

Language learning and technology



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Student activities in web-based environments

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## ABSTRACT

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The impact of the web as a communicative arena, based on the use of social software, has changed conditions for communication on all levels of society; privately, at work and in education. This has opened up for multicultural communication, frequently with English as the lingua franca. Exploring how the web and web-based technologies afford learning activities is something that is related to practical and theoretical interests in the field of Computer Assisted Language Learning (CALL). These interests are also the foundation for this thesis. The aim is to contribute to the understanding of how web-based environments can change the conditions for language learning. Within a socio-cultural framework, the thesis explores activities and student interaction in web-based learning environments in language learning for engineering students in higher education in Sweden. The main research question is how web-based language learning activities contribute to the development of language competences. There are four more specific questions: How are web-based technologies situated in language learning environments? What forms of activities and student interaction evolve? How can web-based peer reviewing contribute to language learning? How can intercultural exchanges contribute to language learning?

The empirical foundation of the thesis comprises four case studies of educational designs including student activities in blogs and wikis. Data consists of logs of student driven web-based activities and interviews. The first study investigates how students use a wiki as their joint workspace. The results show that the students either use the web page or the discussion forum on the wiki, entailing both a form-based and a content-based

focus. Three types of activity patterns emerge: contributing and writing together; evaluating and peer reviewing; and arguing and discussing. The second study explores rationalities of student co-production of texts on a wiki. The patterns of interaction in groups can be characterized either as co-operation or collaboration. The results show that the collaborating groups are more frequent in giving peer response. When writing together, collaboration with contributions from diverse perspectives changes the dynamics not only of text production but the text in itself. This has potential for language learning since the students become involved in many levels of text production, from very detailed linguistic aspects to discursive and semantic aspects. The third study investigates student interaction in a poetry blog exchange with native-English speaking students from the US. In the blogging activity, the students share their interpretation of poems by a Swedish poet. The analysis of the blog postings uncovers four themes of student interaction: blogging in an educational environment; displaying cultural belonging; forming threads that thematize content and meaning of poems; and discussions of language and translation issues in an intercultural environment. Study four investigates an intercultural exchange, targeting student peer-reviewing in a wiki. The procedure of giving comments to and receiving comments from peer students from another culture offers diversity to text revision processes. Being engaged in an intercultural peer review exchange offers opportunities in getting an insight into different ways of expression, conditions of giving and receiving feedback, cultural differences when meeting someone from outside of one's own disciplinary field and from another country and with another language background. This is in line with core issues of intercultural exchanges that concern mastering expressions of other cultures than one's own. The four studies contribute to the understanding of how web-based environments can be used in language learning. They display a range of productive student interaction such as discussing, collaborating, and responding through text. In conclusion, they demonstrate that educational designs utilizing web-based writing technologies offer a space to develop discursive, linguistic and cultural competences.

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*Göteborg, March 2013*  
*Linda Bradley*



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## PART TWO: THE STUDIES

Part One

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**LANGUAGE LEARNING  
AND TECHNOLOGY**



# CHAPTER 1

## INTRODUCTION

This thesis deals with collaborative activities taking place in web-based environments within language learning. More specifically, it aims at exploring student activities that unfold when such environments are integrated as elements in English language learning with engineering students. A notion in this thesis is that technologies transform language learning, which takes place in a new context, leading to potentials of hosting a greater variation of language use. It is assumed that the changing communicative landscape will likely transform the way we use and learn languages (Kern, 2006). Language learning for engineering students involves learning environments that prepare them for their future roles as participants in global collaboration. Such settings are found in classroom-based learning environments as well as outside formal educational settings, such as in web-based environments. With the increased use of online environments, the area of language learning over the web deserves attention. Thus, this thesis is situated in the research field that investigates language learning by means of participation in online environments.

In recent years, web-based technologies have challenged the conditions for communication on the web. These technologies allow users to be involved as contributors of content that can be shared and distributed. It is built on the fact that users are productive in collaborating about content, which also has an effect on the development of existing technology. Although web-based technology is designed in a variety of ways as far as for instance accessibility and management is concerned, the original idea of web-based environments is to provide platforms for users to share content. As pointed out by Castells, when users learn more through using technology, they become a productive force being part of the development process and refinement of existing technology, developing technology by using it (Castells, 1996). There is “a cumulative feedback loop between innovation and the uses of innovation” (Castells, 1996, p. 32). This feedback loop “between introducing new technology, using it, and developing it into new realms” (p. 32) has become much faster, i.e. the development process of technology through usage is increasing in new technology and functionality appearing.

The user process is also brought up by O’Reilly and Battelle (2009) who suggest that there is an added value in Web 2.0 technology enhancing collective thinking, since it implies:

building applications that literally get better the more people use them, harnessing network effects not only to acquire users, but also to learn from them and build on their contributions. (O’Reilly & Battelle, 2009, p. 1)

The fact that web-based activities approach the users from the bottom-up, allowing them to be productive also has bearing from the perspective of learning. This can be contrasted to more traditional institutional ways where technology is imposed on learners in education. In this way, when digital means of communication continuously evolve, “the emphasis in learning moves from the tools (objects) to the actors (subjects)” (Guerin, Cigognini, & Pettenati, 2010, p.199). However, even though online accessibility allows people to communicate online in their everyday life and they get more familiar with emergent technologies, this does not imply that these

environments can be lifted straight into a learning context (Guerin, Cigolini, & Pettenati, 2010).

Already in 1996, Castells prophesized “the network society” (2000) having an impact on peoples’ private lives as well as on ways of working and learning. The introduction of the concept of Web 2.0 displayed the fact that the web had moved to being an interactive environment from being an information provider (O’Reilly, 2005). The line between producer and consumer online was blurred. It was suggested that emerging online activities “fostered a new culture of sharing” (Seely Brown & Adler, 2008).

The trend that more and more people are part of online sharing has changed the purpose of the web for learning. The web has thus turned into a collaborative environment that facilitates ways for users to engage actively (e.g., Alexander, 2006; Conole, 2008; Murray and Hourigan, 2008; O’Reilly, 2005). According to Lund (2010), technology has a strong impact on collective online efforts for both theory and practice of language learning. It is suggested that “collective thinking requires collective language practices mediated by collectively oriented technologies” (Lund, 2010), a central theme in the field of Computer Assisted Language Learning (CALL). This applies for both theories and practice of learning.

There are a number of different notions used to capture learning in either local or global networks, such as *e-learning*, *online learning*, *open- and distance learning*, *virtual learning*, and *web-based learning* (Dirckinck-Holmfeld & Jones, 2009). Dirckinck-Holmfeld and Jones argue for the concept of networked learning, in order to capture the relational nature of learning phenomena in general as well as learning in networked infrastructures or contexts (cf. Jones, Dirckinck-Holmfeld, & Lindström, 2006). In CALL, the concept of *Network-based language teaching (NBLT)* is used (Kern & Warschauer, 2000) pointing out language teaching and learning in networked contexts. In this work, the focus is on learning in web-based language learning environments. In view of this, *web-based language learning* as used as a framing notion.

Adopting web-based environments for language learning within engineering education is based on premises of expectations of being a competent participant within a specific language environment. Feeding into this area are overall societal requirements at play where being able to participate

in a range of situations is getting increasingly important, for instance such skills as social competence and communication ability in a global perspective. This is also reflected in the concept of new literacies (Jenkins, Clinton, Purushotma, Robinson, & Weigel, 2006), whose core concerns participation through the use of emerging technologies.

The language learning that is in focus more explicitly in this thesis is the area English for Specific Purposes (ESP) geared at engineering students in real world practices. Research in ESP is connected to the area Second Language Acquisition (SLA), dealing with second language learning. The development of ESP originates from the area of Language Teaching (Hutchinson & Waters, 1987). Together with the growth of English as a global language there was a need to develop specific areas of language learning with explicit requirements, for instance English of commerce or English of engineering (Hutchinson & Waters, 1987). The principles with ESP are to determine certain constituent parts that make up what is specific with a particular field and make these features the basis of the body of learning (Hutchinson & Waters, 1987; Strevens, 1988). ESP takes its starting point in the student needs and reasons for learning, together with what the learning practice looks like, for instance if it is an institutional environment or a work place (Dudley-Evans & St John, 1991). It is suggested that the growth of academic and professional communication for specific purposes in times of emerging technologies has generated new needs for learners (Arnó-Macià, 2012).

The design of ESP environments demand command of English language skills for users to be worthy participants, none the less when embracing online environments for learning purposes. For engineering students engaged in ESP courses, who are thus not English language students, there are certain components that constitute the objectives of learning. According to Halliday (2007), language development consists of three things: learning language, learning through language, and learning about language, which accounts for ESP. Thus, there are more dimensions to language learning than just learning the linguistics of a language. In a global society engineers frequently use English at work as the corporate language or when interacting with business partners from other cultures.



There are a number of inherent features that specify ESP, mapped out by Dudley-Evans and St John (1991). In their definition of ESP, the specific needs of the learner are met, starting from how language is used in the discipline where it is applied. Since ESP is mainly focused on adult learners in specific situations such as within higher education or in professional work situations, most ESP curricula assume some knowledge of the language system, ranging from basic to more advanced levels.

Among the European Union's eight key competences for lifelong learning are such competences as language communication, digital competence and cultural awareness and expression (European Union, 2006). As far as ESP for engineering students is concerned, there are generally specific parts that are incorporated in the curriculum, influenced by the Common European Framework of Reference for Languages: Learning, Teaching, Assessment (CEFR) introduced in 2001 (CEFR, 2012).

According to CEFR (2012), communicative language competence embraces three parts, linguistic, sociolinguistic, and pragmatic components. Taking the parts of communicative language competence into account, language learning is moved beyond the four basic language competences commonly targeted in education, i.e., listening, reading, speaking and writing. The traditional distinction between language and content in language learning (Halliday, 2007d) is also made in ESP. According to Linell (1998), the two frameworks complement each other where the formalist concerns language system accuracy and the functionalist concerns communicative content. Although they are both treated as vital aspects in language learning, they are commonly separated. Forming the basis of what is on the agenda for ESP for engineering students it traditionally revolves around situations demanding skills of writing and speaking in more formal situations. Such items as formulating academic and technical texts such as technical documentation and reports as well as making presentations geared at more professional encounters are part of the curriculum.

Scrutinizing engineering students' language learning activities by means of web-based technology means catching students that are used to using web-based technology on all levels of life, both in their everyday life and in their studies. These students are advanced users of English, participating in

ESP education. Thus, the interaction that goes beyond the initial hurdles of functionality in technology and language issues.

## AIM AND RESEARCH QUESTIONS

The overall aim of this research is to contribute to the understanding of how web-based technologies and environments can change the conditions for language learning.

Four empirical case studies deal with various aspects of language learning by means of asynchronous web-based writing environments targeted at ESP for engineering students. The overarching research question is:

- How can web-based language learning activities contribute to the development of language competences?

Below, more specific research questions are presented capturing the intentions in the four studies. When investigating student co-production in web-based environments in language learning, the educational and pedagogical design has bearing on the nature of the activities. For example, student interaction can be more or less collaborative, depending on a range of matters, such as the educational setting or the inherent functionality of the technology. The specific use of the web-based technologies is framed by the pedagogical design. In each of the four studies, the uses of web-based environments are integrated in different pedagogical designs:

1. How are web-based technologies situated in language learning environments?

In investigating student activities in web-based environments in language learning, the main focus is put on the traces of collaborative activities and forms of interaction that the students are engaged in. The second question concerns the student interaction involved when the web has taken a step from an area of information transfer into a space for co-production. Displayed in the studies are a range of ways of making use of the web-based tool for joint communication in using different modes in discussing, collaborating and co-operating, and responding through text. The activities are scrutinized from the forms of text in the student postings in web-based learning environments:

2. What forms of activities and student interaction evolve?

The third question deals with interaction targeted more specifically at engaging in ideas of others in peer reviewing. When communicating with partnering students in a web-based environment, it entails participating in joint exchange of posted content such as text and comments. The procedure of peer reviewing is coupled to the design of the language learning assignments and the web-based environment: Hence the third question is:

3. How can web-based peer reviewing contribute to language learning?

The fourth question aims to explore the role of intercultural aspects of interaction. With the increase in web-based interaction in language learning, online intercultural exchanges, dealing with critical cultural, literacy and language awareness are becoming an integral part of the curriculum. Students are engaged in exchanges with peer students from other universities. For learning within ESP this gives opportunity to meet up with native English speaking students with diverse backgrounds and disciplines. The interaction can deal with joint discussions of specific themes, for instance negotiating and interpreting poetry but also of peer reviewing of other participants' texts posted online. Thus, the fourth question is:

4. How can intercultural exchanges contribute to language learning?

## OUTLINE OF THE THESIS

This thesis is divided into two parts. The first part consists of the introduction and background of the research interest, an elaboration of the theoretical and methodological foundations for this thesis, summaries of the studies, a discussion and a summary in Swedish. The second part consists of the four empirical studies in this thesis.

The first chapter introduces the research project and the interest in language learning and technology. It gives a general outline of the web as an arena for participation, also for learning and language learning more specifically. Following, it gives a description of the area English for Specific Purposes. Chapter 2 gives a background to the project, describing the

changing communicative landscape and globalization trends where English is considered to be the lingua franca. Another prominent area serving as the foundation of this project is an expanded concept of literacy. This chapter also describes the web-based setting of the project. Chapter 3 deals with the theoretical framing. It first gives an account of the development and trends in recent language learning research, followed by the area of Computer Assisted Language Learning (CALL). Moreover, the theoretical grounding in this thesis is mapped out. Chapter 5 addresses the empirical data and methods used. Chapter 6 gives a summary of the four studies and their findings. Chapter 7 is a concluding discussion of the findings. This is followed by Chapter 8, an extended summary of the entire thesis in Swedish. The second part of the thesis consists of the following studies:

1. Bradley, L., Lindström, B., Rystedt, H., & Vigmo, S. (2011). Language learning in a wiki – Student contributions in a web based learning environment. *Themes in Science and Technology Education*, 3(1-2): 63-80.
2. Bradley, L., Lindström, B., & Rystedt, H. (2010). Rationalities of collaboration for language learning in a wiki, *ReCALL*, 22(2), 247-265.
3. Bradley, L., Gustafsson, M., Lindström, B., & Rystedt, H. (2011). A design for cross-cultural exchange – An analysis of engineering students' interaction with English majors in a poetry blog. In S. Thouësny & L. Bradley (Eds.), *Second Language Teaching and Learning with Technology: Views of emergent researchers* (pp. 95-122). Dublin: Research-publishing.net.
4. Bradley, L. (2013). Peer-reviewing in an intercultural – student interaction and reflections. Accepted for publication in *Computers and Composition*.

## CHAPTER 2

# BACKGROUND

This chapter gives an account of how English has developed to become the lingua franca in online environments. In connection with this, another area is literacy, which will be elaborated on. Building on the fact that English is spreading globally and the development of the new literacies field, this chapter also introduces web-based writing environments that are part of the movement into more social aspects of online communication.

### THE IMPACT OF ENGLISH AS A LINGUA FRANCA

English plays a vital role in being globally spread as a primary and secondary language, not least through the usage of web-based communication tools. The dominance of English is due to the fact that the more people learn and use a language, the more useful it is and thus the more attracting it is for people to learn it (Seidlhofer, Breiteneder, & Pitzl, 2006). Contributing to this increase are top-down processes of institutions, education and work as well as bottom-up processes of being exposed to English, where various media play a big part in being direct mediators of English. English

as a Lingua Franca (ELF) is an area which has achieved increased attention parallel with the transformation of language.

In relation to discussions of learning English, new variants of English spreading globally have affected norms of how to communicate, both in the sense of what is acceptable in speech and writing but also in how to regard variants of non-standard English. English has a specific role as a language with a global impact:

Although there are, and have previously been, other international languages, the case of English is different in fundamental ways: for the extent of its diffusion geographically; for the enormous cultural diversity of the speakers who use it; and for the infinitely varied domains in which it is found and purposes it serves. (Dewey, 2007, p. 333)

A starting point is the fact that non-native speakers of English now outnumber native speakers together with the argument that it is the people who use the language that have the power to adapt and change it (Crystal, 2003; Seidlhofer, 2003). The view of native English speakers being the only role models for language learners has shifted. Seidlhofer (2003) argues that the function of English is that of a world language in English as an international language (EIL). In studies of these concepts within applied linguistics, users are divided into different categories depending on the type of English that is used. Such divisions are for instance whether the speakers are non-native speakers of English, speakers of non-standard English, using English as a second language or native speakers of English (e.g., Elder & Davies, 2006; Seidlhofer et al., 2006).

ELF can be understood in a number of different ways, depending on those interacting in a communicative situation (Elder & Davies, 2006). It has to do with the use of English in what is considered non-traditional forms and not what is considered Anglo-American English in curricula, textbooks and reference materials, i.e. the English used by native speakers of English in the UK and the US (Seidlhofer, 2003). One major distinction is between using English as a foreign language and using non-standard English, so called 'World Englishes' (Crystal, 2000) such as Hong Kong English and Indian English. Another type of ELF is that used within a specific domain such as medical English or English within a specific workplace.

The ELF research field is concerned with describing variants of English and discussions of access (cf. Seidlhofer, 2003; Jenkins et al, 2006). This field is still in its beginning stages and the data in studies is predominantly engaged in spoken language (Seidlhofer et al, 2003). There is an interest in identifying salient features of ELF being used in different settings and increasing the ELF corpora. This is obtained by positioning in relation to Second Language Acquisition (SLA). Seidlhofer et al (2006) refer to the SLA debate generated by Firth and Wagner (1997) about the relationship and communication between the native and non-native English speakers.

According to ELF research, SLA researchers usually do not distinguish a lingua franca from a foreign language, i.e., nativized varieties from foreign language varieties (Jenkins, 2006). What might be considered a variant in ELF is an error in SLA. Jenkins (2006) stresses that this does not imply that anything is acceptable in ELF. As far as adopting ELF within work-related contexts, speakers are not language learners but language users who appropriate English for their specific professional, communicative purposes, something which is also enhanced by Firth and Wagner (1997).

In sum, the focus within language teaching has been on being proficient speakers and writers of English, using correct forms and having successful communication with native English speakers as the goal. It has not been concerned with communication and adjustment for a specific situation or group. The notion of language is traditionally very tightly connected with native speakers (Seidlhofer, 2003). However, since there are an increasing number of people who produce non-standard forms of English, the question is for how long these non-standard varieties can be considered erroneous. People meet online over both cultural and national borders where English is used as the lingua franca. The development within language learning has emphasized the need to enhance multilingual and multicultural aspects of language learning in global exchanges (e.g., Kramersch, 2008; Thorne, 2003). These exchanges have “raised questions about the traditionally monolingual and monocultural nature of language education” (Kramersch, 2008, p. 390). This implies that learners are exposed to various varieties of language whose outcomes are hard to predict in advance.

## AN EXPANDED CONCEPT OF LITERACY

The notion of *literacy* traditionally refers to being competent in reading and writing (Halliday, 2007d). In the last decades, and not the least as a consequence of the development of digital media and the Internet, the very idea of what *literacy* means has been expanded (Barton, 2007; Lankshear & Knobel, 2008; Son et al., 2011). Notions such as digital literacy, media literacy, computer literacy and many others with are prevalent. The concept of *new literacies* has been brought forward pointing out the multifaceted nature of literacy in the modern society, with social networking and development of participatory cultures as a foundation. These concepts also reflect the stronger position given to language in researching human endeavors, such as learning and communication (cf. Lankshear & Knobel, 2008).

