focused on how actors (speakers and writers) make things understandable with their use of language. The hypothesis is that a phenomenon can be made understandable in many well-justified ways, and the assumption of one unequivocal truth is seen as inadequate. The focus is on what kind of descriptions and explanations can be understood in different situations and during different stretches of talk, and what circumstances or other consequences are constructed with them. For doing research this means that *the ways the actors describe phenomena and give them reasons are the objects of the study in their own right* (Jokinen et al. 1999: 18; italics original).

According to Suoninen (Jokinen et al. 1999: 20-22), to make a clear difference between discourse analysis and the approaches that treat data as mere descriptions of what reality is, discourse analysts call the objects of

description accounts. People use accounts to make themselves and their world understandable to others, but these accounts are not independent of the social world and are part of building the world into what it is like and how it will be understood. In their accounts, the actors have to use the resources that are available in that particular culture. On the other hand, giving accounts is part of a culture, and even an essential part in preserving culture.

Suoninen (Jokinen et al. 1999: 22-23) argues that the accounts preserve culture in three ways: firstly, they maintain the conventional structures of adherence to and aberration from, which they justify. Secondly, they maintain discourses that they refer or appeal to in order to convince their audiences. Thirdly, they produce many kinds of symbolic or material consequences that are difficult to infer only from accounts. The discourses referred to are not clear and distinct, but their culturally given resources are formed, redefined, and made more specific when using the language. Therefore, it is not just a question of mechanical renewal of social structures but constructing them repeatedly in a slightly different form.

Participation. Suoninen (Jokinen et al. 1999: 27-31) claims that the other participants play a very important role in the forming of the contents of interactions. Already in the forming of the first account, the actor's assumptions about the other actors or about the audience may be the integral factor in the choice of vocabulary and metaphors. Moreover, the slightest changes in the reception of accounts easily affect the choices in later accounts. In face-to-face interaction, it is not necessarily enough that participants give skilful accounts using familiar discourses with the knowledge of the particular

culture and rhetoric. In the end, how the others receive the accounts is essential.

The English studies. The type of discourse analysis described above has been used to explore greatly varying topics in the social sciences. In the English studies, its use has been much more restricted. In one of the more recent studies (Kalaja, in press), part of the research into consequential validity of language proficiency tests of the Finnish matriculation examination (Huhta, Kalaja and Pitkänen-Huhta 2000), the discursive approach was applied to researching one aspect of student beliefs about second language acquisition: expectations of success. One student's accounts of expectations of success and failure in an EFL test of the nationwide Matriculation Examination taken at the end of senior high school were used as data. In contrast to what is widely held by mainstream approaches it was found that expectations vary highly, even from moment to moment. Kalaja notes that like in other qualitative research, the findings cannot be generalized but she concludes that discourse analysis seems to pick out the variation in discourse more easily.

Discourse analysis has also been applied to research on good English teaching in students' talk (Löytynoja 2001), motivation in second language learning (Kalaja and Leppänen 1998), success and failure accounts in learning EFL (Heikkinen 1999), career choices of English as a foreign language teachers (Kalaja and Dufva 1997), EFL learners' stories of language learning (Leppänen and Kalaja 1997), and attitudes towards English in Finland (Hyrskstedt 1997).

3.3 Data collection: interviews

The data for the present study were collected in the spring of 1998. I interviewed six EFL teachers. Four of the interviewees (Jaana, Jarmo, Liisa and Ritva, names made up) were teaching either social and health care or engineering students in a polytechnic (see Table 1). Polytechnic EFL teachers were chosen for interviewing because I had been teaching EFL in a polytechnic on three separate occasions and had tried to introduce computers into my teaching also there. I have a permanent teaching post in a vocational institute (ammattioppilaitos in 1998, now ammattiopisto).

One of my interviewees (Elisa) was teaching grades 7-9 in a comprehensive school but she was also teaching an adult ELF course arranged by a polytechnic. Iiris was teaching and doing research at a university but she used to teach EFL at a polytechnic. These two teachers were chosen for the interview because I knew they used computers in teaching, and they were easily accessible.

Table 1. The interviewees' field of teaching

	Elisa	Iiris	Jaana	Jarmo	Liisa	Ritva
Engineering			x			
Social and health care				x	x	x
University		x				
Comprehensive school+ adult course	x					

The interviews were conducted either at an interviewee's workplace (Iiris, Jaana, Liisa, Jarmo and Ritva) or at a university library (Elisa). I used an interview schedule (Appendix 1) but had to improvise with Jaana, Jarmo, Liisa,

and Ritva after I found out when interviewing them that they hardly used computers in teaching. The interview schedule contained questions that took the possible non-use of computers into account (e.g. Why have you not bought a computer of your own? Why do you not use them? What should change to make you use computers in teaching?) but I was afraid the interviews would be too short, and consequently improvised. The need to improvise, on the other hand, benefited interviews by making them a little more relaxed. Having the common background in EFL teaching also helped to create an amiable atmosphere for interviewing.

The interview schedule used was loosely based on my own history of the computer use in teaching, and on advice from my thesis supervisor. The main themes of the schedule were the following: the first experiences with computers, learning to use computers, getting a computer, the current use both in teaching and otherwise, the effects computer have had on work and the work community. I covered the main themes with every interviewee, but did not ask everyone all the questions of the subsets that every main theme had. I had to adjust my questioning to the situations that were revealed during the interviews; it did not make sense to ask questions that had no relevance for an interviewee.

I transcribed the interviews (for the symbols used see Appendix 2) but not in great detail, and had to leave some parts untranscribed because I simply could not hear what was said on the tape. Fortunately, this affected only very short parts of the tapes. For example, I realized only afterwards that the place for Jarmo’s interview was not a particularly good one. The noises made by a copying machine in the neighbouring room disturbed at times, as only a glass

door separated us. As a result, parts of his interview were very difficult to transcribe, or could not be transcribed at all. Interviews made in high-ceilinged, brick-walled rooms were also little difficult to transcribe because of the echo (Liisa and Ritva).

3.4 Coding and analysis

Coding. According to Potter and Wetherell (1987: 167), the goal of the coding is to "squeeze the unwieldy body of discourse into manageable chunks". To be able to do so the six transcripts of interviews had to be read through several times before being able to focus on or make sense of any of the interesting linguistic phenomena that caught the attention. It certainly proved right that acquiring at least a semblance of analytic mentality Potter (1997) writes about does take time and involves a lot of false starts and frustrating attempts at understanding the process.

First, the data were roughly divided under the main themes and some of the subsets of the interview schedule. The data to be analysed were slowly narrowed down under four main themes: Why do you not use computers in teaching? What should change to make you use computers in teaching? Why do you use computers in teaching? What emotions were involved? This all happened over a fairly long period of time (two-three years). On the other hand, the slow process probably helped my skills mature for the final analysis.

Analysis. The data to be analysed under the three research questions were chosen after countless readings of transcripts, and some attempts at the analysis. The parts of the data with talk about emotions were in the end left out,

because the amount of the data looked like becoming too vast for the purposes of this study. The analysis meant (Potter and Wetherell 1987: 168-169) looking for similarities and differences in the interviewees' accounts in regard to each research question. It meant trying to understand what the six interviewees were doing when they were using a particular metaphor, figure of speech, or vocabulary in talking about the three topics selected for the analysis.

The interpretive repertoire (see 3.2.) was used as an analytic unit, for a definition, see section *Unit of analysis*.

In the next chapter, the findings will be presented.

4 FINDINGS

My sample forms two distinct groups in relation to the educational use of computers. The two active computer-users, Elisa and Iiris, are firm *believers* in the usefulness of computers in teaching, and Iiris outright talks about 'believing'. The other four, Jaana, Liisa, Ritva, and Jarmo, showed serious doubts about the use of computers, and Ritva even expressed her disbelief: they are *non-believers*.

The analysis aimed to answer the three research questions: 1. How do EFL teachers talk about reasons for the non-use of computers in teaching? 2. How do EFL teachers talk about the changes enabling the use of computers in teaching?, and 3. How do EFL teachers talk about reasons for using computers in teaching? The data for the analysis of the first and second question are taken from the interviews of the four non-believers, and for the third question from the interviews of the two believers.

4.1 Non-believers: talking about the reasons for the non-use of computers in teaching

The four non-believers, Jaana, Jarmo, Liisa and Ritva, knew that using computers was the thing to do; it was "trendy". As they did not use them, they seemed to feel they had to justify their choices and thus argued for the non-use with two interpretative repertoires: the institutional and individualistic repertoire.

4.1.1 Institutional repertoire

In the institutional repertoire, the reasons for the non-use of the computers are constructed to be found in the conditions and limitations set by the institutional factors that are mostly beyond an individual teacher's control. In the sample, the figures of speech in this repertoire were linked with time in one form or another, and with lack of access, as shown in Table 2:

Table 2. Research question 1: the institutional repertoire

	Jaana	Jarmo	Liisa	Ritva
Too few contact hours	x		x	
Lack of time to get involved	x	x		
Lack of access	x		x	x

"lähituntien määrä on aika minimissään"

During the economic recession of the 1990s all educational institutions, both in general and vocational education, were forced to save money, and one way to do it was to reduce the contact teaching hours per teaching group. In some polytechnics, the hours were reduced to 24 per teaching group per study week.

Most of the foreign language teachers probably think this to be too little, which explains why one way to justify the non-use of computers for my interviewees is to say that as they have so few contact teaching hours per teaching group, they choose not to use computers, as in (1):

(1)

Jaana: […] mutta tuota ää yhtään kertaa en oo vieny luokkaa aateekooluokkaan et pitäsin niinku tuntia siellä koska ne tekee

tekniikassa vähän joka tunnilla jotakin aateekoolla mä oon aatellu että kielten kielten opiskelu käytetään kyllä
Leena: ai jaa joo
Jaana: ihan johonkin muuhun ku koneitten raplaamiseen eli se tuntimäärät mitä meillä on niit on niin vähän niin mä en halua tietokoneis s- me sitistuttaan opiskelijoita tietokoneen ääreen ja et me enemmän suulliselle puolelle sitte yrit#

Jaana justifies her choice of not ever taking her students into a computer lab by mentioning something she prefers to do with her students in the circumstances (= too few contact hours): "*et me enemmän suulliselle puolelle sitte*" (that we will work more on oral skills). She wants to practise her students' speaking skills and not make her students sit in front of computers, which, by implication, does not enable the practice of speaking skills.