Literacy is incorporated in frameworks of different disciplines apart from the purely linguistic understanding of the concept. This concept embraces a range of abilities and refers to “effective participation of any kind in social processes” (Halliday, 2007a, p. 98). It is also suggested by Godwin-Jones (2006) that “There is a clear social dimension to electronic literacy; reading and writing on-line are often collaborative activities” (p.13).

This participation viewpoint takes a social perspective on language and literacy (Goodman, Lillis, Maybin, & Mercer, 2003), which involves language-in-use, dependent on language users and contexts, rather than language as an abstract system. This is what Street (1995) introduced in the New Literacy Studies as a way of treating language and literacy as social practices. Moreover, Street (2003) adds to the debate about what is implied by literacies in suggesting that it should not be reduced to a single channel such as visual or text media but to a combination of domains, hence the plural literacies. Many digital text types take multiple forms in themselves, springing from entirely different practices and for diverse purposes (Lankshear & Knobel, 2008). One concrete example is blogging. From originally being intended as an online diary, blogs are now used for a range of other purposes such as discussions and sharing news. A central discussion within literacy research is how to view all the new text types that emanate from technology and what this will involve.

The definition of new literacies is conceptualized in different ways by different areas of research. However, to emphasize the web-based con-



nection, the term new online literacies covers many literacy areas such as multiliteracies (Cope & Kalanzis, 2000) and new media literacies (Jenkins et al, 2006). These broad terms reflect the types of literacy which have developed as the role of technology in society has changed (Helm & Guth, 2010; Thorne & Black, 2007).

The concept multiliteracies as defined by the New London Group (Cope & Kalanzis, 2000) describes two arguments, one concerns the multiplicity of media in emerging technologies and the other concerns the increasing cultural and linguistic diversity (Cope & Kalanzis, 2000). The concept focuses on broader resources of communication than just literacy in the sense of language. Together with language there are also other means such as visual, audio, spatial modes of representation “constantly being remade by their users as they work to achieve their various cultural purposes” (p. 5).

The concept of new media literacies entails sharing and participating. The Internet has brought forth a participatory culture (Jenkins et al, 2006), which has a strong focus on creating and sharing in an environment where contributions matter and there is social connection among those who participate. There are forms of participatory culture such as affiliations, i.e. membership in online communities; expressions, i.e. producing new creative forms of writing and sampling; collaborative problem-solving, i.e. team working in developing knowledge; circulations, i.e. taking part in shaping media. These competencies are essential, required in an essential global perspective (Jenkins et al, 2006; Vigmo, 2010).

From the perspective of new literacies, according to Lankshear and Knobel (2006), focus is put on social practices and the use of digital technologies as means for producing, sharing, accessing and interacting with meaningful content. This entails a high level of collaboration, and participation. In online communities, knowledge of literacy practices means the skills of participation online such as “understanding of netiquette in discussion lists, comments in blogs, and social networking sites; what rules are to be followed when editing a wiki; issues regarding privacy and permissions on, for example, social networking sites” (Helm & Guth, 2010, p.83).

The discussion of literacy, catching the breadth of what involves reading and writing (Barton, 2007; Lankshear & Knobel, 2003), in online con-

tributions in asynchronous web-based environments such as in this thesis, the relationship between spoken and written language needs to be taken into consideration. In its communicative structure of web-based asynchronous environments, even though the posted text is written, there are resemblances of spoken language. At the same time as it allows learners to have more time to reflect over their language; their idea sharing becomes more interactive (Ware, 2004).

There is a long controversy concerning written and spoken language and whether they should be considered close or apart (Halliday, 2007b). Traditionally in school, written language has been the norm even though most people learn by listening and talking as well as by reading and writing (Halliday, 2007b). In addition, speech has longer roots than written language, since we spoke long before we wrote. The notion that written language was originally derived from spoken forms has reflected teaching of writing. At this point in time, literacy debates concerned the slogan ‘write as you speak’ stemming from the fact that educational issues came into scrutiny after the 1950s (Halliday, 2007b).

From a surface level, scrutinizing transcripts of spoken and written language it is possible to detect differences. Spoken language is more instantaneous and tied to the environment where it is produced, whereas written language is a slower process with a higher lexical and structural density. However, when investigating the two forms from a user perspective, they each hold grammatical complexity (Halliday, 2007b).

## WEB-BASED WRITING ENVIRONMENTS IN LEARNING

From the invention of the World Wide Web (Berners-Lee, 1999), technologies have transformed human communication and production of knowledge (e.g., Harnad, 1991; Warschauer & Grimes, 2007). From being a tool for few and with the main purpose of accessing information the entry of the second generation of the web, referred to as Web 2.0 (O’Reilly, 2007), implied that the web opened up to the broad public who could now create and spread content by collaboration. According to Warschauer and Grimes (2007) this shift is not unexpected:

Although the contrasts between Web 2.0 and Web 1.0 are striking, from a broader historical perspective they represent a continuation of much older trends from plain text to multimedia, from static to dynamic content, from authorship by an educated elite to mass authorship, and from high costs of entry into the public sphere to low ones (p. 16)

The move from being more passive recipients into participating as publishers imply that the public is also part of designing the information and structure on the web. This is taking the step from first generation web tools such as chat, e-mail into second generation web tools such as blogs and wikis (Godwin-Jones, 2003).

The increased use of the web in today's technology enhanced environment quite consequently has entailed changed conditions for communication and learning (e.g., Beetham & Sharpe, 2007; Bonderup-Dohn, 2009; Conole, 2008; Lankshear & Knobel, 2007). Thorne (2003) suggests that "digital communication technologies have made possible substantive aesthetic shifts in human communicative practices" (Thorne, 2003, p. 40). The structures of communicative practices are affected by the usage of the technology and how literacy is materialized in different, sometimes unpredictable ways. The changed cultures-of-use shape participation in computer-mediated contexts "at times in ways that are at odds with formal and/or structured design elements of learning contexts" (Thorne & Black, 2007, p. 133).

When learners go online there is a new type of community driven approach at stake, which offers opportunities to meet in a virtual environment. Collectively producing content on the web has implied a dramatic change for learners (Lund, 2010). It is claimed by Ware and Kramsch (2005) that:

Web-based technologies have been advocated as particularly promising examples of computer-based learning with the potential to enable language students to interact across geographic, linguistic, and cultural lines (Ware & Kramsch, 2005, p. 190).

Since learning is traditionally geared by the teacher, the learner autonomy on the web is something which takes time for students to get used to. "The

traditional role of the instructor as a tutor and transmitter of knowledge in a teacher-centered classroom no longer suffices in classrooms without walls” (Ware & Kramsch, 2005, p. 190). There are discussions of how to prepare students to become peer editors, responsible for sharing content, moving away from having the teacher as facilitator (e.g., Lund, 2008; Lund & Smördal, 2006; Mac & Coniam, 2008). This is something the students need to get used to.

The introduction of web-based technology into learning is driven by interests in exploring their potential in learning and what it means for learners to meet online. Another reason given is connected to the lack of open virtual learning environments within the institutional context of an interactive online meeting space (cf. Dippold, 2009). Institutions generally invest in learning management systems with intentions that they will host appropriate functionality, which is frequently debated:

educational institutions are at present investing heavily in learning management systems (LMS). These are systems that are not open, but closed (within a class or course), ‘protected’ behind a login interface, administered and ruled by the course instructor and system administrator (Baggetun & Wasson, 2006, p. 455).

The earliest forms of Internet writing platforms were newsgroups and electronic mailing lists from the 1980s allowing users to post messages and comment on other users’ messages (Lueg & Fisher, 2003). From this, Internet forums emerged and asynchronous social networking platforms, such as blogs and wikis, have developed to become two of the most commonly used web-based writing platforms, also within learning, with numbers of web pages and participant contributions growing exponentially (Judd, Kennedy, & Cropper, 2010; Hourigan & Murray, 2010). The two platforms are built on different principles; the blog opening for users to insert new postings and the wiki allowing users to alter the same content created by anyone. Thus, the common denominator is that they are asynchronous online tools that allow for endless extension, holding an infinite number of postings by its users. Also, in language learning these two particular platforms have been highlighted specifically by offering “collaborative opportunities” (Godwin-Jones, 2003, p. 12).

Blogging started in the late 1990s and the term blog, originally *web log* was created by Jorn Barger in 1997 (Blood, 2000). At its most basic, a blog is a web page, an online journal in the diary format, i.e. a chronological order of content postings (Campbell, 2003). In research of student created blogs, by Baggetun and Wasson (2006), it is suggested that the primary student activity is self-reflection in postings. The original purpose was self-presentation and self-expression (Blood, 2002). It is suggested that the conception that blogs are primarily considered as online diaries is in call for being re-negotiated (Dippold, 2009). As the usage of blogs within education has increased as part of particular theme work, the focus has shifted into more self-reflective, collaborative areas as well as a tool for feedback (Dippold, 2009). Godwin-Jones (2006) acknowledges that “blogs by their nature and page structure encourage feedback” (p. 10).

Apart from the blog, another common online writing technology is the wiki. The concept of wiki was introduced in 1995 by Ward Cunningham (Leuf & Cunningham, 2001). The term wiki stems from Hawaiian ‘quick’. Originally it was a system to update and add new information through a web browser, introduced as “the simplest online database that could possibly work” (Leuf & Cunningham, 2001, p. 4). What distinguishes a wiki from other social writing tools is that it allows more than one person to contribute to the authoring and publishing of the same content (Judd et al, 2010). Since it is web-based, it is reachable from the Internet, offering flexibility for user access and participation. According to Helm and Guth (2010) wikis offer an “environment of the creation of this third space as it is the learners themselves who create, develop and negotiate content “(p. 99). It is also suggested by Godwin-Jones (2003) that wikis are “naturally suited for collaborative on-line projects” (p. 15)

However, implementing web-based technology such as wikis into learning has a number of pedagogical challenges (Lamb, 2004). Due to its nature of allowing participants to create an endless number of web pages, on the premise that the participants are given the possibility of letting pages spawn, tracking created work on wikis can be laborious work. Another issue is the difficulty of attribution of individual work. This is related to the openness aspects, i.e. unless pages and contribution are restricted, participation

is open to anyone. Management is something that calls for administrative aspects that education is traditionally not used to

To truly empower students within collaborative or coconstructed activities requires the teacher to relinquish some degree of control over those activities. The instructor's role shifts to that of establishing contexts or setting up problems to engage students (Lamb, 2004).

This shift entails letting students being part of the process as participants. It is claimed that imposing authority on such a tool as a wiki "undermines the effectiveness of the tool" (Lamb, 2004). In relation to the open editing, due to the asynchronous nature of the wiki, only allowing one participant to update a page at a time causes disturbances in the workflow. According to Kessler (2009) this retention of post iterations also provides participants opportunities to explore a wiki page before replacing the existing version. This makes wiki texts "in a constant state of potential collaborative change" (Kessler, 2009, p. 80).

## CHAPTER 3

# THEORETICAL FRAMING

This thesis aligns with language learning research focusing on communicative aspects of language learning and connects with to the communicative turn in Second Language Acquisition (SLA) and Computer Assisted Language Learning (CALL). The four studies in this thesis take their analytical point of departure in ways in which learners interact and engage in activities in web-based environments within the scope of language learning. They align with an increasing general research interest in collaborative forms of learning through pedagogical forms of working in social interaction by means of computers or the Internet (Stahl, 2006). This also accounts for CALL research of web-based language learning, targeting learners' involvement in joint activities with others (e.g. Blake, 2011), which is the focus in this thesis.

This chapter first gives an account of the development and research trends in recent language learning research. This is followed by a description of the emergent field of CALL. Finally, a set of core theoretical ideas and concepts within a sociocultural perspective will be presented that are central in the approach to language learning taken in this thesis.

## DEVELOPMENT AND TRENDS IN LANGUAGE LEARNING RESEARCH

For language learning, one of the mile stones is the so called “communicative turn” (cf., Firth & Wagner, 2007; Kramsch, 2007) within anthropology and linguistics in the mid-1960s. Dell Hymes coined the concept of *communicative competence* in his book *Foundations in Sociolinguistics: An Ethnographic Approach* (Hymes, 1974). He stressed the essence of communicative competence with a more social and contextual view of language rather than the focus on language as a system and formalistic, context-free, grammatical competence that Chomsky among others represented.

In Hymes’ view, language is a social as well as a cultural phenomenon. It is “acquired and learned through social interaction” (Firth & Wagner, 1997, p. 759). This was quite contrary to Chomsky’s influence on language learning. Chomsky’s theory of a ‘language instinct’ and innate mental structure or language acquisition device within the brain has had a strong impact on many fields, SLA one of them. Instead, putting forth communicative competence and more social and contextual views of language has led to fundamental changes for language learning. This implied that “The syntactic age was giving way to a semantic age” (Halliday, 2007c, p. 182).

An influential hypothesis concerning language learning and teaching originating from the 1970s was Krashen’s acquisition-learning hypothesis, making a distinction between *acquisition* and *learning* (Mitchell & Myles, 1998). According to this interpretation, *acquisition* suggests that language is a subconscious process as a result of natural interaction in communication and that language is a ready-made object with a set of rules and *learning* refers to a conscious process as a result of classroom experience with a focus on form.

SLA research has an interest in unfolding the nature of language learning. A movement that has had a dominating position since the beginning of the 1970s is research on SLA focusing on cognitive processes (e.g. Kasper & Kellerman, 1997). There is a large body of research originating in cognitive psychology (Mitchell & Myles, 1998).

Those advocating cognitive approaches to language learning were striving for uniformity of SLA theory building, preferably holding one dominant theory (Beretta, 1991; Long, 1993) with an ample body of accepted



findings, which would strengthen the research field. Long (1993) claimed that this need of theory culling, would make SLA research more stringent. The discussion also included how research should be performed. There was an idea that research within SLA must strive to account for facts gathered from certain accepted theories in the same manner as that from the hard sciences, which has been debated by some (cf., Block, 1996). However, the contestants of this perspective of language learning claimed that due to the wide range of theories in existence, pluralism would provide fertile ground for research (Block, 2003; Lantolf, 1996). They stated that marginalization of theories would lead to a less dynamic field and published research within applied linguistics would thus represent an unbalanced view. Applying procedures from other science fields would not make SLA more scientific. Instead, “being scientific (if that is indeed a goal for SLA) will come with being rigorous and producing quality research” (Block, 2003, p.73). According to Block there was no point in trying to re-produce the exact scenario from one study through controlling variables.

Of the critical voices contesting the prevailing mindset from the 1980s and the 1990s of being “imbalanced in favour of cognitive-oriented theories and methodologies” (Firth & Wagner, 1997, p. 286), the Firth and Wagner debate opened up for re-examination of how research should be performed. A special issue of 1997 in *The Modern Language Journal* attracted much attention since it opened up the debate of alternative ways of seeing language learning. Firth and Wagner raised claims that there was an imbalance in SLA between considering individualistically oriented language research on the one hand and interactional and sociolinguistic dimensions of language research on the other hand. These claims were grounded in the tendency in SLA to accumulate large quantities of research in favour of theories and methodologies with a focus on language learning as taking place inside the individual mind.

The debate was first and foremost of what counted as SLA and also what constituted SLA-related research. Firth and Wagner (1997, 2007) claimed the necessity of focusing on the “participant-as-language ‘user’ in social interaction” (Firth & Wagner, 1997, p. 758). Using the second or foreign language was closely connected to acquisition. The division between on the one hand language use, which was consigned to the social and on

the other hand language learning, was questioned (Firth & Wagner, 1997; Zuengler & Miller, 2006). This was quite contrary to the then prevailing focus of SLA as the study of second language acquisition and not second language use (e.g., Long, 1997; Kasper, 1997).

Firth and Wagner's (1997) idea was to re-conceptualize SLA in order to make it become more theoretically and methodologically balanced so that the progression within the field would embrace more diverse research perspectives. In accordance with sociocultural perspectives, language is the mediating tool for learning in the use and interaction with participants and the socially situated context (Firth & Wagner, 1997). In addition, in line with such a perspective, learning occurs in a non-constructed, natural learning situation, as well as in the institutional context.

The contents of the special issue were brought up to be scrutinized and discussed ten years later in 2007 by a number of the leading researchers within SLA (e.g., Kramersch & Whiteside, 2007; Lafford, 2007; Lantolf & Johnson, 2007). During the ten years apart from the two special issues, sociocultural aspects of language learning developed parallel with other language learning approaches and there were now a greater number of sociocultural research studies of language learning (e.g., Zuengler & Miller, 2006; Lantolf & Appel, 1994). Following this tradition, Kramersch and Whiteside (2007) stated that "The social dimension of SLA has come prominently to the fore only in the last 20 years" (Kramersch & Whiteside, 2007, p. 907). On the other hand, as late as 2003, in the *Handbook of Second Language Acquisition*, there is still a strong focus on cognitive approaches (Zuengler & Miller, 2006). However, there has been a progression from principles where the individual language learner was seen in relation to the native speaker or teacher as the role model, into more collaborative aspects of learning where the language learner is part of a network of sources of input for stimulating learning. In other words, in the latter perspective, the network is broadened to include any sources for language learning, not only delimited to traditional ones such as teachers or native speakers. This tension between social dimensions in contrast to the individual mental processes of language cognition is still prevalent within SLA.

When pointing at the evolvement into more sociocultural trends, Firth and Wagner (1997) brought up a number of issues in SLA research. Some

claim, e.g. Faerch and Kasper (1983) that although problems in communication between two individuals are shared by those involved, they originate in either of the individuals. This is something that was discarded by Firth and Wagner who stated that since interaction is jointly produced, problems in communication are not inherent in individuals (Firth & Wagner, 1997). For language learning, this implies that the development of language takes place between people interacting together, in their language in use. Concerning the development in SLA research, according to Lantolf and Johnson (2007), there is a shift in ontological perspective in which to understand SLA, moving from language learning to language use.

In connection with the SLA research focusing more on communication ability, this perspective implies discarding prevailing ideas of idealizing the native speaker as being superior to the non-native speaker (Firth & Wagner, 1997; Jenkins, 2006). The non-native speaker was previously considered a defective communicator with underdeveloped communicative competence. This view is based on the assumption that there is a form of discourse that is free from errors, i.e. the type that a native speaker uses. Even when non-native speakers interacted together and native speakers were not involved, researchers tended to compare language with native speaker interaction. Other issues for the SLA researcher were viewing encounters with native and non-native speakers as inherently problematic and viewing them as homogeneous groups without social identity. In addition, non-native speakers were generally treated as learners by SLA researchers. Even though a second language is used daily, the speakers may not always be language learners.

A social learning situation is complex since each joint participant meeting implies new unpredictable possibilities and further scenarios. The types of research questions asked focus on the process of learning where understanding cultural connections and how language mediates culture are in focus rather than the product (Lantolf, 2000; Donato, 2004).

With digital technologies playing an ever important role in language learning, collaborative aspects are enhanced where learners are engaged in communication on web-based platforms for language learning purposes. Exploring such platforms is something that is related to the field of Computer Assisted Language Learning (CALL), which will be mapped out in the following section.

## COMPUTER ASSISTED LANGUAGE LEARNING

The research field of language learning and technology, commonly known as Computer Assisted Language Learning (CALL) covers research of every way of using computers for language learning purposes, from software explicitly designed for language learning to web-based environments such as virtual environments, social software and computer gaming. There is diversity in how the four basic language competences of reading, listening, speaking, and writing are represented in existing CALL research studies (Jung, 2005). This section gives an overview of the area and the research perspectives characterizing CALL, also pointing at the CALL interest in this thesis.

Looking at two definitions of the acronym CALL, Kern (2006) suggests that the following two definitions with seven years apart display important changes in perspective: “the search for and study of applications of the computer in language teaching and learning.” (Levy, 1997, p. 1) and “CALL means learners learning language in any context with, through, and around computer technologies” (Egbert, 2005, p. 4). In the second more recent definition, the perspective of language learning and technology is broadened addressing learning in a wider perspective. This displays the current trend in CALL research being more inclusive in embracing computer technologies and language learning (Egbert, 2005).