Another way of justifying her choice is to say that, in her opinion, the students in this department of the polytechnic (engineering studies) have to work so frequently with computers in their other subjects that she wants to keep language lessons computer-free: "*niin mä en halua tietokoneis s- me sit istuttaan opiskelijoita tietokoneen ääreen*" (I don't want computers, don't want to make the students sit in front of computers).

Liisa also justifies her non-use of computers with too few contact teaching hours in (2) below: *lähituntien määrä on minimissään* (contact teaching hours are at the minimum), but she mentions in the same stretch of talk that she did use some computer programs a little in the beginning of the 1990s:

(2)

Leena: mm. entäs sitte tuota, opetuksessa ootko sinä #
Liisa: jonkun verran varmaan tuossa yhdeksänkytäluvun alkupuolella meil on kielibingo ja stooriboord mitä meil ollu ohjelmia mut tuota tällä hetkellä nin esimes tänä vuonna en oo en oo käyttäny koska tuota ensinnäki ni lähituntien määrä on aika minimissään

Both Jaana and Liisa use the first person singular when talking about their choices. Jaana uses the forms *en oo vieny, mä oon aatellu, mä en halua* (I haven't taken, I've been thinking, I don't want), and Liisa *en on käyttäny* (I haven't used). These active forms tell that the two teachers have themselves chosen not to teach with computers but the reasons for their choice they find in the institutional factors beyond their control: teachers do not decide on the amount of contact teaching hours.

"sen puolen niinku kehittämiseen niin on ollu hirmu vähän aikaa"

Jaana and Jarmo show another way of using time for justifying the non-use of computers in teaching: lack of time to get properly involved with the educational use of technology. All the four teachers who do not use the computer as a teaching tool do use it as a tool in their other duties.

The question preceding (3) was about the use of the Internet in teaching:

(3)

Jaana: siis en suoraan sanottuna ole mää onneksi kolleegani on minua siinä sen verran auttanu minulla ei yksinkertasesti oo ollu aikaa siis minä en kerkee surffailemaan tonne en et hyvä että minä häthätää kerkeen sähköpostin lukee

Jaana starts her account with *en suoraan sanottuna* (to put it bluntly no, I haven't), which implies that she is not going to be embarrassed about her opinion of not having time for computers. She is going to say to just how things are in her view. She stresses her lack of time for such things as the Internet by using the adverb *häthätää* (hastily) with *kerkee* (have time for), with the implication that she really has very little time for other computer tasks

except for reading her e-mail. She uses the first person singular *minulla ei oo ollu, minä en kerkee* (I haven't had, I don't have time) to show that she is the actor in the situation.

In (4) that comes some time after (3) in the interview, I again asked about time:

(4)

Leena:	hetkinen palaan palaan ilmeisesti entiseen asioihin joista on jo puhuin eli sinun että sinä internetin ottasit mukaan ni sulla pitäs aikaa ensin ensin niinku itte itte opiskella sitä
Jaana:	nimenomaan kyllä kyllä ja nyt ku mulla opetus aina vaan vähentyny ni muut työt lisääntyny ni ne vie entistä enemmän aikaa ja tuntuu että se on ku sillä vasemmalla kädellä yrittää ne opetushommat jotenki hoitaa ni niin tuota siinä ei kyllä kaksisia tehä koneitten kanssa valitettavasti

Here Jaana further stresses her lack of time for the Internet by saying that she is now teaching even less, and that she has other duties that take more and more of her time. She tries to cope with her teaching load somehow, and she uses the phrase *vasemmalla kädellä* (with the left hand) that expresses the idea of not doing something particularly well, doing it carelessly, as you are not doing it with your stronger hand, the right hand. In this situation she says, using the phrase *ei kyllä kaksisia tehdä* (can't do anything to boast about), there is not much to be done about bringing computers into teaching.

In contrast to (3), she uses impersonal verb forms *yrittää, hoitaa, ei tehä* (one tries, one manages, one does not do) in (4), when talking about her teaching. The function of the impersonal forms could be to distance her from the situation that might give a slightly unfavourable picture of her way of doing her work. She is actually saying that her lack of time is affecting the teaching part of her work, and so the lack of time for learning to use the Internet for teaching is even more emphasised.

Jarmo states in (5) that the computer is used very little in his class because he has and has had so very little time to develop this aspect of his teaching. The adverb word *hirmu* (terribly) is used with *vähän* (little) to make his case of lack of time absolutely clear:

(5)

Leena:	onko on- onko kone mukana siellä opetustilanteessa
Jarmo:	tun# erittäin vähän erittäin vähän […] ja ## siellä on niitä ohjelmiakinsiellä jonkun kerran niitä oon käyttäny mut sit se aina jää ku siellä tuntuu että se, et siellä sanotaan sen sen sen puolen niinku kehittämiseen niin on ollu hirmu vähän aikaa omassa opetuksessa edelleenkin

When Jarmo is expressing a fact that is favourable to him *jonkun kerran niitä oon käyttäny* (I've used them a couple of times), he uses the first person singular. When he has to say something that he assumes is not in his favour as a teacher (not using computers in class), he uses impersonal verb forms *aina jää, tuntuu, sanotaan, on ollu* (one always postpones, one feels, one says, one has had) for the same purpose as Jaana in (4).

A little later in the interview in (6) Jarmo uses another way to stress the lack of time for developing his computer skills for teaching: *melkein loma-aikaa pitäny käyttää* (almost been forced to use holidays):

(6)

Leena:	ää mut mikä mikä sitten niinku estänyt tämän ajatuksen toteuttamista että
Jarmo:	aina on jotain muuta # melkein loma-aikaa pitäny käyttää sit siihen ja ja tuota emmä tiiä tää o ihan oleellista [hyvin epäselvää]

He is so pressed with work that to go through the materials available in his school and to develop the ways and skills to use them in class would mean

almost using part of the annual holiday for it. That would be a huge sacrifice from a teacher, and thus an acceptable reason for not doing so.

He also casts a doubt on the importance of the computer in teaching by *emmä tiiä tää o ihan oleellista* (I dunno this isn't exactly essential). Implied in what he is saying is the idea of why bother with something that is not important. He does have many other uses for his time and also needs his holiday.

Some time later in the interview, I asked about the possibility of him using the Internet in class:

(7)

Leena:	[…], oot sä miettiny miettiny tota internetin käyttöö mahol-
Jarmo:	sitä mää oon jonkun verran ihan vähän joskus ollaan käyty niinku internetissä että et et siellä sieltähän *se on kans sit semmonen niinku tietysti loputon loputon suo* lähes lähes niinkun niinkun niin sieltähän löytyy monenlais # kyllä sieltä kielenopetukseenkin on oon niinku jotakin löytäny ja varmasti löytäsin enemmän *ku viittisin* niinku
Leena:	ois aikaa käyttää siihen
Jarmo:	niin se se ajankäyttö on ongelma aina mutta aikaa menee tässä muutenkin näissä # näissä kvhommissa et niitä on ihan tässä, et niitä on ihan stressiksi asti välillä muutenkin

Jarmo remarks that he has used it a little with his students but goes on justifying his not using it more with *se on kans sit semmonen […] loputon suo* (it is such an endless "swamp", too), which suggests that there would be a huge amount of work in learning to use the Internet for teaching. Using the word *suo* (swamp) in the expression gives the impression of very hard work like walking in the swamp is, and the word *loputon* makes it even harder work. He also says that he has found something for language teaching there and would certainly find more if he could be bothered. The use of *ku viittisin* makes the object of

the action in question (finding materials for language teaching) sound less important.

At this point, I gave him a way out of having to justify his actions again when I say *ois aikaa enemmän* (if only one had more time), which in effect spares him the trouble. But he does go on saying that his other duties (taking care of the international relations of his department) take so much of his time that he is stressed out even without the Internet being part of his teaching.

Another way of using time as a metaphor to justify the non-use of computers was evident in Jaana and Jarmo's talk. They talked about lack of time to prepare themselves for using computers whether it is the skills to use the Internet (Jaana) or to explore and learn to use the materials available in the school (Jarmo).

Lack of access

"se olis tuolla tavalla luontevasti käsillä"

Ritva, Jaana and Liisa talked about another shortage: lack of access to computer labs. As the polytechnics, where these three teachers work, do not have computer-based language laboratories, the language teachers are forced to compete about computer time and access to computer labs with all the other teachers that use computers. The competition is probably hardest in engineering studies, where a language teacher has to compete about the access to the same computers that students use when studying their professional subjects such as telecommunications or computer-aided design (CAD).

In (8) below, Liisa states that her school has two computer labs that are widely used by information technology teachers, and that there are no computers in language labs:

(8)

Liisa:	ja ja sitten myös meiän nää kaks tietokoneluokkaa ni ne on aika aika tiiviisti myös aateekoo opettajien käytössä ne on sitten buukannu […]
Leena:	eli teillä ei oo semmosta s- kielistudioo jossa t- johon
Liisa:	kielistudiossa ei oo ei oo mitään tietokoneita
Leena:	# se aina rajottaa sitä jos joutuu sitte erikseen varaamaan aikaa
Liisa:	se olis kamalan ihanaa jos olis olis tuota kieliluokassa tietokoneet niin vois tosiaan niinku nopeille antaa sitte # #
Leena:	käyttäs sitä tarvittaessa # # #

When interviewing I interpreted the situation based on my own experiences, and commented by saying *se aina rajoittaa sitä jos joutuu sitte erikseen varamaan aikaa* (it always sets limits if one separately has to book a computer lab). Liisa seems to accept my comment because she does not correct me but responds by saying *se olis kamalan ihana jos olis tuota kieliluokassa tietokoneet* (it would be terribly nice, you know, to have computers in a language classroom). To emphasise the niceness of having computers in a language class, she uses the expression *kamalan ihanaa* (terribly nice) that adds power to her wish of having access to computers.

A few turns later in the interview, I returned to the difficulties of getting access to computers and again help her justify her non-use of computers by *se niinku rajoittaa sitä* (it sets limits). This time she does not accept completely my interpretation of her situation as she says *ei se nyt varmaan iso vaara oo et kävis varaamassa luokan* (I don't think it would be much "danger" to go and book a computer lab). The use of the word *vaara* (danger) is a little strange here; it might be a slip of tongue and Liisa meant to use the word *vaiva*

(bother), which would fit the context better. However, she did not attempt to correct herself, so it might be her way of taking back, softening, her point about the trouble in booking a computer lab.