At the onset of the research area of language learning and technology, apart from CALL there were a few acronyms describing the field, such as CAI (Computer-Assisted Instruction) and TELL (Technology-Enhanced Language Learning) (Levy, 1997). Over the years, the acronym CALL has developed to be the prevailing one within the research area. There have been discussions about adapting the term to development trends (Levy & Hubbard, 2007). The motivation has been that since the research area is relatively new, it is tempting to introduce new labels that would be more appropriate for the concept they are describing, for instance replacing “Computer” with “Technology” or use “Enhanced” rather than “Assisted”. However, the general view advocates sticking to the term CALL as a label describing the field, since keeping the uniform label of CALL as the established global term for the area will strengthen the field (Levy & Hubbard, 2005). According to Levy and Hubbard (2005) it would be distracting and

confusing to make up new words with every technological advancement since it is counterproductive “to invent new labels every time technology takes a step forward” (p. 148). Adding to the discussion of the terminology, there have been discussions about the need to use the term CALL at all. This is based on assumptions that the next step for CALL is normalization, i.e. when technology is invisible since it is fully integrated in every aspect of life (Bax, 2003). In line with the integration thoughts, claims are that just as there is not talk about for instance BALL (Book Assisted Language Learning) CALL should not be needed either (Bax, 2003; Levy & Hubbard, 2005; Warschauer, 1999).

The development of CALL displays a similar pattern as the one seen in other research areas, in terms of Kern and Warschauer (2000) from structural to cognitive and to sociocognitive approaches. In line with Kern & Warschauer (2000), these different views correspond to different pedagogical approaches and prevailing technologies. Firstly, the structural approach emphasizes a focus on language systems and structures through transmission. From a language learning perspective, meaning is located in utterances and texts that are to be produced correctly. The second move into the cognitive side emphasizes meaning located in the mind of the learner. According to this approach, language learning is considered an active process taking place through mimicking and transferring correct structures. Thirdly, in line with the entry of the concept of communicative competence, the view of language learning was shifted to also embrace sociocognitive aspects.

The labeling and division into these three specific phases is debated by Bax (2003) who questions the inconsistencies in timeframes given by Warschauer and Healey (1998) and Warschauer (2000) in different publications by arguing that such an analysis “should surely attempt greater consistency in terms of chronology” (p. 15). Moreover, Bax (2003) claims that there are traces of all three phases still in existence and therefore these phases cannot be talked about as defined entities in time. To date, there are still repetitive drill exercises in use next to more socially applicable technology in language learning. In addition, it is also suggested that there has been variation in use of terminology related to the phases given, which has been misleading (Bax, 2003; Jung, 2005), where structural, cognitive and communicative aspects (Warschauer & Healey, 1998) were termed behavioristic, sociocog-

nitive and integrative in Kern and Warschauer (2000). Even though it may be precarious to talk about phases of CALL development within language learning, there are certain significant aspects with these phases. For instance, according to Davies (2007) the first forms of CALL materials displayed a lack of interactivity and feedback and the web has implied that such material has changed to become more interactive. Also, at the beginning of CALL, it was considered that the mere use of computers would enhance a learning situation. Over the years, this rhetoric has changed as institutions are now more critical to launching hasty and expensive computer projects that are not grounded properly (Felix, 2003; Thorne & Black, 2007).

Concerning the discussions about the theoretical grounding of the CALL field, Kern (2006) brings up the fact that there are different views of theories related to CALL research. There are claims that connecting CALL more closely to an existing area, for instance SLA, would place CALL on more solid ground as a research field. One such example is Chapelle (1997) arguing for CALL to be grounded in SLA theories and more specifically in an interactionist approach. However, even though there are strong influences from Second Language Acquisition (SLA) in CALL, this is not the only framework. There are limitations with having preference of one framework since it does not deal with all aspects of CALL research. In their overview of different perspectives, Egbert and Petrie (2005) argue for a need to increase the theoretical foundation of CALL being open in embracing a number of theoretical approaches, the interactionist being one of many (Chapelle, 2005 in Egbert & Petrie, 2005). Other examples of existing theoretical perspectives applied in CALL are sociocultural, systemic-functional linguistics, anthropology, ethnography, and semiotic theories (Kern, 2006).

Adding to the discussion of theoretical perspectives applied, instead of attaching CALL to a specific theoretical theory, the research questions asked should guide the research. An example of a key question that has traditionally driven CALL research is if computers improve language learning (Kern, 2006). Taking the premise that computers improve language learning, general follow up questions concern what computers can do for language learning and how effective technologies are in promoting learning (Felix, 2005; Liu, Moore, Graham & Lee, 2003). However, the general view is that these questions need to be refined further into in what ways, by

whom, for what purpose, and in what context computers are used (Kern, 2006). Concerning research questions that gear online language learning, the first studies were dealing with quantifiable aspects, such as amount of participation, quantifying linguistic features and learning resources but also investigating affect and motivation patterns (Kern, Ware, & Warschauer, 2004). Online language learning has shifted to embrace more qualitative methods, emphasizing questions that deal with intercultural competence, broad social non-institutional discourses and problematizing communication (Kern, Ware, & Warschauer, 2004)

Research on online environments for language learning purposes is increasing. Turning to existing studies in online language learning, collaborative aspects of web-based tools in CALL are brought up (e.g., Arnold, Ducate, & Kost, 2009, Kessler, 2009, Mac & Coniam, 2008). Even though there are several case studies bringing up for instance online interaction and intercultural communication within language learning (e.g., O'Dowd & Ware, 2009; Thorne, 2010), there is a call for more research exploring and mapping out this area. The present thesis focuses on online language learning, in web-based environments where students interact within the frames of their language course. For the learners it is all about entering emergent communities and getting acquainted with new genres and discourses.

Thus, more recent forms of CALL are directed at online language learning (Blake, 2011). This refers to learning activities taking place in "Web-facilitated, hybrid, or fully virtual classes" (Blake, 2011, p. 19). In second language writing, the concept of electronic feedback is frequently connected to automated feedback provided by a computer (Ware & Warschauer, 2006). However, Ware and Warschauer (2006) point at two other strands of research on electronic feedback; one focusing on computer-mediated human feedback versus face-to-face feedback and the other concerning electronic modes such as online chatting and email telecollaboration. Specifically due to these last two strands, research on online collaboration and intercultural communication within language learning is an increasing area (Dooly, 2011; Levy 2007; Ware & O'Dowd, 2008), which is in line with the research interest in this thesis.

## THEORETICAL GROUNDING

This section brings up core ideas and concepts in a sociocultural perspective on learning of relevance for this thesis.

### LEARNING AS SOCIALLY SITUATED

From a sociocultural perspective, learning is understood as situated in a social and cultural context, looking at learners in connection with the social and material environment where they interact (Warschauer, 2005; Wells, 2000). Social relationships and culturally constituted artifacts are recognized as playing a fundamental part in human thinking and learning.

Vygotsky (1978) stated that “All higher functions originate as actual relations between human individuals” (p. 57). He argued that learning first takes place on an inter-psychological plane between a person and other persons, then on an intra-psychological plane. This process is termed internalization (*ibid.*). From this point of view, learning first takes place on the inter-psychological plane between a person and other persons, then it is appropriated by individuals on the intra-psychological plane. Vygotsky calls this process internalization.

During the first part of the 20<sup>th</sup> century when Vygotsky (1986) proposed his idea of internalization, this was a way to overcome the mind-body dualism that was prevailing at that time within psychological theory. According to Lantolf and Thorne (2006) the process of internalization implies connecting the external world with the internal, where the two sides become an inseparable unity. In this sense, internalization is considered a transformative process resulting in cognitive development. In other words, internalization is not just a simple process of duplication of the external but a transformation process.

Some followers of Vygotsky have characterized the process of internalization differently (*cf.* Wertsch, 1998). Arguing that the process has a reciprocal nature, the concept of appropriation was introduced instead as a way of emphasizing transformation and to distinguish individuals as active participants in the process. In this sense, appropriation stems from Bakhtin (1986) implying “to bring something into oneself or to make something one’s own” (Wertsch, 1998, p. 53). Concerning language learning, from this



point of view words are described as partially belonging to others when communicating. Being “shared” among users, words are eventually appropriated and adapted to suit new purposes when used.

Vygotsky engaged in questions of human development and how it is possible that humans advance at such a pace in their short life trajectories (for a discussion, see Wells, 2000). In order to find answers to such questions, it was necessary to study individuals in social environments. Wertsch (1998) underline the importance of “the relationship between human *action*, on the one hand, and the cultural, institutional, and historical contexts in which this action occurs, on the other” (p. 24). This means that humans are not limited to their biological inheritance but are born into environments that are shaped by activities of previous generations (Wells, 2000). The development of human thinking and learning is to be found in the interaction between humans in an environment saturated with cultural tools. Vygotsky’s view is thus based on the idea that consciousness develops in this interaction and that humans’ cognitive and sociocultural activity are intrinsically bound together (Lantolf & Appel, 1994). The assumption that learning is inherently social is something that is picked up in CALL (Ball & Warshauer Freedman, 2004; Lee & Smagorinsky, 2000).

Concerning the relationship between learning and development in human activity, one central notion from Vygotsky is the Zone of Proximal Development (ZPD) (Vygotsky, 1978, 1986). This is a zone where an individual can achieve more with assistance of another person that is not possible to manage alone:

It is the distance between the actual developmental level as determined by independent problem solving and the level of potential development as determined through problem solving under adult guidance or in collaboration with more capable peers (Vygotsky, 1978, p.86).

ZPD implies a discrepancy in level of competence of those involved, i.e. that less capable individuals are guided by more capable peers. In collaborative settings, the distribution of expertise between participants are often more intricate. Expertise can be very local, participants holding different competences and assisting one another in collaborative efforts (Donato,

2002; Lantolf, 2000; Lantolf & Thorne, 2006; Wells, 2000). It is in the light of this broader conceptualization that ZPD should be seen (Wells, 2000).

In relation to the ZPD, the capacity to learn is related to both the context and capacity of the person

Rather, the potential for learning is an ever-shifting range of possibilities that are dependent on what the cultural novice already knows, the nature of the problem to be solved or the task to be learned, the activity structures in which learning takes place, and the quality of this person's interaction with others (Lee & Smagorinsky, 2000, p. 2).

To account for the social nature of learning, Rogoff (1995) introduced the notion of participatory appropriation. By discussing appropriation in what learners gain from involvement in cultural activity when the boundary separating the person and social context is erased, Rogoff (1995) points at a central feature in cultural practices:

The basic idea of appropriation is that, through participation, people change and in the process become prepared to engage in subsequent similar activities. By engaging in an activity, participating in its meaning, people necessarily make ongoing contributions (whether in concrete actions or in stretching to understand the actions and ideas of others). Hence, participation is itself the process of appropriation (p. 150).

Participatory appropriation is one of three inseparable planes of development: apprenticeship, guided participation and participatory appropriation (Rogoff, 1995). Apprenticeship involves the process for individuals to become active participants in community activities. Guided participation is the interpersonal process referring to joint participation frequently found in everyday life and the process of communicating and coordinating activities. Participatory appropriation, finally, involves the process of how individuals change through being involved in activities. This means that development cannot be reduced to one or a few aspects since all three planes interact.

## LANGUAGE AS A MEDIATIONAL MEANS

A central concept within the sociocultural tradition to learning is mediation (Vygotsky, 1978). Humans use physical as well as psychological tools and signs as mediators when acting on the world. Psychological tools, such as mnemonic techniques, algebraic symbols and language, serve as mediators in cognitive processes. A psychological tool is a mediator between subject and object. Thus, artifacts are essential to establish an indirect, mediated, relationship between ourselves and the world (Lantolf, 2000).

According to Vygotsky, language is the most important psychological tool in cognitive processes. Some authors emphasize this fundamental role of language, talking about it as the tool of tools (Lantolf, 2000; Säljö, 2005). From this stance, language learning is more than engaging in words and sentences. Traditionally, language learning is seen from the point of view of forms and actions (Linell, 2005). This is in line with Saussure's distinction of language system (*langue*) and language use (*parole*) emphasizing the necessity of both sides of language: "speech (*parole*), the executive or 'actional' component, is nothing other than the realization of the system of *langue*" (Hanks, 1996, p. 25). However, what is embedded in language is also the situation, the environments and the circumstances in which it is communicated. Thus, language should be seen as "both an abstract system and an intimate part of our daily experience, an individual capacity for expression and a social fact, a form and an activity" (Hanks, 1996, xiii).

The primary interpersonal function of speech is to establish social contact and the secondary, egocentric speech, is something that eventually "goes underground" (Vygotsky, 1986, p. 33) as verbal thought. Inner speech is the final developmental phase of higher forms of human conscious activity. For Vygotsky, egocentric speech is transformed into inner speech, reappearing at times with adults as private speech, playing a central function in the regulation of cognitive activity.

## LANGUAGE LEARNING IN DIALOGUE

In communicative situations, learners often need to understand a situation from the perspectives of others, i.e. to see the situation the way the others perceive it. As formulated by Tomasello, Kruger and Ratner (1993) this is

learning “in which the learner is attempting to learn not *from* another, but *through* another” (p. 496). Learning environments designed for peer collaborators to interact are generally based on the premises that each collaborator tries to understand the other (Tomasello et al., 1993). This situation takes place when the two subjects are on equal terms on a symmetrical basis in a “process of cultural creation or co-construction rather than transmission” (Tomasello et al., 1993, p. 501) of understanding.

Thus, the underlying notion is that linguistic communication is a complex process of more than just simple transmission from speaker to listener (Wertsch, 2003). How something is understood is always dependent on the perspective taken by those communicators involved (Hagtvet & Wold, 2003; Wertsch, 2003). This means that every dialogue implies a temporary transformation where the participants “become inhabitants of a partly shared social world, established and continuously modified by their acts of communication” (Rommetveit, 1974, p. 23). This makes the participants ‘shareholders’ of a common language (Linell, 2003; Mortimer & Wertsch, 2003; Rommetveit, 2003).

Being engaged in dialogue, however, is not only restricted to speech interaction but to any verbal communication, also written communication (Lantolf & Thorne, 2007). This dialogue is the relationship between two or more individuals, for instance learners incorporating language of others (Bahktin, 1981; Linell, 1998). When engaging in dialogue, participants collectively develop meaning through generating new ideas in responding to contributions by others. Being engaged in dialogue, speakers are part of a “cooperative struggle” (Lantolf & Thorne, 2007, p. 10) when interpreting and responding to the intentions of others. In the words of Bakhtin (1981), this struggle implies that people come to new understandings in their “process of selectively assimilating the words of others” (p. 341). This ties in with objectives in for instance intercultural language learning that concern intercultural meetings in learning through sharing experiences and insights with others.

## LANGUAGE LEARNING THROUGH PARTICIPATION IN COLLABORATIVE ACTIVITIES

As pointed out, one of the fundamental notions emanating from Vygotsky is that language and social interaction is the foundation for development. However, in language learning development, language is not only a tool but also the object of learning. From the perspective of language learning, participation in social and linguistic activities is thus essential for language learning to take place.

For recent trends in language learning, seeing language as a shared cultural tool implies putting a strong emphasis on language and human cognition being developed in participation in the everyday world through language activity (Lantolf & Appel, 1994). This emphasizes a focus on “communication, cognition and meaning rather than on formalist positions that privilege structure” (Lantolf & Thorne, 2006, p. 4). Lantolf and Thorne’s linguistics of communicative activity, LCA, implies moving away from objectifying language and instead recognizing language as an activity (Vigmo, 2010).

Hence, for language learning within this perspective, learning is connected to language use, developed through participation in social interaction with others (e.g., Lantolf & Johnson, 2007; Kern, 2006). Or as Donato (2004, p. 295) puts it, “learning and development emerge and are shaped by the social, cultural, and historical contexts in which individuals engage in meaningful and purposeful joint activity”. In a similar vein, interaction has long been considered vital for any language learning (Hall & Verplaetse, 2000; Tomasello, 2003).

Some of the theoretical ideas and notions in the area of CALL are the roots to designing educational applications. Taking part in joint activities for language learning by means of writing, for instance, may involve different levels of sharing text, both co-operating, i.e. individuals working autonomously in the presence of others as well as collaborating, i.e. individuals’ joint reasoning and peer reviewing building on the idea that the group comes to new insights that would be impossible to gain by the participants on their own (Cope & Kalanzis, 2000; Dillenbourg, 1999; Donato, 2004; Dooly, 2008). From a language learning perspective, engaging in cooperative and collaborative settings is expected to foster diversity as well as build coherence, since the result of cooperative and collaborative work is “simul-

taneously the emergence of new knowledge and growth for the group” (Donato, 2004, p. 287). Thus, in collaborative settings where individual contributions are added to group reasoning, the group is facilitated to come to new or changed insights through joint negotiation of understanding (Cope & Kalanzis, 2000). The participants communicate, suggesting modifications and giving feedback, creating a product, for example a joint text that each single individual could not have done alone (Tomasello, 2003; Van Lier, 2000). Rather, when dealing with a group task by working together, the idea is that the group is able to form solutions and become capable of co-constructing outcomes and develop expertise based on joint efforts and collaboration through mutual work (Swain & Lapkin, 2004).

From this point of view, individuals are “active agents with the capacity to transform knowledge as they actively participate in social practices” (Lantolf & Thorne, 2006, p. 162). A central focus of attention for co-constructing meaning for language learning is the language activity, relating to “what individuals and groups actually do while engaged in some communicative process” (Lantolf & Thorne, 2006, p. 234).

#### CONCLUDING REMARK

The theoretical grounding in this thesis puts forward that language learning has its origin in activities involving interaction with others and mediating tools. Central in individuals’ acting on the world is the use of tools as mediators in which language is the tool of tools. In recent years, language learning research has turned to sociocultural perspectives of learning. With the communicative turn in SLA and CALL, focus has turned to learners’ participation in language activities.

This has implied a further interest for learning outside of the classroom and an increasing focus on web-based learning environments and how online co-production is connected to learning activities. In this context, there is a need to reconsider the role of peers and the web as important sources of learning. The unit of analysis for this thesis is student activity, which means that the analytical focus is put on web-based interaction where the students’ language activities are displayed through collaboration and cooperation with others. The empirical data is thus written communication and the traces of activity that the students leave in the web-based environment.

## CHAPTER 4

# RESEARCH REVIEW

The following chapter gives a review of research dealing with language learning and written communication in online and web-based environments. The chapter is divided into three parts, where the first one deals with themes and concerns in research of web-based technologies in language learning where learners are part of a collaborative process of creating and sharing digital text. In this section the focus is studies of asynchronous web-based technology in the form of blogs and wikis in language learning, representing two commonly used web-based writing technologies, of concern in this thesis. The second part targets research in peer response, specifically geared at studies of online peer reviewing. The third part focuses on intercultural language learning exchange research where online environments are used as a meeting space. Even though the three parts are overlapping to some extent, the point in sorting the research into these parts is to give a more comprehensive picture of specific empirical research within each of these areas.