(9)

Leena:	[…] eli sulla sulla tuota tämä näin että ei vaivattomasti pääse opiskelijoitten kanssa tietokoneit- ten ääreen ni se niinku rajottaa sitä
Liisa:	tai em ei se nyt varmaan iso vaara oo että kävis kävis varaamassa luokan ja ja tsekkais sen et se olis mut tuota ja ja kuten mä nyt sanoin myöskin se et että jos tun- tuntien määrä on lähituntien määrä o aika pieni

In (9) Liisa also returns to the reason that she gave earlier for her non-use of computers: *lähituntien määrä o aika pieni* (there are too few contact teaching hours). Perhaps she feels that the trouble of booking a computer lab is not an important enough reason for not using computers, and to be on the safe side, she mentions the contact teaching hours again.

The question preceding (10) was about the Internet use in teaching. Jaana says that she has many times thought about using the Internet, and says that it would be quite possible but that it would mean using computer labs that already are *ylikuormitettuja ylibookattuja* (overloaded overbooked). She further describes the difficulty of getting computer time with *se on sitten taito sinänsä mitenkä minä saisin niinku vuoroja sinne aateekooluokkaan* (it's quite a skill to book a computer lab):

(10)

Jaana:	en en oo tosin oon monesti sitä kyllä ajatellu mutta mutta tuota ja miettiny sen hyödyntämistä mahdollisuudetha siihen olis mutta se tarkottas todella sitä että meiän pitäs näitä ylikuormitettuja ylibookattuja aateekooluokkia kieltenopetukseenkin saada ja se on sitten taito sinänsä mitenkä minä saisin niinku vuoroja sinne aateekooluokkaan

Jaana constructs a picture of great difficulties facing her if she attempted to book a computer lab for her classes. By making it look so difficult, she is providing reasons for her not even trying it.

Another way of expressing the difficulties involved with access to computers was used by Ritva: *jos se olis luontevasti käsillä* (if it were available without any complications). In her opinion, computers should be easily available and if they were (but they are not), she would use them:

(11)

Ritva:	totta kai mä voin kuvitella että se siinä tapauksessa että jos se olis tuolla tavalla luontevasti käsillä ni ilman muutahan sitä tulis käytettyä […], ilman muuta sitä sillai vois käyttää mut että
Leena:	sen pitäs olla vaivattomasti saatavilla
Ritva:	sen pitäs olla just

She starts her turn with the expression *totta kai mä voin kuvitella* (of course I can imagine), which emphasises her willingness to use computers. There is just this one obstacle blocking her: difficult access. Like in all the other instances of the institutional repertoire, she finds reasons for her non-use outside her sphere of control. She does not make the decisions on the number of computers and their availability in her school.

She also distances herself from the situation by using impersonal verb forms *tulis käytettyä, vois käyttää* (one would use, one could use). However, at the start of her turn, where she expresses her willingness to use computers, she uses first person singular *mä voin kuvitella* (I can imagine).

Preceding (12) I asked about the changes needed for her to start using computers in teaching, and suggest as a solution changing the language lab into a computer-based one. She accepts it partly but says that she would like to have access to computers also in ordinary classrooms:

(12)

Leena: et se ois aina siinä läsnä että sitte kun
Ritva: joo just sillon ku se tu- tulee mieleen että nytpäs katotaankin sitä ja tätä niin sen pitäs sillon olla siinä mutta se tahtoo olla tämmöstä et että sitä tulee sitä asiaa mieleen ja sitä improvisoi siellä kesken tunnin nin
Leena: sitte jos jotain joutuu lähtee jos ei ookkaan niinku siinä käsillä sitte jotain mitä tarviis siihen ideaansa nii se #
Ritva: se jää

As she does not have access, by implication, she does not have to use them. Once more, I interpret what she is saying based on my own experiences by *jos jotain joutuu jos ei ookkaa niinku siinä käsillä* (if one has to go and get, if it isn't at hand the thing you would need) and justify the non-use on her behalf by *nii se #*, which based on what she says: *se jää*, I interpret the incomprehensible part of my turn to be *jää* (is not done).

4.1.2 Individualistic repertoire

In the individualistic repertoire, the reasons for the non-use of computers are found in the teachers' own choices and decisions. The reasons talked about are factors that are within their own control (prioritising) or are guided by their own preferences and/or feelings (disparaging and frustration), as shown in Table 3. Jaana and Ritva used the individualistic repertoire.

Table 3. Research question 1: the individualistic repertoire

	Jaana	Ritva
Prioritising	x	
Disparaging	x	
Frustration		x

Prioritising

"kielten opiskelu käytetään kyllä ihan johonkin muuhun kuin koneitten raplaamiseen"

Prioritising as a way to justify the non-use of computers in teaching means that the speaker expresses her preference for doing something else when teaching instead of using computers. It is her personal choice and it is influenced by the speaker's particular situation. Jaana was the only one in the sample who used prioritising, as in (13):

(13)

Jaana: yhtään kertaa en oo vieny luokkaa aateekooluokkaan et pitäsin niinku tuntia siellä koska ne tekee tekniikassa vähän joka tunnilla jotakin aateekoolla mä oon aatellu että kielten kielten opiskelu käytetään kyllä ihan johonkin muuhun ku koneitten raplaamiseen

She says that engineering students use computers so frequently in their other subjects that she has made the choice of not taking them to a computer lab. She uses the phrase *ihan johonkin muuhun* (for something completely different) to state that her language classes are used for other things than sitting at computers. The use of *ihan* gives extra strength to her choice.

She uses the first person singular when she talks about her choices: *en oo vieny*, *mä oon aatellu* (I haven't taken, I have thought). By using personal verb forms, she makes her priorities clear. She, however, uses a passive verb form when she is actually talking about her students' role in a language class: *kielten opiskelu käytetää*n (language classes are used). Not using computers in class seems to be the teacher's choice; perhaps the students have not been involved in the decision.

Some time later in the interview, Jaana's priorities are confirmed when I ask her about the possibility of using computers in her teaching in the future. She says that she does not have anything against computers. It just a matter of priorities; she thinks that *pojat käyttää niitä tietokoneita nii hirveen paljon muutenkin* (boys [= male students] use computers so terribly much anyway). The great majority of her students are male:

(14)

Jaana: […] ei mulla niinku mitään sitä vastaan ole et se se ihan vaan oikeastaan priorisoinnista kiinni miten miten se niinkun ja ja tuota niinku mä sanoin nin tässä talossa mä oon nyt kattonu että ne pojat käyttää niitä tietokoneita nii hirveen paljo muutenkin ja joutuvat käyttämään et olkoon kielen tunnit edes sitte vähä poikkeavia

The use of *hirveen* (terribly) reinforces her opinion of the students using computers really a lot. In this situation, she remarks, she wants to make language classes different. In fact, the connotation of *poikkeavia* is stronger than just being ordinarily different; it implies a great difference from what is considered normal. She, however, softens her words with the use of *vähä* (a little), but she still creates a convincing case for her choice of not using computers.

Disparaging

"ku koneitten raplaamiseen"

Jaana was also the only one who used disparaging as a means to justify her non-use of computers. Disparaging means the act of speaking about someone or something in a way that shows that one does not have a good opinion of

them. Jaana used disparaging as a way of belittling the importance of computers. What is the point of using them in class if they are not important? In (15) the word *raplaaminen* is considered disparaging.

(15)

Jaana: yhtään kertaa en oo vieny luokkaa aateekooluokkaan et pitäsin niinku tuntia siellä koska ne tekee tekniikassa vähän joka tunnilla jotakin aateekoolla mä oon aatellu että kielten kielten opiskelu käytetään kyllä ihan johonkin muuhun ku koneitten raplaamiseen

The dictionary of the Finnish language (Suomen kielen perussanakirja, 2. osa, 1992) defines *raplata* as “ark. sormeilla, hypistellä, sorkkia” (informal, to finger, to fiddle, to poke). The definition implies that you are not doing anything serious or important with the object or thing you direct the action of *raplata* towards; perhaps you are just playing with it and spending time. By choosing this verb to say that her English lessons will be used for other things than studying with the help of computers, Jaana questions the importance of computers in teaching. She suggests that computers in language teaching would be like toys; it is acceptable to finger, fiddle with and poke at toys.

Another instance of disparagement of educational use of computers shown by Jaana is the use of the word *surffailemaan* (surfing around) for browsing the Internet:

(16)

Leena: eli oot sä yhtään ettinyt internetistä materiaalia sitte tunnille
Jaana: siis en suoraan sanottuna ole mää onneksi kolleegani on minua siinä sen verran auttanu minulla ei yksinkertasesti oo ollu aikaa siis minä en kerkee surffailemaan tonne en et hyvä että mi- nä häthätää kerkeen sähköpostin lukee

I asked her if she had searched for any teaching materials in the Internet. She answers by saying that she does not have time for it. For surfing, she uses the verb form *surffailemaan* (to surf around), where the ending *-ilemaan* gives the impression that it is not serious work she is talking about but just something done for fun. If it is not real work, why bother with it, she seems to be saying.

Frustration

”sehän haukku idiootiksi”

Ritva was the only one who justified her attitude to educational use of computers with talking about frustrating features of computer programs. Before (15), I asked her if she ever had considered taking her students to a computer lab. She admits she has and goes on to describe her encounter with an English teaching CD-ROM that had been bought for her school a few years earlier:

(17)

Ritva:	mä turhauduin aivan tyystin kun sehän haukku idiootiksi jos ei jotain pientä sanaa osannu just oikeen laittaa sinne you idiot go back to page
Leena:	ihan tosi (naurua) ooh
Ritva:	joo joo (naurua) hittolainen kone senkun piät ohjelmas

She describes the deep frustration that she experienced when the program accepted only completely correct answers, and called her an idiot if she gave, according to the program, even a slightly incorrect answer. With the phrase *hittolainen kone senkun piät ohjelmas* (damned machine just keep your program), she shows her frustration, and the expression *senkun piät ohjelmas* (just keep your program) tells that the computer can keep its programs, and do

with them whatever it wants but she does not want to have anything to do with them. If a program says to her *you idiot*, she is not interested, and considers it a good reason not to use them. She gives extra strength to her utterance with the use of a slight swear word *hittolainen* (damned).

In (18), a couple of turns later in the interview, she continues to speak about this unfortunate CD-ROM:

(18)

Ritva:	dry martini nii että siinä oli tämä resepti ja just jos seki si- sitäkään ei osannu ihan sillai laittaa nii ku se oli se malli ni sitehä se oli just tämmönen et se niinku armottomasti sitte haukku aina […] ei mitään että ois niinku nätisti sanonu et try again tai jotain tämmöstä vaan se you idiot (naurua)
Leena:	(naurua) se (yskii) anteeks s-
Ritva:	tuumasin että en en rupee tuon kanssa leikkimään ollenkaan

Here she uses the word *haukkua* (call names) to describe what the program did when she was unable to answer in the expected way. She says *se niinku armottomasti sitte haukku aina* (it always mercilessly like called one then names) where the use of *armottomasti* (mercilessly) tells that she felt strongly about the name-calling. She also explains with the phrase *että ois niinku nätisti sanonu* (that it would have nicely said) that the program did not have very nice manners as it did not use any polite phrases but just said *you idiot* to her.

She ends her account by her conclusion of the episode: *en rupee tuon kanssa leikkimään ollenkaan* (I won't start playing with it). In effect, she is saying that the bad "behaviour" of this computer program has made her lose her interest in computers in teaching: *en ruppee*. She also plays down the importance of computers by using *leikkimään* to describe what is done with a

computer. It is normal and acceptable to *leikkiä* (play) with children's toys but if you are serious about computers, you do not play with them.

4.1.3 Summary

Three of the teachers, Jaana, Liisa and Jarmo, who did not use computers in teaching, applied metaphors of time when talking about their reasons for the non-use. Jaana and Liisa talked about having too few contact teaching hours, and consequently having to make choices. In that situation, they decided to leave out computers in their teaching.

The institutional repertoire included, in addition to time in various forms, lack of access as an explanatory metaphor for not using computers in teaching. Ritva, Jaana and Liisa talked about the difficulties with competing with other teachers about the access to computer labs, and with the advance planning necessary for getting a slot in the lab timetable.

When using the individualistic repertoire to justify the non-use of computers in teaching, the speakers talked about the reasons situated within the individual's personal sphere: her choices, decisions and preferences, things that are within the speaker's own control.

4.2 Non-believers: talking about changes enabling the use of computers in teaching

I did not know beforehand whether Jaana, Ritva, Liisa, and Jarmo use computers in teaching, so I was prepared for the use or non-use in my

interview schedule. Their responses to the question “What should change to make you use computers in teaching?” partly reflect the things that they give as reasons for the non-use of computers in 4.1. above. One interpretative repertoire was found.

4.2.1 Wishful thinking repertoire

The wishful thinking repertoire is concerned with talk of the speakers wishing for things to change but not really seeing it to be possible. In fact, I started the “wishing” in my role as an interviewer. I asked them *minkä pitäisi muuttua* (what should change), where the auxiliary verb ‘pitäisi’ seemed to make the interviewees choose ‘*jos*’ (if) sentences and ‘-isi’ forms in the main clauses for their responses: *jos saisin, jos olisi, voisin, näkisin* etc. (if I got, if there were, I could, I would see). Had I started the question with *minkä pitää* (what has to), the intierviewees might not have done so much wishful thinking. The things that were wished for are shown in Table 4:

Table 4. Research question 2: the wishful thinking repertoire

	Jaana	Jarmo	Liisa	Ritva
Flexibility	x	x	x	x
Finding good programs			x	

Flexibility

”jos mä saisin semmosen salkkumikron”

For Ritva the change would come in the form of having a portable personal computer that she could carry with her to class: *jos mä saisin semmosen salkkumikron*. Then she would not be tied to booking a computer lab every time she would like to use computers in class. In fact, one turn after (19), she says *that totta kai […] jos se olis tuolla tavalla luontevasti käsillä ni ilman muutahan sitä tulisi käytettyä* (of course […] if it were available without any complications without doubt one would use it). Having a computer at hand easily is the crucial factor for her, when deciding whether to use computers or not:

(19)

Leena:	minkä pitäs muuttua että käyttäsit mitä pitäs tapahtua että ottasit mukaan sen ihan mi#
Ritva:	no sillai että, jos mä saisin semmosen salkkumikron jota mä voisin kulettaa luokasta toiseen ja että joka paikassa sitte olis niitä koneita, nin sitte sieltä vois jotain ja tietenkihän sinne päin ollaan varmasti menossa että että jatkossa näin varmasti tulee käymään mutta
Leena:	ei tällä hetkellä
Ritva:	ei tällä hetkellä ei millään ei mua saada siihen että mä ruppeisin hyppäämään tuonne pitkin varaamaan aikoja tietokoneluokkaan ja tekemään jotain semmosta mihin mä en usko

The flexibility appears also in another disguise in her talk: *että joka paikassa sitte olis niitä koneita* (that there would be computers everywhere). If computers were more readily available and more accessible, which would seem to mean for her having them also outside computer labs *everywhere*, she would use them: *sieltä vois jotain* (one could something from there). After having described the changes she would want, Ritva says that she believes the

situation to be developing towards that goal: *tietenkihän sinne päin ollaan varmasti menossa* (of course it's surely going that way). However, the situation is not yet such in her school: *ei tällä hetkellä* (not just now); and in the present circumstances, she describes her attitude towards using computers being as follows: […] *millään mua ei saada siihen että mä rupeaisin* […] *tekemään jotain semmosta mihin mä en usko* ([…] no way can I be pushed into […] and doing something I don't believe in).

"et mä voisin joustavammin miettiä"

Just before (20), Jaana spoke about her priorities in teaching: she has chosen not to take her students to a computer lab, because she thinks they use computers so much in their other subjects that she wants to keep language lessons computer-free. In her answer to my question of whether the situation will remain as it is (she does not use computers in teaching), she responds with ei *se välttämättä tartte pysyä* (it doesn't necessarily have to remain the same) and that this is not the first time she has been thinking about it: *tämä ei oo eka kerta kun mä tätä asiaa aatellu*:

(20)

Leena:	[…]että luulet sä et sä niinkun. se pysyy pysyy tämä tilanne sun sun osaltas niinku
Jaana:	ei se välttämättä tartte pysyä mä nimittäin tämä ei oo eka kerta ku mä tätä asiaa aatellu kyllä kyllä tuota jos se olis niinku käytännössä mahdollista sillä tavalla järjestää että et ää mä voisin joustavammin miettiä tai sillai niin kun joustavasti käyttää aateekoota ette se ei ois et mun tartteis suunnitella puolta vuotta eteenpäin millom mä käytän sitä niin

One thing that seems to annoy Jaana in the present situation as regards computers is the idea of having to plan her teaching six months beforehand: *et mun tarttis suunnitella puolta vuotta eteenpäin millom mä käytän sitä niin* (that I wouldn't have to plan six months ahead when I will use it). As her school does not have a computer-based language lab, she has to compete with all the others about computer time. She says she should know significantly in advance the moment when she would like to use computers. I know from experience that it is impossible, especially if a teacher wants to integrate the computer as a part of all learning in her classes, and not to keep the work with computers as a separate activity.

She says that she would be free of this annoyance if *mä voisin joustavammin miettiä […] joustavasti käyttää aateekoota* (if I were able more flexibly to think of […] use computers flexibly):

(21)

Jaana: tuota mh siinä tilanteessa minä sitä varmaan ehkä mieluummin käyttäsinkin jollonka minä tilannekohtasesti näkisin et missä tilan- millon millon ollaan semmosessa tilanteessa että nyt ois parempi että istuttas niillä koneilla kun että tehhään jotain muuta

She also states that she would probably prefer to use computers when *minä tilannekohtasesti näkisin* […] *nyt ois parempi että istuttas niillä koneilla* (I would see in that specific situation […] now it would be better to sit at computers), which is very difficult if computers are not built-in equipment also in a language classroom.

Even though Jaana talks about what should change (more flexibility in access to computers) to make her use computers in teaching, implying that she would use them if her situation were different, she uses the expression *että*

istuttas niillä koneilla (that we would sit at the computers) when she talks of what they (she and her students) would do with them. Perhaps she does not really believe this ever to happen; sitting at computers does not suggest active learning.

”pääseekö sitte tie- koneluokkiin”

As a response to my question about what should change, Liisa first talks about planning to inspect what computer programs are available for language learning. She, however, goes back to the practicalities of her situation: *että pääseekö sitte tie- koneluokkiin käyttämään* (whether one gets access to computer labs):

(22)

Liisa: kyllä koska niinku mä sanoin just että et tuota mulla o vähän semmone projekti et mä nyt halusin kartottaa esmes mitä on kielten alalta ni on tarjolla sekä suomessa että kenties en- englannissa ja, ja mut että et käytännön asia on tosiaan mulle sit s- se että että pääseekö sitte tie- koneluokkiin käyttämään se voi sitte olla semmonen rajottava

These practicalities may put limits *voi sitte olla semmonen rajottava* on her intention of using programs, in case she would find suitable ones on the market. She seems to want, like Jaana, more flexibility in the arrangements at her school. In (23) that comes considerably later than (22) in the interview, at the point where I returned to the question of what should change, she talks about the same thing *vois niinku joustavasti yhdistää* […] *sen opetuksen* (one could flexibly integrate teaching into):

(23)

Liisa:	ja ja tie- ja tietysti se että että jos ne olis siinä kädenulottuvilla esimes kielistudiossa ni se ois tietysti toinen asia
Leena:	että on helppo pääsy ää
Liisa:	ja se että että sen e että si- sinne vois niinku yhdistää joustavasti niinku sen opetuksen mukaan et se ei oo sitte pelkkää tietokoneella olemista

Having flexibility as regards computers seems to mean to her integrating teaching and machines in such a way that studying with the help of computers would not just be sitting at them: *et se ei oo sitte pelkkää tietokoneella olemista.* Liisa seems to have some sort of picture of what would be possible if the circumstances were different.

Jarmo also would like to have flexibility in access to computers, as the situation in his school now is such that: *se on niin kuitenkin semmonen et se pitää niinku aina erikseen jotenkin järjestää ja sopia ja tehä* (it is like you always separately has to somehow arrange and agree and do):

(24)

Leena:	mitä siinä pitäs sitten muuttua että sä pystysit ja haluaisit ja voisit
Jarmo:	e mä tiiä
Leena:	käyttää
Jarmo:	se on se on ehkä tietysti se että se että kuitenkin suu- suurin osa opetuksesta tapahtuu muualla kuin kielistudiossa et se on niin kuitenkin semmonen et se pitää niinku aina erikseen jotenkin sii-
Leena:	niin se on paikkaan sidottu
Jarmo:	järjestää ja sopia ja tehä se se et sä meet kielistudioon ja ja tuota laitat sitten

His school does have a language lab with some computers but he seems to have access to it only by arrangement; there are probably other language teachers using the lab, so he has to share. In his case, like in case of the other three teachers in the sample who do not use computers in their teaching, the fact of

having to do something extra to have access to computers, in the form of e.g. booking a computer lab, arranging it with students, is a hindrance to the use.