## WEB-BASED TECHNOLOGIES IN LANGUAGE LEARNING

As far as technology implemented in language education is concerned, web-based writing environments are increasingly being used and studied, even though there are still few studies to date of such environments. In *The next generation: Social networking and online collaboration in foreign language learning*, Lomicka and Lord (2009) bring up the question of what Web 2.0 means for language educators and language learners. They suggest that the emergence of such empirical research within the field of CALL is slow. Part of the explanation is that development of studies targeting new technology first goes through the three phases of addressing benefits and drawbacks, giving anecdotal accounts of teacher practice, and examining the student perspective of the tool. Lomicka and Lord argue that the field has reached the fourth phase recently, investigating the use of these tools for SLA purposes more targeted at communication patterns and the nature of collaboration. In an overview of CALL research from 1991 until 2005 by Felix (2005) of CALL effectiveness, it is suggested that CALL researchers are mostly engaged in small-scale studies of a specific intervention by information and communication technologies and how the use of technologies might affect learning processes (Felix, 2005).

There are a few overviews presenting online technology in CALL in relation to usage areas (Godwin-Jones, 2003; Levy, 2009; Levy and Stockwell, 2006). One such example is Levy (2009), giving a comprehensive account of development of technology and its significance for language learning modules where web-based technology is included as having an emerging meaning. Taking a step further into web technology, focusing on blogs, wikis and social network sites, Warschauer and Grimes (2007) give a refined account of such technologies. They cover aspects of function, history, categories and structure, and how the specific technology is used in language education and research. Existing empirical studies of students producing and working with digital text for learning are shaped in different ways (Elgort, Smith & Toland, 2008; Godwin-Jones, 2003; Lamy & Hampel, 2007). Such studies are generally performed in real-world practices with experimental designs, making the data dependent on the educational



framing. Although web-based environments have an inherent participatory nature, there is thus variation in the collaboration taking place.

Existing studies focus on different ways that the technology is used, reporting functionality in relation to intended student performance. Behind the design of the web-based tool, there is an anticipated way of using it. Over time, there is a change in how these tools are used within education, which may differ from the ways that they were originally intended when they were created. One such example is the wiki, which was intended for editing joint text on web-pages as a repository of common information, such as the case with online encyclopedias, e.g. Wikipedia (Leuf & Cunningham, 2001). In empirical studies using wikis within learning, there are examples of alternative ways of usage designed around the wiki, for instance giving suggestions to other users' contributions in a peer writing space (e.g. Augar, Raitman, Zhou, 2004). Another way is focusing on language accuracy and error correction as one way of working with posted content on the wiki (e.g. Kessler, 2009). Thus, a topical item lifted is the significance of the pedagogical design. Of great concern in the rhetoric is that web-based writing environments offer spaces for collaboration by its users, with ease of use and access (e.g., Dippold, 2009; Miceli, Murray & Kennedy, 2010; Murray & Hourigan, 2008). However, it is suggested that accessibility should not deceive the usage to be introduced in language learning without carefully considering the purpose of such an environment.

The studies generally concern the implementation of specific tools, for instance blogs playing significant roles as language learning activities (e.g., Ducate & Lomicka, 2005, 2008; Elola & Oskoz, 2008; Hourigan & Murray, 2010; Huffaker, 2005; Lee, 2010; Pinkman, 2005; Ward 2004; Williams & Jacobs, 2004), and wikis as learning activities (e.g., Kessler, 2009; Lund, 2008; Mak & Coniam, 2008). Following the research interest from the earliest studies and onwards, the progression from primarily focusing on benefits and issues to a greater focus on the nature of collaborative activities is seen.

Discussing potential uses of blogs in language classes, Ward (2004) reported from a first year university writing class for non-native English speakers critiquing films and books. The study showed that the instantaneous content publishing for a broad audience increased students' motivation

to produce quality work. Ward suggested that “For the language teacher the weblog is a timely arrival which can fulfill many of the needs identified for the effective teaching of writing” (p. 3). Benefits were presented such as providing an audience outside of the classroom offering a new form of unrestrained creative potential.

In an action research study by Pinkman (2005) a blog was used as a forum for reflection in a foreign language class at a Japanese university. The study was set out to determine the usefulness of using blogs to encourage learner independence beyond the classroom. The results of the study were positive in showing that blogs were communicative resources. However, it was suggested that more research was needed in order to establish whether blogs encourage greater learner independence and interest in learning.

Murray and Hourigan (2008) mapped out the benefits of using blogs in language learning claiming for the specific purpose of student reflection stating that “Blogs are highly adaptable generic production tools and thus provide great flexibility regarding their format and intended use” (p. 94). In their study of students of modern foreign languages enrolled in a language and technology course, the students were to create and maintain a blog that was focused on their experiences as language learners. It was suggested that blogs support a more process oriented approach to written language production rather than a product oriented in how a blog was used as a reflective space. However, they pointed out that there were a number of challenges in introducing a blog into a specific language learning environment, one of them being integrating an appropriate blog assessment framework matching the needs of learners.

Ducate and Lomicka (2005, 2008) explored blogging as an activity with German and French students. The task was for students to co-construct ideas about French, German, and American cultures. The students were encouraged to form their own new perspectives about other cultures with the intention of promoting critical thinking as well as becoming immersed in the culture of blogging. The studies showed that the blog environment promoted ownership and creativity. It allowed students to experiment in expressing themselves in the foreign language and communicate in the target language. However, the blog functioned more as a private space rather

than a joint class community where the students would interact and collaborate.

Picking up ideas from Ducate and Lomicka (2008) with the intention of further exploring the blog as being conducive to nurturing a sense of community among students, Miceli, Murray and Kennedy (2010) investigated an advanced Italian language course at an Australian university through a class blog “Italy through Food” providing students with out-of-class reading and writing practice. The communication patterns in the blog suggested that there was a strong sense of community among the students. There was also an increase in the students’ overall written production.

In a study of advanced Spanish students in the United States, Lee (2010) claimed to further contribute to the understanding of using blogs to enhance learning and interaction. The goal of the blog project was to create additional opportunities for students to share personal views on various topics outside of the classroom. It was suggested that using blogs in tasks that were open-ended empowered students to be creative with the content. This study also attended to teacher feedback where linguistic problems were in focus.

Within the activity of blogging, the ease of access having significance for the pedagogical design as well as carefully considering what to expect from a pedagogical design perspective was brought up by Dippold (2009). This study investigated the usefulness of blogs for peer feedback on second language writing among advanced German students at university. Dippold (2009) used the blog for peer feedback purposes where the students were asked to upload texts and give feedback to each other’s texts. Dippold demonstrated the necessity of making an informed choice of the technology to use for a specific purpose. In addition, it was also pointed out that even if the learners were predisposed to web-based technology they did not necessarily have skills using it in an educational context. In conclusion, it was suggested that it is necessary to “abandon traditional roles and writing models in order to be able to fully engage with the medium” (p. 34).

Concerning case studies where wiki technology is used in language learning, they enter the research scene somewhat later than blogs. Lund and Smørdal (2006) and Lund (2008) have studied the interaction of secondary school students in wiki environments used for the students’ collective per-

ception of the US. In Lund and Smørdal (2006) the focus of attention was highlighting the role of the teacher in a wiki environment. The investigations in their studies showed that there was tension between individual and collective ownership in a teamwork activity. It was suggested that students needed to get used to collective ownership and that collective knowledge production first started with local content development and moved over to a networked level, a process that needed to be designed for (Lund, 2008; Lund & Smørdal, 2006).

Mak and Coniam (2008) explored the use of a wiki as an online collaborative writing tool in an English as a second language programme for seventh graders where the students produced a brochure about their new school. The results showed that the students produced larger amounts of text than expected and that the complexity in writing increased. However, the students were reluctant to engage in peer reviewing of other students' texts. The suggested reason is that the educational system does not support this type of collaborative activity and therefore the students were not used to it.

Lundin (2008) set out to challenge traditional pedagogical assumptions about teaching of writing in a study of a pedagogical model by means of a wiki with composition classes for first-year university students. The results demonstrated that wikis held potential to facilitate pedagogical changes due to features such as editability and detailed page histories. The author argued that wiki use could encourage change in approaches to writing, broadening the definition of writing.

More targeted at revision behavior, Arnold, Ducate and Kost (2009) investigated intermediate students of German as a foreign language in the US, collaborating on a wiki. Their analysis gave a rich description of how the texts developed and that students performed a large amount of revisions focusing firstly on meaning and secondly on formal aspects of writing. The students also created higher quality texts due to teacher and peer initiated feedback. These results demonstrated that wikis foster both writing skills and revision performance in linguistic accuracy. The authors also suggested that a wiki can further encourage true collaboration so that all students take responsibility for the process and the product as a whole, not just their own share.

Kessler (2009) investigated the use of a wiki as a collaborative writing environment in a study of student-initiated attention to form with pre-service English as foreign language teachers at a Mexican university. The results indicated that the students were more willing to collaborate about aspects of content rather than form in the informal wiki environment, which they recognized as a space where meaning making was of primary concern. Thus, even though the students were asked to highlight both content and language in their feedback, they were primarily engaged in content-based feedback and not form based.

In another study with Kessler and Bikowski (2010), the same data as in Kessler (2009) was explored. The objective in this study was to observe how students collaboratively construct meaning in a long-term autonomous wiki activity. The students' attention to meaning as individuals and group members was analyzed within a framework of collaborative autonomy. The results suggested that the students collaborated in the wiki in three phases where each phase represented growing comfort with the collaborative task. In having their own collaborative space, stronger relationships were built between students, leading to a sense of ownership that encouraged extensive utilization of the learning space.

Taking an interest in how learner interaction can be fostered through online collaboration, Kuteeva (2011) investigated the use of a wiki within a diverse group of students from a range of countries participating in a communication course in English for academic purposes at a university in Sweden. The course wiki was used as a platform for carrying out writing tasks and assignments focusing on paragraph structure, coherence, and argumentation. The outcomes showed that using the wiki for writing activities made students pay close attention to grammar and text organization, which the students regarded to be of paramount importance in determining quality of writing. The results proposed that writing on a wiki can contribute to raising students' awareness of the audience, resulting in more reader-oriented texts.

There are also studies exploring a combination of web-based tools, e.g., using wikis, blogs and podcasts (Lee, 2009). Another study dealt with forum, blog, and wiki modes in order for learners to contrast these tools (Miyazoe & Anderson, 2010). It was suggested that using a mix of tools

matches the reality of learners, who frequently use a multitude of communication tools in their everyday practice (Miyazoe & Anderson, 2010).

It can be noted that in line with a common focus in second language acquisition studies of language related episodes and linguistic accuracy (e.g., Sachs & Polio, 2007; Schmidt, 2001; Swain & Lapkin, 1995) a number of studies in student collaborative web-based text production has a focus on investigating student attention to linguistic items such as form and grammar as one of the areas of focus (e.g., Arnold et al., 2009; Kessler, 2009; Mac & Coniam, 2008). However, the outcomes in these studies showed that the students were in favor of focusing on content related items, i.e., a primary focus on what they wrote rather than how they wrote. In Kessler's (2009) study, for instance, even though the students were encouraged to focus on language accuracy, this was not of primary concern to them. It was suggested that "the overall tendency among participants was to focus on meaning rather than form" (Kessler, 2009, p. 84). This was also supported by Smith (2003) in an investigation of synchronous computer mediated communication among intermediate learners of English claiming that learners spent a significant amount of time negotiating meaning in an online environment. In addition, in a study of revision patterns in Wikipedia it was suggested that the combination of the over production of text edits that wikis encourage, together with the traditional focus on grammatical and stylistic training in school was a beneficial match, since the two systems balance each other out and possibly imply higher quality texts (Jones (2008).

Even if the teacher may not be part of the activities in student driven online work, in an educational context someone needs to make an informed choice of the technology being used and how the interaction is effectively managed, requiring specific skills (McLuckie & Topping, 2004). In some studies, understanding the functionality of the tool was part of the online assignment itself in order to being able to use it (Sotillo, 2005). This is connected to one of the challenges with using the web for both language learners and instructors in finding the appropriate resources for the intended purpose (Godwin-Jones, 2006).

From a peer work perspective, the administration of setting up the technology has implications for the work being performed. It has been pointed out that the teachers' view of the tool can support or subvert the activi-

ties taking place (Ware & Warschauer, 2006). The choice of tool in a digital environment is one such thing that affects the outcome of the collaborative situation (e.g., Dippold, 2009; Warschauer, 1997). Thorne (2003), for instance, discussed the fact that cultures-of-use co-evolve over time. In one of his studies, students interacted with peers through e-mail, affecting cultural, individual as well as collective aspects.

Depending on the technology being used, the digital environment affects the meeting between peers. The blog format, for instance, lends itself to matters concerning the posting of content and commenting postings due to its chronological setting, since it is not possible to give comments straight into a blog post. The wiki format, on the other hand, lends itself to other types of collaborative procedures, since all users are meant to be able to edit any web page on the wiki. When peers are engaged in collaborative writing, they are supposed to take joint responsibility for the text, which means that students may be more receptive to peer comments (Storch, 2005). This suggests that when peers have no ownership of the text, there is little interest to effect change.

## ONLINE PEER REVIEWING AND FEEDBACK

A central element in language learning is interacting in the target language by engaging in joint production of language with others accompanied by the activity of giving and receiving feedback, in the literature also referred to as in peer review or peer response (cf. Min, 2006).

Traditionally, the teacher or the native expert gave their views and response on student work. However, feedback provided by peers has taken a central position in response work. It is suggested that peer response processes develop skills of critical reflection from receiving feedback as well as giving response to others (Liu and Carless, 2006). This is also in line with the increase of web-based environments that have changed the roles of users participating on the web as contributors of content. From a collaborative language learning perspective this is a vital part since it emphasizes the joint efforts that learners are engaged in. By collaborating in giving and receiving feedback, understanding is negotiated.

Studies of peer response are inconclusive as to how feedback provided by peers is contributing to learning (Hyland & Hyland, 2006). However, peer response is considered to support students in obtaining more insight into writing and revision processes (Min, 2006). It is suggested that peers are capable of giving high level valid feedback and that it will likely pay back giving students practice in becoming critical readers since this process will make the students self-critical when revising their own writing (Rollinson, 2005). In addition, Lundstrom and Baker (2009) maintain that students reviewing other students' texts gain more from peer response activities than students who merely receive comments. Part of their explanation is that the additional focus on reading others' texts brings an extra dimension to understanding how others write, but also the fact that the reviewers decide the level of feedback, which might not correspond to the writers' level of textual understanding.

It is considered that one of the prerequisites for peer response to work is proper training in revision behavior (Arnold et al., 2009; Chang, 2012; Guardardo & Shi, 2007). In a study of blogging among students of information science and media studies in Norway, Baggetun and Wasson (2006) found that feedback was not just something that came automatically when posting on a blog. They claimed that certain participation skills were needed and that it was essential that students learned the procedures of such participation:

As a student, you need to learn how to frame an issue you want to raise, relate it to a current issue, and know how to invite or ask questions so that someone feels tempted to reply (p. 460).

There are studies of the implications of peer response training. One such example is Zhu (1995) in groups of composition class students in the US investigating tactics writers could use in order to provide suggestions and seek clarifications together with their peers. The study demonstrated that such training has great significance on both quantity and quality of feedback. In another study in the US, Berg (1999) investigated English as a second language education among graduate students with the objective of seeing how training in peer response shapes revisions and revision quality in writing. In this study, an experimental group received peer response training



activities and the control group received no peer response instruction. The results showed that the trained group made more meaning changes with significantly higher quality revisions than the response group. Min (2006) investigated peer review training in a writing class with students of English as a foreign language at a college in Taiwan. In this study, it was suggested that a step-by-step peer review training procedure was useful for inexperienced writers, assisting the students to view texts from multiple perspectives.

Introducing technology that involves peer learning activities imply changing roles in moving the responsibility of giving and taking comments from the teachers to the students. Students become resources for each other in their response work (Kessler, 2009; Lund & Smørdal). It was suggested that computer mediated communication tools allowed students to take a more active and autonomous role in a feedback situation, inviting the feedback session to be more student centered and increasing student participation (Godwin-Jones, 2006; Warschauer, Turbee & Roberts, 1996). Ware and Warschauer (2006) presented advantages of technology-enhanced environments for peer response such as online availability, which provided a wider peer audience. In addition, the feedback process was increased holding more targeted comments with electronic feedback compared to non-digital feedback.

Even though there are studies exploring collaboration in web-based environments where feedback is one of the activities, studies targeting peer response in language learning in online environments as the primary objective for investigation are scarce so far (Dippold, 2009).

DiGiovanni and Nagaswami (2001) studied online peer review as an alternative to face-to-face peer review among pre-college students in two English as a second language writing classes in the US. The study of types of negotiations students made showed that the online mode gave a significantly lower number of negotiations than the face-to-face type. However, the results showed that when being online, the students were task focused. The online interaction was dependent on the students' ability to engage in a new mode of communication which entailed skills in using the hardware and software together with the jargon that is associated with this type of technology.

In another study, Liu and Sadler (2003) investigated technology mediated peer review with traditional forms among second language writing students, comparing asynchronous text editing with pen and paper editing and synchronous peer review in chat communication with face-to-face communication. From their investigation they suggested a model for conceptualizing peer reviewing from different modes of commenting and interacting. Their study showed that the technology mediated peer-situation elicited a larger number of comments as well as more revision-oriented comments and a larger number of revisions made among the students.

In some studies, peer review is used interchangeably with peer assessment, particularly when referring to formative modes of assessment. Even though there are elements of peer response in those studies, there is primarily an evaluative interest. One such study is Prins, Sluijsmans, Kirschner and Strijbos (2005) underlining the fact that skills in providing valuable feedback and suggestions to others is part of the development of lifelong learning skills. In this study, peer assessment by means of a virtual learning environment was performed by students from a range of different disciplines and countries participating in a virtual writing seminar. It was suggested that peer feedback quality was low and mostly negative due to the fact that the students did not apply the feedback criteria.

Having a focus on peer reviewing among native and non-native speakers of English, Sotillo (2005) explored differences in feedback patterns of native speakers and non-native speakers of English enrolled in an English as a second language course using a chat platform. The students were paired up working collaboratively on five activities dealing with communication and problem-solving. The chat logs were analyzed in order to identify error correction episodes. The results suggested that non-native speakers prefer corrective feedback whereas native speakers focus more on content issues. This is also in line with language learning traditions; where there is more or less focus on language correction.

Dippold's (2009) study of peer feedback of second language writing in a blog among advanced German students at a university in the UK, concerned areas of German and world work culture, applications, cover letters and CVs. The intention with this blog project was to foster peer feedback outside of the classroom. The results showed positive results of the use of

blogging in student feedback practice due to its interactivity and ease of administration.

With the use of web-based environments follows the notion that students become responsible for the organization of their own learning through giving and receiving peer response. The literature suggests a greater task focus in electronically mediated support (Ware & Warschauer, 2006). In addition, it can be concluded that online formats generate more targeted feedback (Liu & Sadler, 2003; Ware & Warschauer, 2006).

## LANGUAGE LEARNING IN INTERCULTURAL ONLINE ENVIRONMENT

As pointed out by Dooly (2008), the notion of communicative competence has been extended to stress intercultural aspects in teaching models. Learners engaging in online intercultural exchange have played an important role in the development of intercultural communicative competence (O'Dowd, 2007). To a large extent it is based on the framework for Intercultural Communicative Competence (ICC) developed by Byram (1997).

This extension underlines the need for language learners to develop cultural sensitivity, intercultural awareness and ability to mediate between different cultural perspectives in communication situations (Dooly, 2008). Connected to the communicative side of CALL, this has implied an increased focus on intercultural exchange interaction for language learning purposes. Particularly increasing is research on activities taking place of student interaction on the web (e.g., Dooly, 2011; Lee, 2009; Thorne, 2010).

Developing ICC further, O'Dowd (2007) suggests the term online intercultural exchange to underline the digital aspects of intercultural exchanges taking place online, which are becoming more common with the increased use of the web. However, it has been noted that the mere use of the Internet to communicate in global interaction between cultures does not automatically lead to successful intercultural communication. Dooly (2008) points out that there can be considerable gaps in communication across cultures.

There is a move in CALL research studies of online intercultural exchanges towards studies of various ways of interaction in social network environments (e.g., Blake, 2011; Gee, 2004; Thorne, 2010). Kern, Ware and

Warschauer (2004) for instance, argue that there is a “second wave” (p.244) of online language learning research problematizing cultural and social aspects. This has implied shifting the focus from quantifiable research, such as investigating amount of participants or measuring student satisfaction in their virtual contact, into more qualitative research, such as investigating ways of collaborating and roles of teachers in online environments (O’Dowd, 2007; Kern, Ware, & Warschauer, 2004). In the emergent area of online intercultural exchange the terminology has not been fully established. Aspects of intercultural interaction have raised discussions about the interpretation of the terminology applied in the literature. Over the years, there have been a number of definitions pointing at specific aspects involved in the concept, such as *e-tandem*, *tandem learning*, *telecollaboration*, *Internet-mediated intercultural foreign language education* (e.g., Belz & Thorne, 2006; O’Dowd, 2007; Hauck & Youngs, 2008; Thorne, 2010). The borders between these concepts are quite indefinite.

Although there are different meanings connected to what is embraced in existing concepts, they also overlap. One such example of difficulties in definitions was found in Belz and Thorne’s (2006) chapter in *Internet-mediated Intercultural Foreign Language Education*, where two of the most common terms *telecollaboration* and *tandem learning* were elaborated on. Their basic definition was that telecollaboration dealt with instructed foreign language settings with rigorous coordination whereas tandem learning was associated with non-institutional learning, built on learner autonomy. However, Belz and Thorne (2006) also pointed out that there were overlaps in these approaches and that they “in certain instances, may be functionally indistinguishable from one another” (p. 9). This last statement was supported by others who claimed that existing terms can frequently be used interchangeably (O’Dowd, 2007). Apart from the flexibility in the choice of terms used, the concept of online intercultural exchange has expanded to include blended groups of learners who are not only language learners. Also, online interaction is frequently combined with face-to-face situations (Guth & Helm, 2010). Arnó-Macià (2012) suggested that with increased mobility and international exchange, “academic and professional communication is mostly intercultural in nature” (p.90) and therefore the shift in terminology from cross-cultural to intercultural noted by Belz and Thorne

(2006) captured “the dynamic processes produced both in target settings and in teaching situation with the powerful impact of IT on facilitating interaction across borders” (p. 90).

With the web, a recent term is *telecollaboration 2.0*, coined by Guth and Helm (2010). They point out the web as being an important mediating factor in intercultural exchanges, hence the association to the Web 2.0 concept. By applying the term telecollaboration 2.0, the “beginning of a gradual shift towards new pedagogies, approaches and contexts for language and intercultural learning” (p.17) is emphasized:

The practice of telecollaboration responds to the complex demands that communication in today’s world puts on foreign language learners by promoting the development of language skills, intercultural communicative competence and, we would argue, new online literacies (Guth & Helm, 2010, p.14)

This suggested an extension of Byram’s model of intercultural communicative competence due to the increasing number of online contexts and accompanying social practices where people engage every day for both personal and professional reasons. Learners were not only motivated to participate in intercultural interaction in order to go abroad, but also to be able to communicate in a number of multilingual and multicultural environments in different modes, such as oral, visual, synchronous and asynchronous, just to mention a few (Guth & Helm, 2010).

Even if there are a number of existing definitions of the concept of web-based intercultural exchange, a basic definition and description of the terms framing the area ‘intercultural’ and ‘exchange’ was given by O’Dowd (2007) in his book title *Online Intercultural Exchange: An Introduction for Foreign Language Teachers*. O’Dowd defined the concept *online intercultural exchange* as:

the activity of engaging language learners in interaction and collaborative project work with partners from other cultures through the use of online communication tools (O’Dowd, 2007, p. 4)

Defining the concept of *culture* in intercultural communication, i.e., the way of seeing ‘culture’ as associated with national and ethnical contexts is quite

common in intercultural studies (cf. Byram, 1997). Even though this recognized notion of culture is widely adopted, it was suggested that the concept needed to be expanded to include further aspects of culture since culture is not a static condition (Belz, 2007; Helm & Guth, 2010; Piller, 2007). The concept of culture should be understood in a broader sense than displayed in national and ethnic delimitations but also as patterns of human knowledge and shared attitudes in practices (Kramersch, 2006). It was pointed out that culture was something we constructed discursively (Lamy & Goodfellow, 2010; Piller, 2007). This was in line with Kramersch (1998) who used the term multicultural when describing persons belonging to different discourse communities, showing the complexity of the concept. Kramersch (1998) defined *culture* as follows:

In summary, culture can be defined as membership in a discourse community that shares a common social space and history, and common imaginings (p.10)

This group membership is a vital aspect of culture, since it supports the ideas that culture is something dynamic that is constructed. Thus, there is complexity and variation in understanding the concept of culture for language learning (Levy, 2007) and some suggestions of what culture implies for language learning are for instance intercultural competence, cultural learning, and cultural literacy (Kern, Ware, & Warschuer, 2004).

Exchange interactions can serve different purposes. One such purpose is when students target specific cultural items in literature and music through online meetings with peers (e.g., Belz, 2003; Hanna & de Nooy, 2003; Thorne, 2003; Ware & Kramersch, 2003). It is also suggested that activities requiring intercultural electronic literacy (Warschauer, 2000, p. 64) prepare students for their future careers where online collaboration increases in workplaces.

Some of the most common aims stated in research studies of intercultural exchanges are that they develop students' communicative ability (Lee, 2009), increase intercultural sensitivity in the target language and encourage learner independence (Belz, 2003). Apart from increased cultural awareness of both the home culture as well as the exchange group's culture, another common focus is participants' development of linguistic skills. In line with

the ideas that language is learned through social interaction, learning situations are moved out of formal institutional settings. Here, Internet-mediated spaces have come to play a vital role for learning. This is what Thorne (2010) proposed as “opportunities for *intercultural communication in the wild*” (p. 144). It is suggested that blogging promotes a creative space for students to experiment with their foreign language providing them with “a window into the target culture that they would never get from their textbook alone” (Ducate & Lomicka, 2008, p, 24).

Miscommunication is a theme that is raised in some studies (e.g., Belz, 2003; Ware & Kramsch, 2005). It is suggested there are developmental opportunities in situations of conflict (Thorne & Black, 2007) since unintended directions in communication raise awareness among participants. Belz (2003) reported miscommunication between learners of German in the US and learners of English in Germany in an asynchronous online telcollaboration project. It is concluded that students responded differently to online assignments due to cultural differences. The ability to communicate with persons belonging to another culture implies developing understanding of cultural items. Belz (2003) described it from Agar’s (1994) “rich points” (p.6) in relation to foreign language learning. These are:

opportunities to collaboratively forge a heightened awareness of self and others that is fueled by the contestations and confusions that arise during communication” (p. 6)

Another study by Ware and Kramsch (2005), also with learners of German in the US and learners of English in Germany, was designed to examine how participants engaged with language learning online and how they evaluated their experiences in the exchange. Their study reported miscommunication caused by various reasons, such as issues with the technology or classroom assignment, deficient language skills, lack of teacher engagement and also students not being adequately prepared for the exchange. In addition, it was suggested that miscommunication can be valuable learning opportunities for students and teachers.

Another purpose in exchange interaction is to collaborate around joint content together with peers. This can be related both to production of mutual material in a project, e.g. writing a joint piece of text together and

also to production of separate content that is to be negotiated together, e.g. giving and receiving peer response to others.

Concerning technology used in intercultural language learning research, there are a number of studies taking place in earlier online environments such as e-mail, text chat and discussion boards (Thorne, 2003). Due to the development of web technologies, online interaction has been transformed to include an increase in intercultural web-based communication tools (Lee, 2009). Thus, there is increasing research investigating more web-based technologies such as blogs and wikis (Dippold, 2009). Guth and Thomas (2010) suggest that there are reasons for using wiki technology for discussing cultural differences:

one of the most interesting areas to examine for telecollaboration is that of a shared wiki, with learners from different classrooms engaging in peer review and editing, concerned with themes of shared interest. (Guth & Thomas, 2010, p.57)

By exploring cultural topics outside their textbook in reading their classmates' perspectives on topics in a blog, the users got "the insider's perspective on various cultural topics, thus leading to better understanding of other cultures and what shapes them" (Ducate & Lomicka, 2005, p. 413).

## SUMMARY OF RESEARCH IN THE FIELD

This chapter has given a review of language learning research in online and web-based environments. It has targeted interaction and participation among learners, as well as research specifically highlighting peer response and intercultural aspects in such environments. Existing research of using blogs and wikis in language learning add to understanding of how these technologies are used in language learning as spaces to respond to assignments and peer work.

The studies report increased learner independence beyond the classroom, with a greater focus on the audience and reader-oriented texts. The production of text that a web-based environment opens for increases complexity in writing. The increased amount of text invites collaborators to



focus on meaning making from a content perspective as well as it gives an option to concentrate on linguistic issues among learners. At the same time as the increased text production gives the students a vast body of text, it puts demand on revision and peer response work. Moving the responsibility to the students of participating in peer response processes, changes traditional roles of how feedback is organized. When students become resources for each other in their response work, training in peer reviewing has significance in how peer response is shaped.

Adding the dimension of intercultural exchanges gives a complex environment where careful preparation for peer-work is needed in collaborative projects. Among the primary aims of intercultural online exchange research are development of students' communicative ability, intercultural sensitivity and learner independence. Prior research suggests that such an environment will likely change approaches to writing.

There is a call for further research investigating the significance of student participation in web-based environments for language learning, which is the specific interest in this thesis. In line with the interest for targeting the fourth phase, i.e. investigating concepts such as "collaboration, participation, contribution, and creation" (Lomicka & Lord, 2009, p. 10), the studies in this thesis attempt to contribute to the exploration of communication patterns and the nature of student collaboration.



## CHAPTER 5

### RESEARCH DESIGN AND METHOD

This thesis deals with student activities taking place in web-based environments applied in language and communication courses within English for Specific Purposes (ESP) for engineering students at a technical university in Sweden. The four case studies in the thesis are performed in non-experimental, natural settings, where the use of the web-based environment is part of meeting spaces offered for the students within their ESP courses. The reason for choosing a case study approach is to get an in-depth investigation of student activities of web-based tools from different points of view.

The first part of this chapter discusses investigations of web-based environments. Following is an account of design research as well as a description of the case study approach, which is of relevance for this thesis. In the section about data, the four case studies and participants will be introduced. Finally, data analysis and methodological and ethical considerations will be brought up.

## INVESTIGATING WEB-BASED ENVIRONMENTS

Investigating web-based environments implies attempting to frame a field in constant change. Approaching empirical data where users contribute to joint production of content on web-based technologies, such as blogs and wikis, is challenging. There are thus specific items to be taken into consideration when studying such technologies within an institutional context of language learning and communication in ESP. One such consideration concerns the fact that these web-based technologies affect what written language looks like, with alternative ways of writing, unlike traditional un-digital ways of producing text (Godwin-Jones, 2003). The content produced by contributors on the web is in an open environment, makes it multifaceted and diverse as research data.

Another methodological aspect to take into consideration is how to capture the production or interaction as it happens. In a flexible online environment offered by the web, framing the moment when and where participants are productive online is elusive. When deadlines for elaboration of content stretch over long time periods, for instance, it is often not feasible or possible to catch participant production in the making. Web-based posted content is logged chronologically on the web, however, lending itself to parallel and targeted scrutiny of postings since it offers possibility to track posted content by its users. This persistent catching of online activities is what Thorne (2003) calls “CMC residua”, i.e. on-screen or printed out log files that can be “scrutinized and reflected upon by researchers and participants and can help to locate specific developmental episodes” (Thorne, 2003, p. 57). In the case of web-based technology, written records of all contributions are saved, preserving the content in the order in which it was saved.

For research in general as well as for research in the field of language learning, empirical studies of web-based technologies as a source of data is an area that has started to catch an interest within CALL (Blake, 2007). When new areas of research are introduced, such as the case with the entry of technology in learning, it calls for adopting other ways of investigation together with existing methods. Since methods reflect how existing problems are viewed and solved, new considerations are needed (Markham & Baym, 2009). The phenomenon of finding new guidelines to new scientific approaches is an issue addressed for emerging research areas: “The inven-

tion of new methods that are adequate to the new ways in which problems are posed requires far more than a simple modification of previously acceptable methods” (Vygotsky, 1978, p. 58). Thus, further changes and rethinking how to approach emergent data are required than just modifying existing methods. With information technology, using interactive web-sites “Researchers are constantly developing and pushing the edges of research methods” (Barton, 2007, p. 54).

For Internet research, there is a broad arena to take into consideration when dealing with data, both in terms of collecting the data but also in how to handle it. Taking the student perspective, for instance, which is the case in this thesis, implies having the students’ point of view in mind when exploring the implementation of designs around posted interaction.

## DESIGN ORIENTED RESEARCH

The concept of design has developed to become a recurrent theme brought up in connection with CALL studies (Levy & Stockwell, 2009). Design is used to describe many forms and levels of work, from single exercises to entire computer-based learning environments (Levy & Stockwell, 2009). When investigating the design of technologies for learning, there are different points of departure to take into consideration

Sometimes a design will be theory driven, sometimes the nature of a particular project or task will be the primary idea or concept that shapes the design, and at other times the parameters of the development environment will take precedence (Levy & Stockwell, 2009, p. 12).

Design research is highlighted as one of the prominent areas in CALL (Yutdhana, 2005, in Egbert & Petrie). Yutdhana (2005) suggests focusing on designing and developing models of collaborative learning and what role collaborative learning plays in CALL. Questions concern how collaborative learning in CALL environments influences students’ language learning and how collaborative CALL activities can be designed to promote development of language competence.

Since the early 1990s in educational research, the use of the word design has taken on a different meaning and assumed center stage in emerging

forms of educational research labeled by some as *design experiment* or *design research* (Bannan-Ritland, 2003). *Design-Based Research* (DBR) concerns examining human interaction mediated by technology. It is the “study of learning in context through the systematic design and study of instructional strategies and tools” (The Design-Based Research Collective, 2003).

Drawing on ideas of the DBR approach, Yutdhana (2005) argues for investigating innovative designs around technologies used within education of language and communication. This area “has two intertwined central goals – designing learning environments and developing theories of learning” (p. 174). One of the goals is tying educational research to everyday practice and to analyze and iterate recurrent processes in learning situations. What distinguishes the design of the case studies in this thesis from DBR is the fact that DBR aims at validating educational settings with a specific design grounded in theory. Although validation in this sense is not focused in the case studies in this thesis and the interventions are not grounded in theories per se, the research shares some central principles and knowledge interests with DBR; Firstly, by making systematic refinements of interventions through reiterations, and, secondly, by conducting case studies of such processes in order to inform the development of theory and educational practice.

## CASE STUDY APPROACH

The concept of ‘case study’ embraces all aspects of a research case covering questions, theoretical perspectives, empirical findings, interpretations and conclusions (Yin, 2004). The incentive for performing case studies is to provide detailed and intensive analysis of single cases (Bryman, 2001) but also to contribute to building knowledge within a specific field (Yin, 2004). The aim of case studies is to “investigate real-life events in their natural settings. The goal is to practice sound research while capturing both a phenomenon (the real-life event) and its context (the natural setting)” (Yin, 2004, p. xii). Since the phenomenon and its context cannot often easily be separated, the case study format lends itself to investigating the whole event. In other words, using a case study as a research strategy enables an approach to data that might otherwise be hard to grasp (Vigmo, 2010). In addition, case studies can use a wide variety of empirical methods or com-

bination of methods such as interviews, field observation and quantitative records to mention only a few. Thus, the concept of case study implies displaying a specific instance that illustrates a more general principle. It enables in-depth investigation of detailed data from a wide data source (Cohen, Manion, & Morrison, 2007).

Case studies can be performed from the point of view of a single case (e.g., Vigmo, 2010) or with two or more cases as so called multiple cases in one case study (Yin, 2004). Even though having multiple cases is more demanding from a research design perspective, such a setting has the potential to strengthen findings in providing different angles of data.

### PEDAGOGICAL DESIGNS OF THE CASE STUDIES

The four case studies in this thesis are designed to explore student activities in web-based environments (see Table 1 for an overview of the four case studies).

In Study I, a wiki was introduced for students in an ESP course. The data consisted of student activities on the wiki related to course assignments and how the students made use of the wiki. The activities were activities in the form of text contributions by the students on the wiki pages as well as adding postings in the blog tool on the wiki.

A new wiki was set up for Study II, with a link to the wiki in the previous study. The wiki was introduced as an environment to be used for certain course assignments in the students' ESP course. The data again consisted of activities in the form of text contributions by the students on the wiki pages. This time, the blog tool on the wiki was not used.

Study III was investigating a student exchange taking place in a blog environment. This exchange has been a recurrent element of literature courses between students in Sweden and in the US since 2004. The division into peer groups in the blog, with both Swedish and American students in each blog group allowed for investigation of how students from diverse cultures negotiate meaning displaying their analysis of poems in a blog. The data was thus the blog posts written by the students.

In Study IV students gave and received peer response in their uploaded files on the wiki environment. The wiki was used as an intercultural meeting space for peer review within technical writing between students at uni-

versities in Sweden and in the US. In the interviews, the students were to elaborate on the comments they had received as well as given in the texts by means of a text editor.

Table 1: Overview of participants and data in the four studies.

<b>Study</b>	<b>Participants</b>	<b>Data</b>
Study I 2007 7 weeks	31 students, divided into 14 groups of 2 - 3 students in each  software engineering undergraduate 3rd year students	- student postings on the wiki pages obtained from the wiki version handling system - postings in the blog tool on the wiki together with comments
Study II 2008 7 weeks	54 students, divided into 21 groups of 2 - 3 students in each  software engineering undergraduate 3rd year students	- student postings on the wiki pages - obtained from the wiki version handling system
Study III 2010 10 days	36 students, divided into 7 peer groups with both Swedish and American students in each blog group - 15 masters' students from different fields of engineering from the Swedish university, non-native English speaking - 21 undergraduate students majoring in English from the US, native English speaking	- student postings in the blog
Study IV 2011 1 term	6 international non-native English speaking master's students from the Swedish university collaborating with 10 native English speaking students from the US.	- uploaded files with peer comments on the wiki that the students gave to their partners from the US and the peer comments that they received from the partners from the US - interviews with the 6 students from the Swedish university



For the participating students, the web-based environment was described as an online space that would give them the opportunity to extend their language learning environment outside of the classroom in collaboration with fellow students. In all four studies there were teams of two to three teachers designing the course and the outline of the digital environment. Concerning the teacher involvement, in all four studies there was a short introduction by the teachers taking place before usage. The students were instructed to visit the site where the web-based platform was hosted together with instructions of how to access and use it. Otherwise, there was limited teacher participation on the web-based environment. In Study I the students entirely designed their own interaction on their group wiki pages. However, in Study II the teachers were involved in one of the feedback activities. In Study II, III, and IV the educational design set up by the teachers in the introduction of each assignment geared the student activity.

The technology used in the studies was freeware, hosted outside of the university learning management system and consequently not originally created for learning purposes. The design of moving certain web-based educational features outside of the university environment is commonly applied in this type of educational environment when collaborative functionality is not sufficient in existing university systems (cf. Dippold, 2009; Lee, 2010

## DATA

The data of this thesis comprises the web-based ESP environments and what is elicited from the activities or the traces of activities that the students are engaged in. In order to understand the nature of the data, participants and background data are first introduced. Then follows a description of the data where the student written production in the form of web-based activities will be accounted for. Since the main target is student activities, postings were investigated after the termination of the course in order to scrutinize the postings in the state they were in when the students were interacting with each other. In all studies the posted student activities are the primary data used. Study IV also included interviews apart from investigating the students' posted peer review.