Getting good programs

"tulla hyviä tietokoneohjelmia"

Liisa was the only one of the four non-using teachers who, in addition to the wish of having more flexibility, talks about lack of good programs when asked about the necessary changes: *tulla hyviä tietokoneohjelmia* (good computer programs to come out). But before she talks what a good computer program would be like in her opinion, she mentions other factors that should also change and that had been talked about earlier: *jos ne olis kädenulottuvilla* (if they were within easy reach), *vois niinku yhdistää joustavasti niinku sen opetuksen mukaan* (one could you know flexibly you know integrate teaching into it):

(25)

Leena:	ääm voi olla että nyt taas pallaan johonkin jota koskettelimme tässä aikasemmin ehkä toisinpäin varmaan ää minkä pitäs muuttua että sinä käyttäsit öö tietokoneita opetuksessa enemmän
Liisa:	tulla hyviä tietokoneohjelmia
Leena:	joo, minkälai- minkälaisen sä onks sulla mitään niinku mielikuvaa siitä #
Liisa:	ja ja tie- ja tietysti se että että jos ne olis siinä kädenulottuvilla esimes kielistudiossa ni se ois tietysti toinen asia se että on helppo pääsy ää ja se että että sen e että si- sinne vois niinku yhdistää joustavasti niinku sen opetuksen mukaan et se ei oo sitte pelkkää tietokoneella olemista

She goes on to try and describe characteristics of a good computer program: *mähän voi heittää tähän nyt vaan tämmösiä adjektiiveja* (I can just toss around these adjectives). She ends her turn pondering what a computer program is

suitable for: *onk se kieliopin sanaston opetusta vai vai mitä sekin oma # kysymyksensä* (is it teaching grammar vocabulary or what that's another question).

To sum up, when talking about the changes that would enable them use computers in teaching the speakers seemed to enter a world of wishful thinking with the use of many 'jos' (if) words and '-isi-' (would) forms. The need for flexibility in various contexts is the central metaphor. Flexibility meant for the speakers having a portable computer to take into classrooms (Ritva), or to be able to include computers in teaching when a specific situation was suitable (Jaana), or having them within easy reach (Liisa), or not having to arrange computer time separately (Jarmo). For Liisa having good programs would enable her to consider using computers in her class.

4.3 Believers: talking about the reasons for the use of computers in teaching

In the sample of six EFL teachers, two, Elisa and Iiris, were believers in the use of computers in teaching. When listening to the interviews during the transcription, I clearly sensed the enthusiasm Elisa and Iiris had for computers. Their use of language seemed stronger and more vibrant, their metaphors more descriptive. This was probably the case because they were talking about something they were enthusiastic about, and compared to the four non-users, they did not have much negative to say about the topic.

Iiris did not work at a polytechnic at the time of the interview but she used to. She is now teaching and doing research at a university in the field of

educational technology. Elisa works at a comprehensive school (grades 7-9) but was teaching adults on a course of English arranged by a polytechnic. Both were using computers before they entered their teaching career. Iiris had worked as a salesperson in a computer shop for a year and had also assembled computers there:

(26)

Iiris: sit mä olin [MYYMÄLÄN NIMI] vuoden oppilaitosmyyjänä eli mä sain yhistää sen tekniikan et mä jouduin rakentaan siellä tietokoneita

Elisa had worked in the educational administration of a rural town for some time, and used computers in her work:

(27)

Elisa: ensimmäisen kerran tosissaan olin olin tuota edellisessä elämässä elikkä (naurua) elikkä tuossa siellä hallintotehtävien puolella meille tuli töihin tietokoneet

Table 5. Believers: the repertoires used

	Elisa	Iiris
Magical	x	
Utilitarian	x	
Non-conformist		x
Believer		x

4.3.1 Magical repertoire

”joka iikka tekkee kuule sinä hiljaa se on uskomaton juttu”

I did not ask Elisa or Iiris the direct question “Why do you use computers in teaching?” but used an indirect way: *mistä pidät tietokoneen opetuskäytössä*.

Elisa constructs her answer using the magical repertoire. The reasons for liking them are found in the *magical* things that happen in her classes: *se on uskomaton juttu, se on aivan käsittämätön juttu, mä oon ihmetelly sitä, se on niin ihme juttu että sitä kahtoo niinku suu auki* (it's incredible, it's incomprehensible, I've been wondering about it, it's such an amazing thing that you just gape).

In (28) Elisa describes how a group of her pupils behave when she takes them to a computer lab; in an ordinary classroom, she says, they are *ryhmä joka* […] *hyppii seinille suurinpiirtein* (a group that […] just about climbs the walls):

(28)

Elisa: se minusta on paras ku asia mikä minulle tulee nyt yhtäkkiä mieleen ni on se että että mulla mummuassa on sellanen ryhmä joka normaalitilassa luokassa ni on semmonen semmonen joka niinku hyppii seinille suurinpiirtein mutta kun me menemme aateekooluokkaan ja otamme otamme esiin kielioppiharjotukset ni joka iikka tekkee kuule sinä hiljaa se on uskomaton juttu

She thinks that *se on uskomaton juttu* (it's incredible) how their behaviour changes when they are allowed to work at computers; even grammar exercises interest them: *kun otamme esiin kielioppiharjoitukset nii joka iikka tekkee* (when we take out grammar exercises every single one does them). This group of students seem also to concentrate on their work because they work *hiljaa* (quietly). I express my unbelief in what she is saying by *ihan tosi* (really?) and she responds, with great conviction:

(29)

Leena: ihan tosi
Elisa: kyllä (hyvin vakuuttavasti) se on aivan käsittämätön juttu mä oon ihmetelly sitä ja siitä on puhuttu koululla että mistä se johtuu,

To make what she is saying more believable, to show that she is not alone in this, she uses a phrase that includes also her colleagues in wondering: *siitä on puhuttu koululla* (it's been talked about at school). As a response to her words, I wonder *toimiskohan se näin mullakin* (would it work in my case):

(30)

Leena: oimiskohan se näin mullakin sitte kun onhan mullakin tämmösiä # (naurua) varmasti semmosia
Elisa: (naurua) se on se on niin ihme juttu että sitä kahtoo niinku suu auki

She laughs with me and responds with a very strong image of amazement: *kahtoo niinku suu auki* (you just gape).

What she finds magical, and one reason why she likes to use computers in teaching, is the changes in the behaviour and motivation of some of her students:

(31)

Elisa: (naurua) se on se on niin ihme juttu että sitä kahtoo niinku suu auki ne sanovat mitä tehhään tännään ja sitte, että se on minusta niinku ollu niinku semmonen paras juttu että monet sellaset oppilaat jotka siinä normaaliluokassa turhautuu ja tympääntyy nin niistä on mukava tehä niitä sen takia että ne näkkee niinku oman oman kehityksesä tai oman pisteesä tai jostain tämmösestä sen täytyy johtua

Language teachers often have to tackle problems with behaviour and motivation when teaching grades 7 to 9 in the comprehensive school. Elisa has seen that her pupils get frustrated and bored *turhautuu ja tympääntyy* in an

ordinary class. When computers are brought along, there is a big change: *nin niistä on mukava tehä niitä* (they find it nice to do them [language exercises]). She is, in fact, saying that her work becomes easier and more pleasant when these *incredible* things – pupils wanting to study the language – happen in class.

A couple of turns later she says: *se on ihan fakta että monen semmosen niin sanotun häiriökäyttäytyjän kanssa niin se onnistuu* (it's really a fact that it works with lots of pupils who've got a so called behavioural problem). She shows her conviction that she benefits from using computers in class by the use of the word *fakta*; if something is stated to be a fact, there is no room for doubts.

4.3.2 Utilitarian repertoire

"kun meillä on kerran näin hyvät mahikset"

In the utilitarian repertoire the concern is with taking advantage of the resources that are available. I asked Elisa *mikä sai sinut innostumaan* (what made you so keen) to get involved in her school's Comenius project that included interaction with other European schools using e.g. e-mail and visits. She responded talking about using the resources that her school has available, making use of computers to get boys interested in learning languages, and girls interested in learning languages with the help of technology:

(32)

Leena: (naurua)no mikäs sinut sai innostumaan siitä
Elisa: koska # semmonen semmonen juttu kun meillä on kerran näin hyvät mahikset että meillä on tämmönen varustetaso *ni miksei me käytetä sitä esmeks kielenopetuksessa*

She mentions elsewhere in the interview that her school has many fairly young teachers who are enthusiastic about computers, and that the school is one of the pilot schools in the national project of natural sciences and mathematics education. The school has well-equipped computer labs, though at times very full: *viime syksynä oli melkein mahotonta päästä aateekooluokkaan* (last autumn it was almost impossible to book a computer lab). With these resources available, she says, *ni miksei me käytetä sitä esmes kielenopetuksessa* (so why don't we use it for example in language teaching). For Elisa, overbooked computer labs seem to be a small detail in the story, which is a striking difference when compared with how the four non-using teachers talk about similar circumstances (cf. 4.1.1).

Getting boys enthusiastic about studying foreign languages

"me saatas niinku innostettua ensinnäki pojat kielenopetukseen"

One way of using the available resources for Elisa is to use them in motivating boys to study foreign languages. She seems to think that boys need extra incentives in the form of technical gadgets *teknisin vempaimin* to be willing to study languages:

(33)

Elisa: […] mutta mikä mut sai innostummaan no se just että me saatas niinku innostettua ensinnäki pojat kielenopetukseen sillä tavalla että ku se tapahtuu teknisin vempaimin ni- niinku reaaliajassa voi olla yhteydessä tuonne jonneki nin tulis intoa niinku kato käyttää sitä vierasta kieltä[…]

Elisa uses the collective *me* (we) to include others into the work of getting boys enthusiastic about language learning: *me saatas* (we would get). In this instance *me* probably means EFL teachers. For some reason, perhaps it is a slip of tongue, Elisa uses the phrase *innostettua […] pojat kielenopetukseen* (get boys enthusiastic about language teaching). She must have meant to say *kielenoppimiseen/-opiskeluun* (language learning/studying).

Ge*tting girls enthusiastic about technology*

However, there is apparently no need to motivate girls. Getting them enthusiastic about using technology seems to be a different story, or as Elisa puts it:

(34)

Elisa: […] ja ja ja, toisaalta sitte tytöt ninin voisi olla aktiivisemmin mukana tässä *meiän kaiken hienon teknologian käytössä* […]

Girls could be more actively involved *in the use of all our fine technology*. To improve the relationship between girls and computers is another reason for Elisa to use computers in teaching.