## PARTICIPANTS

The participants in the studies were engineering students from a Swedish technical university (see Table 1). In the first two case studies the students knew each other since they belonged to the same class and program at university. Some of the students knew each other very well since they were third year students who had participated in many courses together. In Study III and IV the students at the Swedish university knew each other from the same weekly class but came from different disciplines. However, the students had never met their peer partners in person in the intercultural exchanges between Sweden and the US.

## CONTEXTUAL DATA

Capturing the specific environment of ESP with engineering students, some background data was used, such as assignment and curricula documentation as well as background information in the form of observation of the student instructions and educational structures of the studies. Apart from participating in the online assignments the students also made some other contributions such as introducing themselves on wiki page. This is something that indirectly contributed to understanding the participating students.

## WEB-BASED ACTIVITIES

There are many methods of gathering data from student driven web-based environments. Some prominent ones are student observations, surveys or questionnaires posed to the students or interviews. Another method used is scrutinizing the traces of the posted activities with a targeted purpose, such as analyzing changes in the archived versions of wiki pages to investigate frequency of wiki page revisions (Arnold et al, 2009) and analyzing meaning-related changes (MRC) in student iterations on a wiki (Kessler & Bikowski, 2010). With web-based computer mediated communication technology data collection is frequently made of data generated by the users of the web-based tool, i.e. posts by the contributors. In Kessler's (2009) study for instance it is stated that the data is "provided by the wiki itself

rather than face-to-face observation” (p. 83). A common method of gathering data from online media is thus “facilitated by the “logging” capabilities that allow instantaneous capture and convenient access” (Sotillo, 2005). Arnold et al. (2009) made comparisons between archived versions of wiki web pages in their study of students in an advanced German course. In this way it is possible to follow what alterations were made, when they were made and by whom.

In this thesis, for the study of the wiki environment, the version handling of each web page provided saved versions of postings under the history link. The pages are chronologically listed where date, time, user name and changes made in colour coding are displayed. The web page mode invited users to add, develop and revise content within a joint text area.

Each wiki page was also equipped with a link to the discussion forum of that page. Whenever students posted text on the discussion forum, it was listed in chronological order, labeled according to title of post, author and number of replies, number of views and date. It was also possible to post replies under each subject. The discussion forum mode implies that users write content and make it visible next to previous contributions under threaded topics. The wiki was also used as a platform for uploading Word documents, as in Study IV.

For the study of the blogs in Study III, the blog platform contained an introductory web page on which the blogs were presented in chronological order with new entries at the top of the page, followed by feedback and accompanied by links on the side of the page

In sum, in Study I, II, and III, the posted web-based activities were text on in the web platform, either on the wiki pages, wiki discussion forums or in the blogs. In study four, students posted documents on the wiki pages with text versions. The files were picked up by the peers, commented on and uploaded again on the wiki.

## INTERVIEWS

In Study IV, individual video recorded interviews were made as a way to catch the learners’ reflections on the peer review process. These were aimed at understanding the process from the investigated persons’ point

of view, scrutinizing the meaning from their experiences (Kvale & Brinkmann, 2009). In line with prior studies of web-based collaboration for language learning purposes, the interviews were used as a complementary method (cf. Dippold, 2009; Lee, 2010) in combination with the method of online entries in the form of web-based activities. Each interview lasted for approximately 30 minutes.

Kvale (1996) has thoroughly discussed the interview setting and quality criteria applicable for interviews. One such criterion is keeping questions short and instead allowing for the subjects' to elaborate. Another central criterion is that the interviewer verifies the interpretation of the subjects' answers during the course of the interview. The setting triggered coherent accounts and descriptions by the students. It allowed for the students to feel free to reflect on the peer response situation.

The interviews were performed as an interactive dialogue with open-ended questions during the course of the peer collaboration as well as a follow up procedure after termination of the research project. The students were thus interviewed twice, in the middle of the exchange and after the completion of the exchange. Setting up the interviews twice facilitated capturing the student reflections while they were still topical. The interviews were aimed at displaying student reflections of the peer review procedure of giving as well as receiving peer response. The students were provided with the commented texts that the students had both given to their peers as well as received from their peer students. The questions were in the form of prompts opening up for the student to recall the comment work procedure. The same questions were posed in the first as well as in the second interview.

## DATA ANALYSIS

The data in the studies were collected by the author and colleagues of the author. The author was responsible for all phases of processing data and the data analysis. The author is familiar with the educational setting and student body through experience as a teacher of ESP courses as well as web-based environments.

In order to explore student activities taking place in the web-based environments, the student postings, both on the web pages as well as in the version handling system of the web pages were scrutinized. The investigation of the student postings took place after the termination of each course.

The analysis of the student activities was based on a close examination of the student postings. Through the fact that the activities were performed by means of web-based technology it was possible to follow the development of the student activities from the sequential organization of the postings.

The procedure for the analysis in the studies was categorizing the logged content into the forms of activities that the students were engaged in throughout the entire participation, from the first to last posting. In this way, the activities were scrutinized in the order that they appeared on the platform. Following an initial examination of the postings in their entirety, in the studies, each posting was scrutinized in detail, investigating the postings of each individual contributor and group in chronological order. The texts were systematically coded, tagged, and sorted into categories related to prominent, recurrent features and commonly distinguishable items in the postings. In the wiki version handling, green text indicates inserted new contributions, red indicates deletion, and white text implies unchanged text from the previous version. Since each contribution was traceable it was possible to follow the trail of a specific item and how it was intertwined with other items. The analysis is thus based on the formation of posted content developed by the participants. The data for each study was collected and analyzed before the next study was performed.

For the analysis of the student production in study four, the text assignment comments were categorized according to division of *type*, *area* and *nature* of comments (Liu and Sadler, 2003). In order to analyze the interviews, they were first transcribed verbatim and tagged according to what was topicalized by the students. Having both the student text comments and the interviews, gave two complementary sources of data, since the categorization of the text assignments gave an overview of the aspects of posted peer review and the interviews gave an insight into the student reflections of peer reviewing.

## METHODOLOGICAL CONSIDERATION

When new areas of research are introduced, such as Internet based interaction, it is vital to adopt research methods that suit ways of studying those areas (Markham & Baym, 2009). In the studies in this thesis, the student activities constitute the primary data. Due to the openness of web-based environments, everything that is posted is saved and can thus be accessed as a way of seeing both the posted assignments and also other information that the participants add. The version handling in the wiki with its colour coding and chronological threads of the blog environment makes it possible to see new text that writers and commenters have posted and whether previous text has been manipulated or not. The logged data facilitates scrutinizing the specific writing activities that the participants engage in. For investigating students' asynchronous work over a relatively long time-span, the logged versions of text serves the purpose well of seeing the progression in text revisions.

Even though mutual writing in the web-based environment implies taking turns contributing to joint ideas with others, the process around idea formation is not always visible in the text. This happens when students co-operate by entering a whole piece of text in one edit. What is seen in the wiki version handling system is text added without any intervention in the previous text. The text versions in the wiki are thus limited to displaying the text that has been posted and not the writing process. In other words, how participants enter versions of text has bearing on how it can be studied.

Concerning validity, the question of external validity is concerned with how conclusions are generalized beyond the investigated research context. For social research taking place in a natural habitat, ecological validity is used as a criterion concerned with how findings are connected to people's every day, social environment (Bryman, 2001). For qualitative research the intention is "to give accurate portrayals of the realities of social situations in their own terms, in their natural or conventional settings" (Cohen et al., 2007, p. 138). Studies of learner activity on web-based environments where learners are using the web as a platform to interact for learning purposes within an educational design, meet the criterion of ecological validity since it is a natural setting which does not involve artificial conditions which might be a risk in a controlled environment. It is vital to consider ecological

validity in natural settings since “The more the social scientist intervenes in natural settings or creates unnatural ones, such as a laboratory or even a special room to carry out interviews, the more likely it is that findings will be ecologically invalid” (Bryman, 2001, p. 29).

## ETHICAL CONSIDERATIONS

Concerning online data in the form of student web-based production, there are discussions of the issue of student consent (Dooly & O’Dowd, 2012; Kern, 2006). There are regulations of research procedures, which also apply in online research. When students use an online identity or user-name deviating from the proper name, the consent must be established to verify the right person. In the four studies, the students were requested to use their proper names to facilitate connections between their posted contributions to their written consent. The students were informed of the purpose and procedure of analyzing their web-based activities for research purposes. Adhering to the requirements in research within the humanities and social sciences by the Swedish Research Council of informed consent and confidentiality (Swedish Research Council, 2002), the participants were informed about the conditions of the research project. The participation was voluntary, giving the students the opportunity of discontinuing their participation at any time and without pressure to continue.

The participating students gave their consent to their web-based activities being used in accordance with the guidelines by the Swedish Research Council through consent forms that were agreed upon and signed by the students. In the third and fourth study involving collaboration between students from both Sweden and the US, a written agreement was signed on both sides by the partnering universities and students. This also complied with the regulations in the Application for Research Involving Human Subjects and the Institutional Review Board (IRB) in the US.

Despite the fact that the students had given their consent, in order to maintain confidentiality for ethical reasons the names of the students and their online user names have been altered in order to remain anonymous in the submitted articles and chapters, to avoid identification. Concerning the interviews, the contents were referred to without mentioning any names

at all, only whether the person was non-native English speaking or native English speaking and whether the person was from the Swedish university or from the American university.



## CHAPTER 6

# SUMMARY OF THE EMPIRICAL STUDIES

The following chapter gives an overview of the four empirical studies. The aims, context and findings of the studies will be presented.

### STUDY I

#### LANGUAGE LEARNING IN A WIKI: STUDENT CONTRIBUTIONS IN A WEB BASED LEARNING ENVIRONMENT

This study has its starting point in CALL from the perspective of the increasing use of online technologies and how this is connected to English as a foreign language education with engineering students. These technologies offer various modes of communicating when sharing posted content. Frequently, wiki-environments hold other functions than sharing content on common web-pages in open editing, such as discussion forums

anchored on each web-page where content is displayed under threads, such as in forums and blogs.

The purpose of this study is to investigate software engineering students' use of a wiki as a space for collaboration, integrated in their language learning course. The students were requested to form groups and create a group wiki page on the course wiki, link it to the course wiki navigation bar and use it for elaborating on course assignments. The use of the wiki was non-mandatory. Half of the student groups, 14 out of 28 groups, chose to use the wiki as their collaborative platform. The assignments were designed around three modules of the language course, where topical issues within software engineering would be dealt with within the group, to be finished for a fixed deadline. Thus, the research questions deal with student work in the two modes of writing on the wiki, the web pages and the discussion forum and 1) what forms of interaction can be seen there 2) what consequences the two modes convey for student interaction 3) from this interaction, what the implications are for language learning.

The data consists of student driven contributions on the course wiki in the 14 groups. The student activities on the wiki pages were analyzed by means of the version handling of each wiki page under the history link, hosting saved versions of interaction. The discussion forums were saved under each wiki page. The postings were in chronological order, with existing replies under each subject. The web pages were primarily used for adding, developing and revising content, whereas the discussion forums hosted text production, making it visible under threaded topics.

The findings show that the two usage modes, discussion forums and web pages, primarily host three types of activity; contributing and writing together, evaluating and peer reviewing, and arguing and discussing. Scrutinizing these three activities, they convey different ways of collaborating and sharing content online. The activity contributing and writing together implies that students produce text jointly by taking turns, revising and adding to each other's ideas. This activity is found under the group web pages, where versions of posted text were retrieved through the wiki version handling. The student revisions concerned both content and form based issues, suggesting that both communicative context and language system accuracy are in focus. The activity evaluating and peer reviewing implies students

taking turns evaluating and peer reviewing co-written text. This activity is found both in the discussion forum and on the group web pages. Just like in the previous activity, both formalist and functionalist aspects of language learning were in focus. The third and final activity, arguing and discussing implies inviting a person into a discussion. This is primarily found in the discussion forum and focused on discussing a topic where form and language had minor importance.

The outcomes show that once a group has chosen a mode for their collaboration, they tend to stay with it throughout their work process. Nine groups used the web page as their main meeting space and five groups used the discussion forum posting content under different topics. Six groups initially used both modes but quite shortly moved over to only adhere to one.

The students were using the wiki as a collaborative space as part of their language course, in taking turns collaborating around text, providing peer response and participating in discussion and argumentation. Regarding the activities on the wiki, it is possible to draw a parallel to Mercer's (2000) division of classroom talk, into "cumulative, disputational and exploratory talk" (p.102). "Cumulative talk" implies uncritical acceptance of what others say and co-constructing ideas, which is visible in the student activities. The other two, being engaged critically and constructively with each other's ideas, were also displayed in the wiki activities. When writing together, the collaboration changes the text character when getting diverse perspectives from different contributors.

When the use of the wiki is open for their own design, students tend to adopt it in ways that they are familiar with. An example of this is the discussion forum, which was not mentioned in the introduction of the wiki, but was adopted by the students themselves as their collaborative space in five out of the fourteen groups. Concerning peer feedback provided on the wiki from a language learning perspective, the students applied a combination of both form and content focused comments, which indicates that they pay attention to the fact that both aspects deserve attention in language learning. This suggests that a wiki offers possibility to develop both these competences, which is in line with what is raised about communication not being framed as one single skill (Kramsch, 2006).

## STUDY II

### RATIONALITIES OF COLLABORATION FOR LANGUAGE LEARNING IN A WIKI

This study is based on the notion that language learning takes place through interaction and in participation in joint activities. The starting point is the increase in number of online environments allowing for more user generated content and that more people meet online. This has implied that English is the lingua franca, which is an opening for interaction within language learning. Recent CALL discussions revolve around questions of how to make use of online technologies, such as wiki technology based on open editing, within language learning.

The purpose of this study is to investigate the written interaction that unfolds when engineering students are encouraged to participate in constructing joint text assignments and exchanging peer response on a wiki. Of primary concern is investigating how the interaction develops based on the student content production in relation to given peer feedback. The research focus is exploring what interaction unfolds in the wiki as an element in language learning.

Further attention is suggested on research focusing the character of the student interaction and the nature of collaboration related to linguistic accuracy, content and structure and development of reviewing skills, which is the objective with this study. The research questions addressed in this study concern 1) the interactive work students are engaged in when participating in an environment supporting user-generated content 2) the nature of the interaction regarding co-operation and collaboration 3) the potential of wikis for language learning.

Concerning the participants, all in all there were 25 existing groups consisting of 54 students. The data consists of archived versions of student peer group wiki pages accessed through the wiki version handling. It is possible to follow alterations made due to colour coding. The interaction was categorized according to the forms of interaction that the groups were engaged in, from first to last posting, a method applied in previous studies of wikis. The analysis has a multilevel approach, focusing on patterns of interaction and the nature of feedback. The framework of multiliteracies

(Cope & Kalantzis, 2000) offers a deepened perspective on collaborative work. First, the *situated practice* of a wiki provides a motivating space of interest for the learners. Next, *overt instruction* is the collaborative efforts between the participants on the wiki. The third component, *critical framing*, relates to the joint contributions when being creative and also questioning other people's ideas. The final component, *transformed practice*, signifies student reflection in showing their growing mastery.

The results show that contributions range from no visible interaction among students to a high level of text alterations. The lowest level of visible interaction on the wiki was found among five peer groups posting full pieces of text on their wiki page, not being altered on the wiki by any group members. Another five groups were co-operating around a joint theme, which implies that students produce pieces of text acting as individuals working parallel. In the version handling it is possible to see that there are only updates of newer versions where pieces of text have been added without author comments or interaction in the previous texts. The largest number of peer groups, 15 groups, engages in collaboration. This implies adding and refining ideas in joint interaction. Here, collaboration is defined as taking part in each other's ideas, evaluating and refining them. The writers are no longer individuals, but owners of the whole text together.

When following the updated versions of student collaboration, it is possible to see that the students improve their text style and communicative approach, which is part of the assignment. Also, the students are engaged in both formalist as well as functionalist work, focusing on both linguistic accuracy and communicative context.

In online collaborative language learning, peer feedback is a means of identifying strengths and weaknesses. With the use of new media, learners are accountable for taking charge of feedback, contributing with aspects together with teachers offering complementary suggestions. This study is designed for the teachers and students to give feedback to designated assignments, offering a variation in feedback provided for the students. The wiki allows students to find groups that have not been provided with feedback yet, providing recommendations and suggestions. There is a variation in the feedback given, displaying an attention to both formalist and functionalist competences, even if the findings show that there are more

linguistic comments. Concerning the content of the assignments, this is not controlled by the teachers. Instead, the students are encouraged to make their own design decisions.

The study shows how a web-based environment can enhance the quality and immediacy of feedback as well as facilitate the writing process. Since the students are invited to go straight into the text, this facilitates more commenting on a detailed level. This process that allows for more revisions to improve text production and collaborative work has a strong potential for language learning. The interaction is framed both by the wiki but also by what is expected from students as language learners in an English for Specific Purposes class environment.

When writing together, collaboration with contributions from diverse perspectives changes the dynamics not only of text production but the text in itself.

### STUDY III

#### A DESIGN FOR INTERCULTURAL EXCHANGE – AN ANALYSIS OF ENGINEERING STUDENTS' INTERACTION WITH ENGLISH MAJORS IN A POETRY BLOG

This study addresses issues in intercultural exchanges on web-based writing platforms in higher education. These recent forms of textual practice make students collaborators in an intercultural environment, preparing them for future careers where competences in language and communication are important features.

The purpose of the study is to explore the interaction that evolves in a blog when students in literature courses are engaged in a web-based poetry exchange between an American and a Swedish university. The students not only belong to different academic disciplines, but they also differ in terms of nationality and language background. The intercultural poetry exchange is part of two literature courses in Sweden and in the US. Starting on a forum and eventually moving over to the blog environment, the exchange has been part of the course design for several years. The design of the exchange has been refined and altered, each year with a well anthologized

American or Swedish poet. The objective for the students in the current exchange is to discuss and interpret three poems by the Swedish poet Tomas Tranströmer.

The study is set out to investigate blog interaction in an educational environment with two diverse groups of students. The data consists of blogs from the 36 participating students, 15 students of technology from the Swedish university and 21 literature students from the US, divided into seven blog groups. All in all, the exchange took place during a short period of time of less than two weeks where students should respond to three “letters” posted on the start page according to three deadlines. Thus, each student makes three postings in the blog of topics that they have put forward by themselves where the students respond to the poems by choosing words or central phrases to elaborate on as a theme of discussion. The students were also asked to respond to the other participants of the blog group. Even though the teachers set up the frames of the interaction in the blog, the blogging was student driven only.

The blog postings were scrutinized and systematically coded into categories according to prominent features in the postings, displaying four specific areas. The first area, *blogging in an educational environment*, concerns how the interaction unfolds when the students carry out assignments. The students are clearly following the instructions posted on the blog start page, fulfilling the given prerequisites and rarely deviating from the given instructions. The data shows that the students do not fully engage in content driven discussions, but adhere to the educational norms of following instructions. Thus, blogging in an educational context is different from blogging in an everyday context.

Concerning the second area of *displaying cultural belonging*, it is possible to see how the students’ cultural belonging becomes visible. There is great diversity in the two groups regarding discipline and background as well as nationality and experience in interpreting poetry. The discrepancy in the student body creates an interesting, dynamic mix which is used as a resource for the students’ understanding of cultural diversity. However, in the interaction process, the role of being a literature student or engineering student gradually became less important throughout the exchange. In

the blog posts, the students' cultural voices are heard, offering a meeting between very contrasting groups.

About the third area, *forming threads thematizing content and meaning of poems*, the students, shape the content of the blog together, by being engaged in the joint project of analysing poems. Threads of themes develop into a joint interpretative project. The level of activity is quite high in formation of threads where students interact in responding to each other's discussions. Even though the postings take different turns in different groups, there are a few recurrent topics brought up by all blog groups, such as connection to nature, selection of paths of life, and death.

The fourth area concerned *discussions of language and translation issues in an intercultural environment*. The students are engaged in differences in translation, which is a frequent matter brought up in the postings. The American students, who do not understand Swedish, understand the translated versions of the poems, while the Swedish students have access to the original Swedish version as well as the translations. This created discussions between the groups. In addition, the students use tools in their communication, such as emoticons, which alter the understanding of statements, downplaying strong statements in postings. The outcomes suggest that the asynchronous nature of a blog suits reflective writing well, such as poetry analysis.

The analysis shows that the student interaction across cultural borders was very intense. In spite of limited preparation, the students soon got used to the style of postings when discussing with their peers. In the student driven environment, the students were provided with detailed instructions of the frames of the exchange which gave them ample room to take initiatives and carry out discussions with the assignments. The diversity in student background together with local cultural settings and language issues were displayed throughout the students' postings.

Moreover, the results show that there are a number of features at play in an intercultural environment where language and translation issues are prominent parts of the student discussions, offering extended perspectives to the students' initial views. In the postings students position themselves and collaborate in the joint writing project aimed at negotiating meaning of concepts of the poems in a number of discussion threads. Collaborative efforts in such a diverse environment are important when negotiating meaning and extending students' understanding of poetry.



## STUDY IV

### PEER-REVIEWING IN AN INTERCULTURAL WIKI ENVIRONMENT – STUDENT INTERACTION AND REFLECTIONS

For language learning, using the web as a meeting space for interaction matches today's demands on language learners to develop skills in language and intercultural communicative competence (Byram, 1997; Guth & Helm, 2010). One of the important aspects of participating in intercultural exchanges is learning to master discursive expressions of cultures other than one's own. Being engaged in peer review activities of giving comments to others as well as receiving comments is a practice that is widely applied in language education. In the exchange in this study, students work with peer review as a way of developing discursive, linguistic, communicative as well as intercultural communicative competences.

The study investigates the peer review process when non-native English speaking international master's students at a Swedish university collaborate with native English speaking students at an American university to improve their technical writing and communication skills by giving and receiving peer comments on text assignments. The data consists of text comments in a wiki by six master's students from the Swedish university from five different countries, China, Ethiopia, Iran (2), Slovakia and Spain. The comments that the students gave and the comments the students received from their American peer partners were analyzed. In addition, the data also consists of interviews with the students concerning the peer review process.

In order to get a student perspective on peer review, of central concern is the commenting process and what forms of peer reviewing can take. The first question concerns what the collaborative activity of giving and receiving comments looks like and the second question deals with the students' experiences of participating in the exchange, i.e. the students' reasoning about the comments and what prominent aspects that are made relevant by the students. Consequently, the study addresses the research questions 1) what forms of peer review comments that are given and received by the students and 2) what the students' reflections are on peer reviewing.

The analysis of the student production was conducted according to Liu and Sadler's (2003) division of type, area and nature of comments. Concerning the interviews, individual video recorded interviews were made with the students twice. The first round took place after half of the exchange and the second round after the completion of the exchange. The students were provided with the commented texts and the same interview questions were asked during both rounds of interviews, serving as prompts for the students to recall the comment work procedure.

Scrutinizing the comments, the two most common areas of comments among the total number of 314 comments were *suggestion* (120 comments) and *evaluation* (114 comments). In addition, these two areas were also primarily *global*, implying that they were related to content items such as idea development, audience and purpose, and organization of writing. The non-native English speaking students make half as many comments overall than the native English speaking students and they were more comfortable commenting content rather than language. The comment area *alteration* was the third most common one with 48 comments. This area was exclusively *local*, pertaining to linguistic items in the text. The fourth and final area, *clarification* (32 comments) was global. Concerning the comment nature, most comments, 282 comments, were *revision-oriented*. This shows that a significant number of the comments were rich, being backed up by an argumentative motivation. This can be explained by the planning of the pedagogical peer review setting being an essential component.

The students' peer reviewing practice was scrutinized by analyzing their reviewing comments together with their reflections around the commenting. The results show that using a web-based environment as an interactive space inviting students to be producers of text comments, makes them more productive in communicating with their peers. A significant number of the revision-oriented comments are first introduced and backed up by an argumentative motivation, in line with what Belz (2003) suggests that more explicit comments are potentially more useful for peers. The high number of revision-oriented comments makes an exchange environment a potentially rich source of learning from various aspects of peer response in technical writing. This is connected to the fact that peer review activities

enhance the participants' process in developing sensitivity for intercultural aspects with others and critical cultural awareness.

The results show that being engaged in an intercultural peer review exchange gives an insight into understanding dimensions of feedback from other cultures, both outside of one's own disciplinary field and from another country. Variation in peer review offers diversity to text revision. In the interviews the students are quite occupied with the cultural aspects at play in approaching ways of writing and handling feedback together with native English speaking peers. Participating in peer reviewing exchange prepares them to get used to applying other styles that they are not used to, a conceivably enriching experience for their writing development.

There are potentials in developing a way of handling a multicultural meeting and be able to deal with situations different from previous ways of communicating. The students point at the essence of carefully considering how and what to share in a peer review situation when meeting peer partners online. Elaborating on formulations in comments and how they might be received was reported as a substantial part of the peer reviewing. It was expressed by the students that they will make use of the interaction from the exchange in future exchanges, connecting back to one of the core issues of intercultural exchanges of critical awareness as an important aspect of learning to master expressions of other cultures than one's own.



## CHAPTER 7

# DISCUSSION

The thesis is written during a period when CALL has embraced language learning in the digital age and where the web plays an increasing role as a space for interaction for language learning practice and research. The aim is to contribute to the understanding of how web-based environments can change the conditions for language learning.

The discussion presents the findings from the four case studies in relation to the question of how web-based language learning activities can contribute to the development of linguistic and communicative competences. This question was further divided into four research questions: There are four more specific questions: How are web-based technologies situated in language learning environments? What forms of activities and student interaction evolve? How can web-based peer reviewing contribute to language learning? How can intercultural exchanges contribute to language learning? Finally in this chapter, final reflections will be given.

## STUDENT INTERACTION IN WEB-BASED LEARNING ENVIRONMENTS

The studies display active student participation in the web-based environment. In Study I, the most active group on the wiki pages engage in as many as 22 versions of text. Also, on the discussion forum the most active group post 15 contributions on seven different topics. In Study II, the majority of all groups (15 out of 25) are engaged in collaboration on the wiki and a high number of groups co-operate. For Study III, the number of postings is regulated in the instructions of a set number of postings per student, which the students adhere to. In the final study, Study IV, the students are actively involved in responding through text, showing a high number of peer comments in their assignments. The seven students are involved in giving and receiving 314 peer comments for their assignments, which is an average of 45 comments per student. This is in line with previous research which has shown that since using web-based writing environments requires little specialized technical knowledge to operate, efforts can be devoted to developing skills in co-constructing content (e.g., Mak & Coniam, 2008; Arnold et al., 2009)

Taking the step from presenting and distributing information to social networking implies a challenge to foster learning through online collaboration (Kuteeva, 2011). The four studies in this thesis show a range of ways students use web-based environments for interaction in different activities such as discussing, collaborating and co-operating, and responding through text. The activities have their starting point in sharing web-based work spaces. Even though the students are encouraged to take turns editing and modifying their assignments jointly, the work is carried out in quite different ways depending on the technology. This is shown in Study II where the wiki pages call for more in-text alterations and commenting, whereas the discussion forum mode opens for parallel scrutiny of the posted threads.

Displaying different forms in which the interaction is enacted, diverse activities are mapped out on the wiki in the discussion forum mode and wiki page mode (Study I). One of the activities is *contributing and writing together*, which implies that students produce text jointly by taking turns, revising and adding to each other's ideas. The next activity, *evaluating and peer reviewing*, implies that students take turns evaluating and peer reviewing co-

produced text. Yet another activity, *arguing and discussing*, implies inviting a person into discussion and maintaining a conversation. It can be concluded that a certain mode of interaction lends itself to specific activities. For instance, contributing and writing together primarily takes place on the wiki pages and arguing and discussing in the discussion mode. There have been discussions of distinctions between written and spoken language (Barton, 2007; Halliday, 2007b) and due to the nature of the web-based environment being a writing environment drawing on spoken language, Neil Mercer's (2000) division of talk is applicable to the written activities. These three types of talk; cumulative, disputational and exploratory talk, are discussed in the wiki interaction in Study I. Cumulative talk, which implies uncritical acceptance of ideas of others, is found in most of the students' texts. A certain amount of disputational talk is seen in the student interaction in the discussion forum mode, where students debate each other's views. Exploratory talk, finally, where content is shared, building on previous ideas and making joint decisions is also found. The various types of talk make it possible to see the breadth in the students' collective endeavor.

In relation to research on collaborative work (e.g., Donato, 2004; Dillenbourg, 1999), the students are engaged in qualitatively different processes of interaction. In Study II, two forms of activities of writing together are displayed, co-operation and collaboration. Co-operation, implying individual posting to a joint theme, involves the least visible interaction. Here, the students express their views in a dialogic mode, taking turns posting ideas. Some of the contributions show more collaborative effort than others. Collaboration, on the other hand, is shown when students produce texts together and make alterations and additions in the joint texts. The results indicate that the collaborating groups produce more text versions than the co-operating groups, which gives a greater amount of text to generate ideas to work with. The more material there is to work with, the more practice students get at revising and refining content. This is also in line with ideas of the productive match between overproduction of text edits in combination with the traditional focus on grammatical and stylistic training in school (Jones, 2008). When writing together, collaboration with contributions from diverse perspectives changes the dynamics not only of text production but the text in itself. Collaborating by going into each other's text

has more potential for language learning since peer work can be performed at a very detailed level in the text. Dooly (2008) emphasizes that collaboration is more than co-operation since it means that students show mutual involvement.

The students are working collaboratively with their posted content. Considering the outcomes of research suggesting that students may be reluctant to altering peer texts (e.g., Mak & Coniam, 2008; Kessler, 2009), this is something that is not the case according to the present studies. A plausible reason could be the student body in this thesis, where the engineering students are used to having certain focus engaging in peer work in projects.

Discussing the progression in the student co-production from the point of view of the framework of multiliteracies (Cope & Kalanzis, 2000) (Study II), the wiki technology provides a space for the students to participate in interactive work, and inviting them to be both productive on their own as well as questioning others' work. This implies that through the process of working together, learners can gain new perspectives and knowledge, having a potential to lead to what Cope and Kalanzis (2000) refer to as transformed practice.

## FORMS OF PEER REVIEWING IN WEB-BASED LEARNING ENVIRONMENT

As far as engaging in scrutinizing ideas and work of others is concerned, the students are involved in peer work and peer reviewing activities. All four studies display forms of responding to peers and a variation in feedback connected to aspects such as web-based interaction mode, forms of negotiated comments as well as norms in feedback procedures. This dialogic mode of peer interaction invites for reflection among those involved. However, one of the studies, Study IV, was specifically designed as a study of peer reviewing. The peer reviewing is both facilitated and restrained by the web-based writing environments. At the same time as these environments are open and accessible, there are issues when used for peer response work in education (cf. Bonderup-Dohn, 2009). Curricula and assignments are confined as far as deadlines for interaction are concerned, reflected in the asynchronous web-based writing environment, which supports one user



contributing at a time. This implies that the students have to take turns and wait for one posting to be made before the next can be added.

The open character of the blog and wiki environment makes the students used to being exposed to others. For instance in Study II, the feedback procedure of responding to another peer group, taking part in others' ideas for feedback is part of the pedagogical design. By finding another group on the wiki to give feedback to, the students move between wiki pages and groups, seeing how other groups work, and giving the students additional ideas about commenting. Another example is the blog exchange in Study III, which is based on the students taking part in peer postings in order to respond to and reflect on discussions. The students from the Swedish university first express unfamiliarity in joint interpretation of poetry, something that they soon get used to. These two examples display ways of being part of online learning experiences, where students gradually get used to participating in web-based activities.

Concerning forms of comments taking place in the interaction, students get familiar with ways of approaching others through peer review (Study IV). Most comments are revision-oriented global suggestions and evaluations. This implies that the students mainly engage in comment types related to content which call for elaboration, both by those who are providing the comments in formulating specific issues in the text as well as for the receivers who will make use of such comments. As far as more language related comments are concerned, linguistic comments pointing at places in need of alteration, are most frequent in Study II with only non-native English speaking students. This may indicate that non-native English speaking students would rather give language related comments to their own peers than to native English speaking peers. However, there is another explanation. The in-text comments made by the groups in Study II were global, content-related and local, language related with an overall comment at the end. This reflects the teacher design of feedback procedure of embracing both content and language in giving response to text.

## INTERCULTURAL EXCHANGES AS PART OF A PEDAGOGICAL DESIGN

In the last two studies (Study III and Study IV), the students are engaged in intercultural exchange interaction based on content based discussions. The difference between the students stands out as the driving force for the discussions, creating a dynamic environment. For the students, the web-based setting offers a diverse language learning environment. In the two studies, English is not the mother tongue for any of the students at the Swedish university and the interaction takes place in English as the lingua franca, which is commonly the case on the web (Seidlhofer, Breiteneder, & Pitzl, 2006). The texts and postings are all in English apart from some of the poems in Study III, where the original Swedish poems are given together with English translations. Concerning language differences, the issue of how to deal with translations and negotiating meaning is frequently identified by the students.

The blog environment in Study III caters for inviting to commentary and to descriptions of events. The web-based activities are driven by the assignments of interpreting poetry and how discussion themes are brought up. Disciplinary background and cultural belonging is topicalized in the interaction in the two intercultural exchange studies. The analysis of the postings demonstrates how the students position themselves by mentioning their disciplinary and cultural background to the peers. It is as much the collaborative efforts as the specific backgrounds of the participants that are important for negotiating meaning of poems. For these students, trying to make sense of others' perspectives is a complex matter connected equally to single conditions in the poems as well as to an array of intertwining cultural aspects brought forth in the postings. For Study III, which takes place in a limited period of time of less than two weeks when the students are engaged in the reflective discussion of poems, the students display progress in referring to both cultural aspects as well as negotiating meaning of the themes in the poems, such as man's connection to nature, selection of paths of life and issues concerning death. The analysis shows that students are capable of giving valid response to each other when analyzing complex topics jointly.

Collaborating in the form of an intercultural peer review exchange in a wiki, as shown in Study IV, allows students to be part of a process of commenting peer partners' texts. The data shows that the students gradually embrace skills of interpreting events from other cultures by communicating online. It is also stressed by Helm and Guth (2010) that critical cultural, literacy and language awareness are important aspects of learning to master expressions of other cultures than one's own. In the interviews, the students report that they enhance their own process of understanding dimensions of feedback when engaging in the intercultural peer review exchange from someone from another country, with another language background and disciplinary field. The variation in peer review, receiving feedback from and giving feedback to different people, brings diversity to text revision. Even though not all comments are regarded as useful by the students, they find it valuable to see how their texts are received by native English speaking peers as well as their own non-native English speaking peers. In a web-based environment, the planning of the pedagogical peer review setting is an essential component in order to give a significant number of rich comments backed up by argumentative motivation. Careful preparation prior to peer reviewing is also something that is underlined in existing research (e.g., Arnold, Docate, & Kost, 2009; Chang, 2012; Guardardo & Shi, 2007; Min, 2006). Through the intercultural exchange, the students work on their commenting and communication skills. One aspect is how the feedback is enacted, embracing norms from the collaborating peer groups. The outcomes show that the students found it vital to consider how to approach and deal with ways of giving peer response to persons with different backgrounds.

The results (Study IV) display examples corresponding to the framework of Intercultural Communicative Competence (Byram, 1997) as developed to embrace online contexts (e.g., Dooly, 2011, Elola & Oskoz, 2008, Liaw, 2006) and also the areas of new online literacies and language learning (Helm & Guth, 2010). The students participate in the online environment where they interpret events, relate them to their own culture and critically evaluate the interaction. These observations can be understood in terms of Rogoff (1995) that learning implies growing into a certain type of participation pattern.

## WEB-BASED ENVIRONMENTS AND THE DEVELOPMENT OF LANGUAGE COMPETENCES

The language learning that takes place in web-based environments concerns aspects of being a competent communicator in a global environment (Kramsch, 2006). In this thesis, there is a focus on ESP aimed at developing competences for lifelong learning such as language communication, digital competence and cultural awareness and expression (European Union, 2006). Even if communicative language competence, embracing linguistic, sociolinguistic, and pragmatic components, implies taking a step beyond the four basic language competences commonly targeted in education, i.e. listening, reading, speaking and writing (CEFR, 2012), there is still a prevailing distinction between language as content in communication and language as form and system in language learning education (Halliday, 2007d). This distinction is connected to the curriculum for the ESP courses as well as how the students engage in the web-based activities.

Web-based 2.0 technologies were originally designed to be used in social ways of interaction and sharing of content. The adaptation of such an environment for pedagogical purposes can sometimes be contrary to the original intentions of the web-based environment. For instance, from originally being intended for allowing participants to add, modify, or delete content through a web browser (Leuf & Cunningham, 2001), one such modification of wikis is using them as designated spaces for interaction within groups, which is shown in the studies of wikis in this thesis. In the studies, the wikis are designed for a specific purpose, for instance for peer reviewing (Study IV). Also for blogging, originally created for self-presentation and self-expression, there has been a shift into more co-constructive areas, using it as a tool for interaction and peer response (Dippold, 2009; Godwin-Jones, 2006; Murray & Kennedy, 2010; Lee, 2010). The blog setting and content together guide what the outcomes will be. When used for a specific purpose, for instance in poetry analysis (Study III), a blog was a productive space for student collaboration and peer reviewing.

There is a discrepancy between the type of language activities traditionally connected with language learning performed in the classroom and the

language learning activities taking place on the web. Leaving the use of web-based environments open for students to use in their language courses, they tend to apply more or less established ways of using social media in functionality and modes of communication. This is displayed in Study I; although the wiki pages are introduced as a joint work space for interaction, the students also use the discussion forum connected to the wiki pages, even though this was not part of the instructions. This results in a division of groups using the web page mode and groups instead using the discussion forum mode for interacting on the wiki.

At the same time as students tend to stick to the familiar, they adhere to pedagogical conventions. This is prominent in Study III, when a group of students have completed their assignment of posting to the poetry blog leaving a question in the blog discussion unattended to. The analyses display an interesting pattern indicating that the students keep to the educational norms of finishing an assignment rather than being driven by discussing the content in educational blogging. Approaching fellow students, fulfilling assignments and guidelines take precedence over finalizing content related discussions.

The results confirm outcomes of research on the shifting focus of embracing collective ownership in open user driven web based environments in language learning (e.g., Lund & Smørdal, 2006; Mak & Coniam, 2008). The role of students in charge of web-based activities in the presence of the teacher and being responsible for communicating joint ideas and suggestions with fellow students, sometimes even with native English speaking peers, is something that is uncommon in traditional language learning (Hyland & Hyland, 2006). The studies show that the students get used to web-based collaborative writing over time. This is particularly visible in Study II, where the students take turns posting to the assignment well ahead of the deadline once they have understood the conditions of participation in the web-based environment.