4.3.3 Non-conformist repertoire

At the time of the interview in April 1998, Iiris worked in the field of educational technology at a university, both teaching and doing research, and had been doing so for some years. She has the background of teaching English in a polytechnic. My question *mistä pidät tietokoneen opetuskäytössä, mikä siinä viehättää, mikä mikä sinut on saanu ninku pysymään tässä* (what do you like about the educational use of computers, why are you intrigued by it, what makes you hold onto it) started a long stretch of talk about her interest in computers in education.

"I hate … normal"

One way for her to construct her response was to use the non-conformist repertoire, which is concerned with her description of why she does not fit in the school scene of language teaching. She sees language teaching in schools as *fixed* and containing *certain norms* but she does not see *people functioning in that way*:

(35)

Iiris: […] mun mielestä tänä päivänä nin kielen- opetus on *vakio* jotenki siinä on ne *tietyt normit* tietyt kriteerit tietyt asiat ja ku *ihminen ei toimi* nii että se ois jotenki aina niitä tiettyjä asioita aina niitä kriteereitä aina aina niitä tiettyjä ja ku mä inhoon yleensä normittamista mä inhoon niinku sanaa mikä on normaalia […]

There is no doubt that she dislikes norms *mä inhoon yleensä normittamista*. Language teaching does have norms, or typical and often set ways of doing things, that most of us more or less adhere to, but if conforming to the norms

does not appeal to one, it probably is a little difficult to fit in or to like working as an EFL teacher in that environment. Iiris is not willing to conform and has found an alternative to teaching in school; *tää alue* stands for the field of educational technology:

(36)

Iiris:	[…] ni tää jotenki tää alue on sellasena kun minä sen tulkitsen ni antanu mulle mahollisuuden […], se o se on mihin mä uskon et se on niinku mihin mä niinku jotenki rakennan mun tulevaisuutta koska mulla ei oo tulevaisuutta kielenopettajana sellasessa niinku
Leena:	siinä systeemissä mikä miten sitä meillä ny- ny- kyisin opetetaan joo
Iiris:	nii-nii ei ei että et mä mä oon liian niinku, liian niinku auktoriteetteja pelkäämätön sinänsä et mä en sovi sinne jär#
Leena:	kyseenalaistat […]

Iiris is very clear about of not having a future in the present system of teaching EFL: *mulla ei oo tulevaisuutta kielenopettajana sellasessa niinku* (I don't have a future as a language teachers in such you know). I continued her sentence, and made my own interpretation of what she was saying, with *siinä systeemissä mikä miten sitä meillä nykyisin opetetaan* (in such a system that how it [foreign languages] is today being taught here). She accepts what I say and goes on to say that *et mä mä oon liian niinku, liian niinku auktoriteetteja pelkäämätön* (I'm too you know too fearless of the authorities).

She is building her future in the field of educational technology because *sellasena kun minä sen tulkitsen* (such as I interprete it), it *antanu mulle mahollisuuden* (has given me a chance); a chance to work in a less normative environment probably. It has also given her a chance to have something to develop:

(37)

Iiris: […] *mulla täytyy olla jotain mitä mä kehitän* ja sentakia mä oon tullu yliopistolle eli mä oisin niinku jääny varmasti ammattikorkeeseen mä tykkään hirveesti opettamisesta […] mä inhoon sitä järjestelmää ja sentakia mä niinku tulin hakemaan itelleni uskottavuutta j- itsenikin silmissä täältä ja en tiedä nyt täällä mä oon et et emmä tiedä lähenkö mä seuraavaks rakentaa nokialle jotain geeäsämverkkopylväitä en tiiä

She would have stayed in a polytechnic *mä oisin niinku jääny ammattikorkeeseen* because *mä tykkään hirveesti opettamisesta* (I like teaching awfully much). However, she is not able to conform to the visible and/or hidden expectations of school teaching, and she dislikes the system *mä inhoon sitä järjestelmää*. She came to the university to achieve credibility also in her own eyes, but she is still a little unsure if she is going to stay *emmä tiedä lähenkö mä seuraavaks rakentaa nokialle jotain geeäsämpylväitä* (I dunno know will I go and build GSM poles for Nokia next).

4.3.4 Believer repertoire

"that I somehow believe in"

Both Elisa and Iiris are defined to be 'believers' as regards computers in teaching. They were active and enthusiastic users, and they did not have anything negative to say about them. Only Iiris, however, used the believer repertoire when asked about her reasons for liking to work with computers. The repertoire is concerned with how Iiris uses believing and not believing in a way that resonates a religious use.

Talking about what educational technology would bring into language teaching is her first use of the believer repertoire:

(38)

Iiris: […] mut et se mitä se sitte opetukseen tuo nin ö. mä uskon niinku niihi asioihi että et et se vapauttaa oppilaat minun rasitteista niinku että et et se sallii mun antaa sen mihin mä pystyn ja sit mä voin hakea siitä niinku tukea siihen niille monille m- hirveille iso- isoille alueille joille mä en pysty tekeen mitään ja mä tarjoan niinku niile opiskelijoille tilanteita joissa niinku asiat ei oo itsestäänselviä niinku on ollu ja mä tarjoan niille mahollisuuden kehittää myös itteänsä niinku ottamalla sitä vastuuta siitä tilanteesta ja niinkun, siihen mä jotenkin uskon […]

In (38) she talks about believing in two things. Firstly, that computers free pupils from the pressures and burdens she, with her personal characteristics and ways of teaching, puts on them *se vapauttaa oppilaat minun rasitteista* by allowing her to give what she is able to *se sallii mun antaa sen mihin mä pystyn* and get support for many large issues she is not capable of doing anything about *isoille alueille joille mä en pysty tekeen mitään*. With the help of computers she is also able to create for students situations where things are not self-evident *mä tarjoan niinku niile opiskelijoille tilanteita joissa niinku asiat ei oo itsestäänselviä*, and offer them a chance to develop themselves by assuming responsibility for the [learning] situation *mä tarjoan niille mahollisuuden kehittää myös itteänsä niinku ottamalla sitä vastuuta siitä tilanteesta*.

Iiris uses the first person singular forms throughout *mä pysty, mä en pysty, mä tarjoan* in (38). By doing so she makes herself an active doer and participant; she is not a neutral observer or researcher now. She also appears to assume that things, which she believes computers would bring, are missing in language teaching in its present forms. The obvious example of it is when she

says she would offer students *tilanteita joissa asiat ei oo itsestäänselviä niinku on ollu*. It seems that Iiris would like to see language learning include more of the type of learning where students have to use their heads and not just be passive receivers of information.

Secondly, Iiris believes in sharing the power and that the change in language teaching starts from there:

(39)

Iiris: mä uskon siihen niinku vallanjakoon et mä uskon et se lähtee tästä

This can be assumed to mean the fact that applies to all teaching, not only to language teaching: traditionally the teacher has had the power in class, teachers have decided on the rules of behaviour but also on the rules and ways of learning. Iiris seems to want take some of the power away from teachers, to change the status quo:

(40)

Iiris: mut täs tullaan siihen ketä opetetaan minkä ikäsiä mit- mitkä on ne niinku yleiset ne premissit minkä takii siellä ollaan mut et et se on niinku *se* mun idealistine ajatus siitä että, et mä uskon että tää on niinku niin paljon enemmän hyvästä ku pahasta jotenki et et niinku se se tota, jotenki vie mua eteenpäin

She does not think that changing the balance of power in classrooms would be easy, even with the help of computers; it will depend on *ketä opetetaan minkä ikäsiä* (who are being taught what age). She admits here to an idealistic thought *se on mun idealistinen ajatus* of believing this to be *paljon enemmän hyvästä ku pahasta jotenki* (this is much more for the good than for the bad somehow). Elsewhere in this stretch of talk she speaks about becoming little cynical *mä*

ajatteli et no kyynikko musta ei tuu mitä mä kyllä huomaan must o vähä tulossa.

”mä uskon et kaikki lähtee siitä tunnelmasta”

A little later in the interview Iiris has more to say about things she believes in:

(41)

Iiris: […] ku mä uskon et *kaikki lähtee siitä tunnelmasta* siis mä uskon siihen että et niinku kuka tahansa voi ettii itelleen tavan lähestyä jotain asiaa tää nykyinen nykyinen se ympäristö miten kielenopetus on rakennettu nin *pudottaa hirveen paljon ihmisiä sieltä pois* koska nii- *niillä ei oo mitään jakoo siinä sillä leikkikentällä* eli niinku mä niinku uskon siihen että tää tää niinku tää muutos ku se tuo sitä niinku sit *tuo moniin muihinki asioihin niinku semmosta pientä tarkennusta ja semmosta miettimistä*

She believes in that *kaikki lähtee siitä tunnelmasta* (everything begins from the atmosphere), and she does not seem to see the present atmosphere in language teaching being good because, she says, it drops out many people *pudottaa hirveen paljon ihmisiä sieltä pois*. The phrase *niillä ei oo mitään jakoo siinä sillä leikkikentällä* tells that in Iiris’s view language teaching is constructed in such a way that not everybody can participate successfully. The change (by change she means the one that the use of educational technology will cause) will not just bring computers into classrooms, in her opinion, but will also be a catalyst for small adjustments in many other things. In addition, it will make people in the field think.

"mä en usko kielenopetukseen se- sellasenaan"

The other side of believing is not believing, and there are several things Iiris does not believe in:

(42)

Iiris: mä en usko kielenopetukseen se- sellasenaan mä en usko siihen mä en usko niihin listoihin sanoja ja mä en usko mä en usko kielioppiin mä en usko siihen et sil on mitään helvetin väliä minkä preposition sä johonkin yhteen kohtaat laitat kun ne on niinku pisaroita siinä isossa universumissa niin et jos se huomio kiinnitetään siihen ja siihe laitetaa se megasuurennuslasi että sen virheellisen proposition päälle ni mä en usko et se hyödyntää ketään

Iiris mentions features of traditional language teaching – lists of words, grammar, prepositions – easily recognizable to any EFL teacher, and says that she does not believe in these. She uses repetition for emphasis: *mä en usko niihin listoihin sanoja ja mä en usko mä en usko kielioppiin mä en usko siihen* […] *minkä preposition* (I don't believe in those lists of words and I don't believe I don't believe in grammar I don't believe in […] which preposition). What Iiris seems to dislike about traditional language teaching is its tendency to pay sometimes too much attention to small details: *kun ne on niinku pisaroita siinä isossa universumissa* (when they are small drops in the large universe). She does not believe that this type of language teaching is useful to anybody: *mä en usko että se hyödyntää ketään*.

”mä en oo tullu uskoon”

Amidst all the talk about believing and not believing, there is one phrase that is most reminiscent of the language of religion:

(43)

Iiris: ja kuitenkaan et mä en oo niinku tullu uskoon sen asian kanssa mitenkää

Iiris obviously thinks that she could be suspected of having converted to the “religion” of computer and denies the possibility by (43) of having turned religious in any way. In the interview (38), (39) and (41) came before (43), so she had been talking a lot about believing. She might have felt that this could be interpreted to resemble preaching performed by a recent religious convert. To make not “having been born again” very clear, she goes on to say:

(44)

Iiris: vaan et mä osaan olla kauheen kriittinen sitä suhteen ja myös itteäni suhteen ja kyl mä niinku välillä nauran itelleni monta kertaa niinku sitä mitä mä oon ajatellut tai jopa jossain julkisesti sanonuki

To further banish any idea of her having become ”a preacher” in the matters of educational technology, Iiris notes that she can be *kauhean kriittinen sitä suhteen.* (I think *sitä* is a slip of tongue and should be *sen.*) So contrary to a fervent preacher, she says that she is able to *olla kauhean kriittinen sitä* [sic!] *suhteen ja myös itteäni* [sic!] *suhteen* (take a long and hard look at it and also at myself). She can also laugh at herself *kyl mä niinku välillä nauran itelleni monta kertaa,* which is probably also meant to prove that she has retained an attitude to computers fitting to a researcher.

4.3.5 Summary

Elisa and Iiris, the believers, were found to apply two interpretative repertoires each when talking about their reasons for using computers in teaching. Elisa used the magical repertoire. It centred on the amazing and incredible phenomena she saw taking place particularly when incorporating computers into the learning of the students who found it hard to concentrate. She also used the utilitarian repertoire, which centred on making use of the available resources, i.e. computers.

The interpretative repertoires that Iiris used were the non-conformist and believer. Using the non-conformist repertoire Iiris talked about how she feels unable to conform to the conventional ways of teaching English as a foreign language. The believer repertoire she used to justify her belief and continuing interest in the educational technology.

In the next chapter the findings will be discussed and some conclusions made.

5 DISCUSSION AND CONCLUSIONS

5.1. Discussion

Using discourse analysis, the present study aimed to find out how EFL teachers talked about computers in teaching. The study shows that there are believers and non-believers among them in this respect. The four non-believers used two different repertoires when talking about their reasons for not using computers in teaching, and one repertoire when talking about changes that would make the use of computers possible. Using the institutional repertoire, and drawing on metaphors of lack of time and lack of access, the speakers (Jaana, Jarmo, Liisa and Ritva) located the reasons for the non-use outside their own powers of decision. On the other hand, using the individualistic repertoire, the speakers (Jaana and Ritva) kept the decision not to use computers for themselves. In this case, the metaphors used were to do with prioritising, disparaging, and frustration. When talking about the changes needed to start using computers, the non-believers adopted the wishful thinking repertoire, where the metaphors revolved round wanting to have more flexible arrangements of computer facilities at each school, or to find good computer programs.

Believers, in contrast, used four different interpretative repertoires when talking about their reasons for the use of computers. Using the magical repertoire one of the belivers (Elisa) recounted the amazing and fascinating things that she has seen to happen in her EFL classes when she lets students work at computers and that support her in the use of computers in the sometimes adverse conditions (difficulties in getting computer time). The

utilitarian repertoire was used (by Elisa) to talk about taking advantage of the resources available at the school, and making boys more interested in studying languages or girls more interested in technology. Using words like *vakio, normit, normittaminen, normaali* in the non-conformist repertoire the speaker (Iiris) constructed herself as not fitting in the school world, which is one reason for her to use computers and study their use. In the believer repertoire, another beleiver (Iiris) employed many instances of *uskon* and quite a few instances of *en usko* when justifying her profound interest in educational technology.

Two of the teachers, Jaana and Ritva, resort to both the institutional and individualistic repertoire when talking about their reasons for not using computers in teaching. For Jaana the examples are 1, 4, 10 of the institutional repertoire, and 13, 14, 15, and 16 for the individualistic repertoire. For Ritva examples 11 and 12 are of the institutional repertoire, and examples 17 and 18 of the individualistic repertoire. In other words, also the data in the present study show that each speaker constructs different versions of the same social world (see Potter and Wetherell 1987), and that variation is to be expected.

The EFL teachers' actions and reactions under similar conditions can vary notably. Difficulties in getting computer time for their classes mean for the non-believing teachers (Jaana, Liisa and Ritva) the use of the institutional repertoire with the reasons for the situation seen dependent on other people's decisions. For the believer, Elisa, similar difficulties (see 4.3.2) pose no problems in using the available resources anyway.

Finding reasons for such differences would require further studies, as only speculations can be made here. The data in the present study suggest some clues though, with Elisa describing the general attitude in her school to be

favourable to the use of computers (see 4.3.2). If colleagues share a common interest and the same problems, it probably is easier to start and maintain the use of computers in teaching. In her study (1998: 16), Hughes reported that the four technology-using teachers enjoyed the principal's support, although their colleagues did not always encourage them.

It seems that the discursive approach has not been applied to studies on the use of computers by EFL teachers, or by teachers in general. Comparing my findings with the findings of studies using mainly survey questionnaires does not look a particularly viable option. The present study focused on the use of language and hypothesized on its functions. In contrast, survey studies report their findings as numbers, as responses to the limited sets of questions whose choices have been determined beforehand by the researcher, or as analysis of content.

Taalas (1996: 51-52) presents advantages, disadvantages and barriers to use reported by the EFL teachers. They are first presented as percentages and then discussed briefly. As advantages the teachers reported student-related factors (e.g. motivation, activation, endless repetition, adjustable skill levels). The biggest disadvantage of the computer use reported was the computer itself (does not allow any communication, can distort social interaction in the classroom). Organisational factors that were also regarded as barriers to use were health risks, novelty wearing off, playing games).

The organisational factors reported (Taalas 1996: 52) as being disadvantageous include [the lack of] the access to computers, the very small amount of English lessons per week, and the group size. The teachers in the present study talked about the first two as reasons for the non-use of computers

in teaching. Another disadvantage, health risks (Taalas 1996: 52, 57), and especially the extensive use of computers in other subjects, was also talked about by one of my interviewees (Jaana in 4.1.2 using the individualistic repertoire). However, she did not talk about it as being a health risk but an explanation for her not making students use computers in a language class.

The interviewees in the present study did not talk about the use of computers as answers to preset questions but as part of the flow of interview talk that sometimes sidetracked and at times resembled an ordinary conversation. The interviewer did initiate the topics that were covered (or improvised if need be) but the interviewees decided *which details* of the topic under discussion were dealt with. Moreover, the analysis focused on *how* they talked.

The present study can be said to be personal in the sense that through the whole process I have been using my own experiences in EFL teaching as a springboard and as a mirror. When doing the interviews I came up with supplementary questions and comments that a person with no experience of the field would not perhaps have thought of. They are probably not noticeable in the actual analysis (possibly in examples 7, 8 and 12), but they helped the interviews proceed more easily, and more importantly helped me establish a more natural contact with those of the interviewees I did not know beforehand.

My experience in EFL teaching is the most noticeable in the analysis. Many of the situations in the school life that the interviewees talked about when explaining their choices (e.g. examples 2, 4, 5, 7, 10, 28, 31, 32), were recognizable to me. The interpretations of the functions evident in the interviewees' talk were based on the shared experiences, in addition to the

shared mother tongue. I could well identify with the incredulity which Elisa reports (example 28) having felt when her 13-15-year-old male students did grammar exercises willingly on computers.

On the other hand, it might be argued that sharing the work background with the interviewees has biased my judgment and skills in the analysis. The validation of the present study is ultimately up to readers. They decide whether my participation (Jokinen et al. 1999: 234-35; Potter and Wetherell 1987: 169-171) in the use of language when collecting the data for the present study warrant the interpretations made in the analysis. I hope that the trail of the interpretations has been described in enough details to convince the readers of the validity of the analysis.

5.2. Conclusions

The findings of the present study cannot be generalized to other groups of EFL teachers. They explain and interpret the language use of only these six teachers at the time and in the context of the interviews. Further studies would be required to see how other groups of EFL teachers, or teachers in general, would talk about their reasons for the use or non-use of computers. However, this study presents the first analysis of its kind of how EFL teachers speak about their work and their teaching practices.

Further studies would also be required to analyse the talk about emotions that was left out in the present study. One theme in the interview schedule was emotions, and a tentative coding at the early stages of the present study turned

up much relevant data. The role of the interviewer would also need a more thorough analysis, although it was touched upon in the present study.

Had I a chance to start the present study from the beginning, some things would be done differently. I would conduct better interviews by trying to find acoustically more suitable conditions for them, which would save time and hard labour when transcribing the tapes. I would also try to have a better balance between interviewees who use and who do not use computers in teaching.

For the present study, I chose a subject that was very topical in my own work at the time (five years ago). During this process, I have learnt that other EFL teachers share similar problems to mine in their efforts to include computers in their daily teaching. For the non-use, they also express similar reasons that I used to have. Some of the reasons for the non-use I am still trying to change at my school. I have also learnt something of what makes EFL teachers use computers, even though the conditions are not always favourable.

A new computer-based language lab, a multimedia language lab, will be installed at my school during the summer break of 2003. It will not be available only for my use, as two other language teachers will also be using it. But we do not need to compete with professional subjects any longer. It will be only for language learning and teaching.

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Appendix 1. Translation of the interview schedule

FIRST TOUCH

Describe the situation where you for the first time in your work were in touch with computers. How did it feel?

LEARNING

Describe how you have learnt to use computers? How did they react to your learning at your work? Supporting → Who especially? How did it affect you? Belittling → who especially? How did it affect you?

GETTING A COMPUTER

Have you got a computer of your own? Why did you buy it? What emotions did you experience when buying it? Why have you not bought a computer of your own?

CURRENT USE

How do you use computers nowadays? Do you use computers in teaching? Yes → How do you use them? Why? No → Why do you not use them? What should change to make you use computers in teaching? What do you like about using computers in teaching? What is inconvenient or difficult? What would you change?

EFFECTS ON WORK

What effects have computers had on your work? Have you changed as a teacher while you have been using computers? Has your style of teaching changed? How has it changed? Has your understanding of learning changed? How? Has your role in class changed? How? Has the student's role changed? How? Has the relationship between a teacher and a student changed? How?

EFFECTS ON WORK COMMUNITY

Have computers had any effect on your work community and its relationships? How? How has your work community reacted to those teachers who are not interested in computers?

Appendix 2. Transcription conventions

,	a short pause
.	a longer pause
(---)	a long pause
…	unfinished utterance
-	truncuated speech
#	unintelligible word/words/longer streches of speech
(laughter)	transcriber's comments, e.g. on laughter or other noises
[…]	a shortened example

Appendix 3. Sample passages translated into English

(1)
Jaana: […] but you know not once have I taken a class into a computer lab to have a lesson there because in engineering they use computers for something almost in every class I've been thinking that language language studies are indeed used
Leena: oh yeah yeah
Jaana: for something completely different from fiddling machines, that is the number of hours we have they are so few so I don't want computers we would then I would make students sit at computers and that we will work more on oral skills

(2)
Leena: mm. what about you know, in teaching have you
Liisa: somewhat probably in the early 90s we had a language bingo and story board what programs we've had but you know at the moment for example this year I haven't I haven't used because firstly the number of contact hours is quite minimal

(3)
Jaana: that is to put it bluntly no I haven't I luckily a colleague has helped me a little I haven't simply had time I don't have time to surf around there no I just about have time to read my e-mail

(4)
Leena: just a moment I'll clearly go back go back to old stuff that we already have I spoke, that is you that you would include the Internet so you should have time first first to study it yourself
Jaana: absolutely yes yes and now when I have less and less teaching hours and more and more other work they take more time than before and it feels like it is when with the left hand you try to manage the teaching somehow so so you know can't do anything to boast about with computers unfortunately

(5)
Leena: is is is the computer included in teaching
Jarmo: very little very little […] and ## there are those programs there I've used them a couple of times but then you always postpone 'cause there you feel that it, that there let's say there's still been terribly little time to develop that part of one's teaching

(6)
Leena: mm but what what has then prevented you from realising this thought that
Jarmo: there's always something else # almost been forced to use holidays and and you know I dunno this isn't exactly essential [very unclear]

(7)
Leena: […], have you considered considered using the Internet possib-
Jarmo: I have somewhat just a little sometimes we've been you know to the Internet that there in there it is such an you know endless endless swamp almost almost like like all sorts of stuff you can find for language teaching I have you know found a bit of something and surely would find more if I could be bothered you know
Leena: would have time to use for it
Jarmo: yes the use of time is always a problem but my time goes anyhow into looking after the international relations I have plenty of them, to get stressed out at times anyway

(8)
Liisa: and and then these two computer labs they are constantly used by computing teachers they have booked them […]
Leena: so you don't have a language lab with

Liisa: the language lab doesn't have any computers
Leena: # it always sets limits if one separately has to book a computer lab
Liisa: it would be terribly nice, you know, to have computers in a language classroom so you could give the fast learners then # #
Leena: would use it when needed # # #

(9)
Leena: […] so you you that you can't easily take the students to the computer lab it sets limits
Liisa: or I don't it probably isn't such a big danger that you'd go and book the lab and and check that it would be but and and you know and like I already said also the fact that there are too few contact teaching hours
(10)
Jaana: I I haven't lots of times I have thought about it but but but and thought about making use of it the possibilities for it we have but it would really mean that we should get to use these overloaded overbooked computer labs for language teaching and it's quite a skill to book a computer lab
(11)
Ritva: of course I can imagine that in case if it were available without any complications without doubt one would use it […], without any doubt one could use it but it
Leena: it should be available without complications
Ritva: yes it should

(12)
Leena: that it would always be there when
Ritva: yeah right when it it occurs to you that now we have a look at this and that it should be right there but it tends to be like it occurs to you and you improvise there in the middle of the lesson
Leena: and then if one has to go and get, if it isn't at hand the thing you would need for your idea then it
Ritva: it isn't done

(13)
Jaana: not for once have I taken a class to a computer lab to run a lesson there because in engineering they use computers in almost every class I have thought that language classes are used for something else than fiddling computers
(14)
Jaana: […] I don't have anything against it it's just a matter of priorities how how it like and and like I said at this school I am of the opinion that the boys [male students] use computers so terribly much anyway and they have to that let's language classes be a bit different
(15) = (13)
(16)
Leena: so you haven't searched for teaching materials on the Internet at all for your classes
Jaana: to put it bluntly I haven't luckily a colleague of mine has helped me a little I haven't simply had time I don't have time to surf around I just about have time read my e-mail
(17)
Ritva: I got completely frustrated when it called me an idiot if one wasn't able to one little word there just right you idiot go back to page
Leena: really (laughter) ooh
Ritva: yeah yeah (laughter) dammned machine keep your program

(18)
Ritva: dry martini there was this recipe and if one weren't able to put it quite right like the model was it then it was just like that it always mercilessly like called one then names […] nothing like it would have nicely said that try again or something like it but you idiot (laughter)
Leena: (laughter) it (coughs) sorry
Ritva: thought that I wouldn't start playing with it

(19)
Leena: what should change that you would use what should happen that you would take it along like wh#
Ritva: well if I were given a laptop that I could carry from one classroom to another and that there would be computers everywhere so then one could something from there and of course it's surely going that way this is surely going to happen but
Leena: not just now
Ritva: not just now no way can I be pushed into starting jumping around and booking time for the computer lab and doing something I don't believe in

(20)
Leena: […] that do you think that it like stays the same this situation on your part like
Jaana: it doesn't necessarily have to remain the same this isn't the first time I have been thinking about this matter you know if it were possible in practice to arrange it like I were able more flexibly to think of or like use computers flexibly that I wouldn't have to plan six months ahead when I will use it so then

(21)
Jaana: in that situation I would probably prefer to use computers when I would see in that specific situation that in what situa- when we're in such a situation that now it would be better to sit at computers than do something else

(22)
Liisa: yes because like I just said that you know I have a kind of project on that I'd like to find out what there is available for languages both in Finland and perhaps in England but a practical fact is for me whether one gets access to computer labs it can be a limiting

(23)
Liisa: and and of course if they were within easy reach for example in the language lab the situation would be different
Leena: that one has easy access
Liisa: and that one could flexibly integrate that it wouldn't be only working at computers

(24)
Leena: what should then change that you would be able to and would want and could use
Jarmo: I dunno know it is perhaps naturally the fact that most of the teaching takes place away from the language lab it is like you always separately has to somehow
Leena: yes it's tied up to a place
Jarmo: arrange and agree and do that you go to the language lab and put then

(25)
Leena: I might come back to something we have already talked about maybe from another perspective what should change that you would use computers more in teaching
Liisa: good computer programs to come out

Leena: yeah, what kind of you do you have any opinion of
Liisa: and and of course if they were within easy reach for example in the language lab the situation would be different
Leena: that one has an easy access
Liisa: and that one could flexibly integrate that it wouldn't be only working at computers
(26)
Iiris: then I was selling computers to schools at [COMPUTER STORE] for a year it meant I was able to combine the technical side I had to build computers there
(27)
Elisa: for the first time I was I was in the previous life that is (laughter) that is when I was doing administrative work we got computers
(28)
Elisa: in my opinion the best thing that comes to mind now at once is that I have a group that in an ordinary classroom they just about climb up the walls but when we go to the computer lab and take out grammar exercises everybody works so quietly it's incredible
(29)
Leena: really?
Elisa: yes (very persuasively) it's just incomprehensible I've been wondering about it and it's been talked about at school why does it happen,
(30)
Leena: I wonder if it would work for me too in the same way I also have these # (laughter) surely such
Elisa: (laughter) it's it's such an incredible thing that you just gape

(31)
Elisa: (laughter) it's it's such an incredible thing that you just gape they say what are we going to do today and then, for me the best thing's been that many of the pupils who get frustrated and bores in a normal class they find it nice to do them because they can see their own development or where they are something like that has to be the reason
(32)
Leena: (laughter) well what made you enthusiastic about it
Elisa: because # it's it's like this we do have such good possibilities we have such good resources so why don't we use them for example for teaching languages
(33)
Elisa: […] but what made me enthusiastic well just that we would get boys enthusiastic about language teaching when it happens with the help of technical gadgets like in real time one can be in contact over there somewhere so they would get interested in using the foreign language […]
(34)
Elisa: […] and and and, on the other hand girls could be more actively involved in the use of all our fine technology […]
(35)
Iiris: […] In my opinion language teaching today is fixed somehow it has the particular norms particular criteria particular matters and people don't function in that way like they would always always be somehow those particular and when I hate norms in general I hate like the word what is normal […]

(36)
Iiris: […] yes this somehow this area as such as I interpret it has given me a chance […], that's what I believe in that it's like on what somehow I build my future because I don't have a future as a language teacher in such a
Leena: in the system what how it's nowadays being taught yeah
Iiris: yea-yeah no no that I'm I'm too much you know, too fearless of authorities as such I don't fit into the sys#
Leena: you question […]

(37)
Iiris: […]I have to have something that I develop and that's why I've come to the university that is I would've stayed at the polytechnic I like teaching awfully much […] I hate the system and that's why I like came to achieve credibility for myself also in my own eyes and I don't know here I am I dunno wil I go and build GSM poles for Nokia next I dunno

(38)
Iiris: […] but what it brings into teaching I believe like in these things that it frees pupils from pressures and burdens I put on them you know that it allows me to give what I am able to and then I can get support for many awfully big issues I'm not capable to do anything about and I can create for students situations where things are not self-evident like they have been and I offer them a chance to develop themselves by assuming responsibility for the [learning] situation and that's what I somehow believe in […]

(39)
Iiris: I believe in sharing the power I believe that it sarts from there

(40)
Iiris: but then we get to who is being taught what age what are the general premisses why we are there but it is my idealistic thought that that this is much more for the good than for the bad that's what pushes me forward

(41)
Iiris: […] I believe everything begins from the atmosphere I believe that anybody can look for a way to approach an issue this present environment how language teaching is constructed it drops out many people because they can't play any role on that playground I believe that this change will bring small revisions into other things as well and like some thinking about

(42)
Iiris: I don't believe in language teaching as such I don't believe I don't believe in those lists of words I don't believe in grammar I don't believe that it matters fucking at all which preposition you choose when they are small drops in in the large universe if the attention is focused on it and a megabig magnifying glass is focused on it on the preposition that isn'tcorrect I don't believe it is useful to anybody

(43)
Iiris: and I haven't however you know turned religious in any way

(44)
Iiris: but I can take a very hard look at it and at myself and at times I laugh at myself many times at what I've been thinking about and even somewhere said in public