The studies show that peer activities display a combination of both global content related and local language related items. Study I shows that there is a difference in usage modes since the web pages have more of a form and structure based focus and peer activities on the discussion forum entail linguistic and content related activities. When peer response is tar-

geted at joint production and evaluation of content, there are both content and language related items at play, such as in Study II and Study III. Only in certain activities geared at arguing and discussing, does language form plays a minor role. However, when the peer response is geared at commenting on peer-produced content from native-English speaking peers, such as in Study IV, this study shows that content related items take precedence over language related matters.

## FINAL REFLECTIONS

There are a number of aspects to take into consideration when introducing language learning on the web. When web-based technologies, not originally designed as pedagogical tools are brought into learning environments, the pedagogical relevance can be debated (Beetham & Sharpe, 2007). It cannot be taken for granted that just by introducing web-based environments the learners know how they can be applied in language learning (e.g. Dippold, 2009). From the case studies in this thesis, outcomes show that a bottom-up perspective, from the point of view of the users, can display usage that is not always predicted beforehand. The data shows that the user co-production subsequently shapes the interaction when engaging in common endeavours. This displays that interaction is open-ended in a way that is different from language learning in classroom.

For the learners, the properties of the technology have bearing on how it is made use of. The inherent functionality of the asynchronous technology steers the interaction, sometimes restraining users from participating. The technologies in the studies allow one contributor to post at a time, which is one such restraint that has an effect on the interaction. On the other hand, this provides users time for reflection in considering what to be posted next. In addition, this type of technology invites to abundant production of content (Jones, 2008), allowing for peer revision and joint elaboration of text, which is productive for language learning. From the high number of versions of updated text and comments in the four studies, the use of such environments supports this conclusion.

By means of interacting with others, the web-based environments offer opportunities to develop discursive competences in language learning and

communication and critical cultural awareness. The technology can facilitate encounters where learners are contributing in ways not easily achieved in traditional classroom environments. Meeting learners from other cultures who contribute with experiences different from the students' own, provides insights, where new aspects of language learning are introduced (Study III and Study IV). By engaging in interaction of a joint theme, such as analyzing poetry (Study III), there are a range of aspects such as sharing content and providing ideas of translation to be negotiated. When contributions between learners are intertwined with peers from another cultural background, they are taken a step further. Another way of displaying targeted attention in an intercultural exchange interaction is having a focus on peer reviewing of text (Study IV). Working in-depth with peer response activities where comments are both given and received add important dimensions to language learning.

This thesis shows dimensions of interaction in web-based environments for language learning purposes, adding to claims of the need of fostering learner collaboration. The interaction in the studies ranges from letting learners make use of the digital environment to more targeted interaction where assignments are specified. The web-based environment proved to be dependent on such matters as confines of the educational framing and the user experience of such environments. The design of the learning environment in how it is set up is strongly connected to the nature of the interaction. Since emerging web-based tools generally require low level technical skills, they give room for developing elaborated writing skills. A major strength of introducing web-based tools in language learning is that the individual production can be made use of by other participants in responding and developing ideas and content in ways that are beneficial for language learning.





## CHAPTER 8

# SWEDISH SUMMARY

### SPRÅKLÄRANDE OCH TEKNOLOGIER STUDENTAKTIVITETER I WEBBASERADE MILJÖER

Bakgrunden till denna avhandling är ett intresse för hur det ökade användandet av internet och webben påverkar hur man lär sig språk. I takt med att tillgängligheten på internet ökar, blir allt fler engagerad i sociala och kommunikativa aktiviteter över språkliga och kulturella gränser och delaktiga i att skapa användargenererat innehåll. För forskning om språklärande såväl som för språkundervisning innebär detta förändrade förutsättningar. Användande av webbaserade teknologier ger nya förutsättningar för språklärande, där lärande i ökad utsträckning äger rum i andra sammanhang än i det traditionella klassrummet. På sikt kommer detta sannolikt att förändra det sätt som vi lär oss språk på (Kern, 2006). Denna avhandling syftar

till att bidra till förståelsen av hur webbaserade teknologier, som utvecklats för andra sammanhang än utbildning, kan förändra betingelserna för språklärande när de används inom ramen för högre utbildning. För teknologer är engelskan ett viktigt arbetsspråk och därför är fackspråklig engelska en utgångspunkt när man kommunicerar med andra.

I en globaliserad värld där människor i en ökande grad kommunicerar på nätet och där medieutbudet överskrider traditionella kulturella och språkliga gränser har engelskan alltmer blivit ett gemensamt språk, ett "lingua franca". I det utbildningssammanhang som studeras, teknologutbildning, är engelskan ett viktigt arbetsspråk. Avhandlingens språkliga fokus är lärande av fackspråklig engelska.

Perspektivet på vad som utgör språkliga kunskaper och kompetenser har under de senaste decennierna vidgats. Detta reflekteras i policydokument från internationella organisationer. Ett exempel är de nyckelkompetenser som är framtagna av EU (European Union, 2006). Ett grundläggande begrepp som *literacy* har fått en utökad betydelse. Från ursprungsbetydelsen "läs-och skrivkunighet" har literacybegreppet vidgats, bland annat genom tillägget av ett antal prefix. Begrepp som media literacy, digital literacy, visual literacy är alltmer vanliga i läroplanssammanhang. En annan utveckling av tänkandet kring språkighet reflekteras i begreppet "new literacies" som betonar sociala och kommunikativa aspekter av språklig kompetens (Barton, 2007; Lankshear & Knobel, 2008). Detta har medfört att perspektivet på vad som utgör språkliga kunskaper och kompetenser har vidgats, vilket är i linje med den samtida betoningen av nyckelkompetenser framtagna av EU (European Union, 2006).

Kulturella utbyten över internet är också något som ökar i omfattning, både i professionella och privata sammanhang. I utbildningssammanhang är det alltmer vanligt med student- och lärarutbyten och utbyten på kursnivå. Genom att möta studenter från andra länder, får man möjlighet till att fördjupa en rad olika språkliga kunskaper eller literacies. För språklärande innebär det möjligheter för studenter att exempelvis behandla teman och texter där det gemensamma språket är engelska och reflektera över kulturella förutsättningar för kommunikation och interaktion.

En trend i den utveckling vi ser i det moderna samhället är en stark betoning av deltagande i socialt organiserade verksamheter på nätet,

så kallad social networking. En dimension i detta, som också reflekteras i utbildningssammanhang, är att deltagande sker genom att man bidrar genom att producera något i samspel med andra. När man kollektivt blir delaktig i att skapa innehåll tillsammans förändrar det villkoren för lärande (Lund; 2010; Thorne & Black, 2007).

## SYFTE OCH FRÅGESTÄLLNINGAR

Avhandlingen syftar till att bidra till förståelsen av hur webbaserade miljöer kan förändra betingelserna för språklärande. Med denna utgångspunkt ställs frågor om vilka aktiviteter som utvecklas när webbaserade skrivmiljöer, såsom bloggar och wikis, integreras i högre utbildning inom undervisning i fackspråk för teknologer (English for Specific Purposes), vilket leder fram till den övergripande forskningsfrågan:

- Hur kan webbaserade språklärandeaktiviteter bidra till att utveckla språkliga kompetenser?

Utifrån den övergripande frågan har fyra mer specifika frågor formulerats, om hur teknologin integreras i undervisningen, om vilka aktiviteter som utvecklas, hur studenter interagerar, samt hur specifika inslag i de pedagogiska upplägga som undersöks fungerar:

1. Hur situeras webbaserade teknologier i språklärandemiljöer?
2. Vilka former av aktiviteter och interaktion utvecklas?
3. Hur kan webbaserad ”peer reviewing” bidra till språklärande?
4. Hur kan ett utbyte över kulturella gränser bidra till språklärande

Avhandlingen bygger på fyra empiriska studier av olika undervisningsupplägg. Dessa studier fokuserar forskningsfrågorna på olika sätt.

## TEORETISK INRAMNING

Avhandlingen tar sin teoretiska utgångspunkt i ett sociokulturellt perspektiv på lärande och är skriven inom forskningsområdet Computer Assisted Language Learning (CALL). Detta område omfattar forskning kring olika sätt att använda datorer eller digitala teknologier för språklärande, från studier av program särskilt utformad för språklärande till generiska verktyg och miljöer för kommunikation, interaktion och produktion av multimodala texter.

Även för CALL-området har en av de stora milstolparna inom forskning om andraspråksinlärning, den så kallade "kommunikativa vändningen", haft stor betydelse (Hymes, 1974). Denna betonade vikten av kommunikativ kompetens med en mer social och kontextuell syn på språk, snarare än språkets form, fritt från kontext. Från ett sådant perspektiv handlar lärande om att delta i sociala sammanhang genom att använda språket (Firth & Wagner, 1997, 2007; Lantolf & Johnson, 2007; Kern, 2006). Språket ses då både som ett system och som en aktivitet (Hanks, 1996, xiii).

En central teoretisk utgångspunkt för avhandlingsarbetet är att lärande och utveckling är socialt situerat (Vygotsky, 1986). Ett centralt begrepp som beskriver förhållandet mellan lärande och utveckling som socialt är Zone of Proximal Development (ZPD) (Vygotsky, 1978, 1986), vilket är skillnaden mellan vad man kan lära sig på egen hand och vad som är möjligt att lära sig genom vägledning av en mer kompetent person.

Språk ses i detta perspektiv som en medierande resurs och lärande av språk som en socialt situerad meningsskapande aktivitet (Vygotsky, 1986). Språklärande sker genom deltagande och i dialog med andra i ett kulturellt sammanhang. I ett dialogiskt perspektiv blir själva samspelet eller interaktionen i en kommunikativ situation i fokus. Dialogen har en egen dynamik som överskrider de enskilda deltagarna. Den kan inte betraktas som överföring mellan enskilda deltagare utan är en komplex process där yttranden bygger på varandra (Linell, 2003; Rommetveit, 1974). Dialoger är också något som sker inom sociala och kulturella ramar, inom verksamheter och aktiviteter som har institutionella och historiska rötter. Den tematik som studeras i denna avhandling befinner sig i ett gränsland mellan utbildning som institutionell aktivitet och deltagande i mer eller mindre informella nätaktiviteter.

En teoribildning som varit viktig för avhandlingen har utvecklats av Rogoff (1995). Denna teori bygger på Vygotsky och artikulerar komplexiteten i lärandets sociala och institutionella natur. Individens utveckling förstås som ett samspel mellan de tre utvecklingsplanen lärlingskap (apprenticeship), guidat deltagande (guided participation) och deltagande-appropriering (participatory appropriation). Språk som en ömsesidig process innebär appropriering, det vill säga att man gör en gemensam angelägenhet till sin egen i kommunikation med andra (Wertsch, 1998).

## FORSKNINGSÖVERSIKT

För att ge en vidare bakgrund till avhandlingens studier, tar forskningsöversikten upp språklärande och skriftlig kommunikation i digitala och webbaserade miljöer. Först behandlas forskning som berör teman och problem kring och i webbaserade teknologier som används i språklärande och undervisning. Fokus ligger på studier som belyser studenters användande av asynkron webbaserad teknologi i form av bloggar och wikis. Den andra delen tar upp forskning kring återkoppling och peer review inriktad på studenters nätbaserade aktiviteter. Den tredje delen fokuserar på studier av interkulturella utbyten via nätet.

Forskningen visar hur webbaserade miljöer ger ett ökat oberoende utanför klassrummet. Fokus ligger på mottagaren och dennes förståelse av det innehåll i form av texter som delas. Den ökade textproduktionen innebär att komplexiteten ökar i det som skrivs, vilket i sin tur innebär att betoningen ligger på innehållsförståelse, där bearbetning av text och responsarbete får en mer framträdande plats, snarare än språkets form. När ansvaret förskjuts så att studenterna tar ansvar för återkopplingsprocesser så får dessa en större betydelse, vilket ändrar traditionella former för hur återkoppling har organiserats. Då studenterna blir resurser för varandra i responsarbetet, blir också övning i peer review i sig ett viktigt inslag i undervisningen.

Av betydelse för avhandlingen är även forskning som behandlar interkulturell kommunikation för språklärande på nätet. Målet för sådana undervisningsformer är att utveckla studenters kommunikativa förmåga, interkulturella lyhördhet och oberoende. Forskningen inom detta område studerar framförallt interkulturella möten där studenter ges möjlighet att

delade erfarenheter kring en egen eller en gemensamt producerad text. De empiriska studierna visar att lärandeprocesser ofta genereras av att deltagarna har olika kulturell bakgrund och att det är ett mervärde att få tillgång till andras perspektiv på innehåll och form. Forskning kring interkulturella utbyten pekar på att sådana miljöer på sikt kommer att förändra synen på skrivande.

Tidig empirisk CALL-forskning om webbaserat språklärande på nätet var i huvudsak inriktad på småskaliga studier av för- och nackdelar med nya teknologier, från såväl lärar- som studentperspektiv. I allt större utsträckning uttrycks ett behov av forskning som undersöker betydelsen av studenters deltagande där samarbete, deltagande och skapande får en större roll. Under senare år har fokus alltmer inriktats mot kommunikationsmönster och vad samarbetet betyder för lärande mer specifikt (Felix, 2005; Lomicka & Lord, 2009).

## SAMMANFATTNING AV DE FYRA STUDIerna

### STUDIE I

I Studie I med titeln *Language learning in a wiki: Student contributions in a web based learning environment*, undersöks användningen av en wiki som samarbetsplats, integrerad i en språkkurs. Forskningsdesignen var utformad så att studenter erbjöds att använda wikin som en plats där de kunde arbeta med kursuppgifter tillsammans med andra kursdeltagare. Studenterna ombads att bilda grupper och skapa en wikisida för gruppen för att sedan använda den som mötesplats för gruppens interaktion.

De forskningsfrågor som rör denna studie handlar om vilka former av interaktion som studenterna ägnar sig åt och vilka konsekvenser wikins två sätt (modes) att mötas på, wikisidor eller diskussionsforum, har för studenternas interaktion och möjligheter för språklärande.

Av de ursprungliga 28 grupperna valde 14 att använda wikin som plattform. Texterna fanns bevarade i form av sparade versioner på wikisidor som kunde nås via wikins versionshanteringsystem. Studenterna använde antingen wikins webbsidor eller det diskussionsforum som var länkat till

varje wiki-sida. När en grupp väl hade valt ett mötessätt, tenderar de att hålla sig till det under hela arbetsprocessen. Nio grupper använde webbsidan som sin mötesplats och fem grupper använde wikins diskussionsforum.

Studentaktiviteterna kan delas in i tre specifika aktiviteter. I den första bidrar studenterna med text och skriver tillsammans, vilket innebär att studenterna producerar text gemensamt genom att turas om med att revidera innehåll och att lägga till bidrag till den gemensamma texten. Denna aktivitet återfinns på wikisidorna där studenterna förhåller sig till både språkets innehåll och form när de kommunicerar. Den andra aktiviteten handlar om att utvärdera samt att ge och ta emot respons från andra, där studenterna samproducerar, granskar och kommenterar texten. Denna aktivitet finns både på wikisidorna och på diskussionsforumet. Även här är både språkets innehåll och form i fokus. Den tredje aktiviteten handlar om att argumentera och diskutera, vilket i första hand finns i diskussionsforumet. Inom denna läggs betonas språkets form i mindre utsträckning.

Mercers (2000) indelning av muntlig interaktion ”cumulative, disputational and exploratory talk” återspeglas även i webbaserad interaktion. Dessa tre typer av interaktion kan ses i wikin där kumulativt tal, dvs att okritiskt acceptera andras idéer som har byggts upp i texterna är mest vanligt förekommande. De andra två interaktionsformerna ”disputational” och ”exploratory” förekommer också, vilket innebär att deltagarna både kan ifrågasätta varandras bidrag och gemensamt utforska alternativa lösningar.

## STUDIE II

I Studie II med titeln *Rationalities of collaboration for language learning in a wiki* undersöks hur samproduktion och deltagande i gemensamma aktiviteter på en wiki relaterar till språklärande. I denna studie bygger studenterna gemensamma texter på wikisidorna. Studenterna uppmanas att arbeta med gemensamma utkast och återkoppling kring olika teman. I studien analyseras hur samverkan kring ett innehåll utvecklas på wikin. De specifika forskningsfrågorna handlar om vilket interaktivt arbete som utförs när studenterna deltar i en miljö som stödjer användargenererat innehåll, hur interaktionen

ser ut mer specifikt på ett samverkans- (co-operation) och på ett samarbetsplan (collaboration) och hur detta kan bidra till språklärande.

I studien deltog 54 studenter fördelade på 25 grupper. Liksom i Studie I analyserades alla textversioner i versionshanteringssystemet. Resultatet visar att studenternas arbete kring texterna varierar från ingen synlig interaktion mellan studenterna till ett stort antal textförändringar. Den minsta synliga formen för interaktion på wikin återfanns bland fem grupper som lagt en hel text på sin wikisida och som inte ändrats av någon gruppmedlem. Ytterligare fem gruppers interaktion utmärks av samverkan (co-operation), vilket innebär att studenterna producerade olika texter parallellt, som de sedan lade samman till en hel text. Analysen av versionshanteringen visar att uppdateringar av nyare versioner har skett där bitar av text har lagts till utan att någon av författarna har kommenterat. Det största antalet grupper, 15 grupper, interagerar på ett sätt som klassificeras som samarbete (collaboration). Detta betyder att man tar del av varandras idéer, utvärderar och förfinar dem gemensamt (Dillenbourg, 1999, Donato, 2004). Författarna "äger" med andra ord hela texten tillsammans. I versionshanteringen kan man se att studenterna utvecklar både sin textstil och kommunikativa strategier genom textarbetet. Studenterna lägger inte bara till egen text utan ändrar på många olika ställen i den gemensamma texten. Dessa ändringar handlar om både form och innehåll. Resultatet visar att de 15 grupper vars interaktion utmärks av samarbete är mer aktiva med ett större antal redigeringar. Att ha möjlighet att gå in i varandra text innebär att det gemensamma skrivandet kan utföras på en mer detaljerad nivå i texten. Ett av momenten i arbetet med texterna är att grupperna ska ge återkoppling till varandra. Då ger studenterna mer språkliga kommentarer. Resultatet visar att en webbaserad miljö ger möjligheter att förbättra kvaliteten och omedelbarheten av feedback, vilket utgör ett stöd för skrivprocessen.

Studenternas samproduktion i den här studien kan förstås utifrån Cope och Kalanzis (2000) ramverk för "multiliteracies", vilket ger en fördjupad bild av vad samarbete innebär. Wikiteknologin ger möjlighet till en gemensam textprocess, vilket innebär att studenterna erbjuds möjligheter att vara kreativa men samtidigt ifrågasättande kring den gemensamma texten. Detta ger i sin tur förutsättningar för studenterna att bredda sin språkliga kompetens.



### STUDIE III

I Studie III med titeln *A Design for Intercultural Exchange – An Analysis of Engineering Students' Interaction with English Majors in a Poetry Blog* undersöks ett interkulturellt utbyte där kursuppgifterna består i att tolka poesi via en blogg.

Syftet med studien är att undersöka vilka former för interaktion som utvecklas på en blog när studenter från två olika litteraturkurser, en i USA och en i Sverige, är engagerade i tolkning av poesi. Studentgruppernas bakgrund skiljer sig dels åt i fråga om akademisk disciplin men även i fråga om nationalitet och språkbakgrund. Kursen har getts i flera år och varje år har en amerikansk eller svensk poet tagits upp för tolkning. Målet för studenterna i det aktuella utbytet är att diskutera och tolka tre dikter av Tomas Tranströmer.

Data i denna studie består av blogginlägg från 36 studenter, 15 teknologstudenter från ett svenskt universitet och 21 litteraturstudenter från USA, vilka var indelade i sju blogggrupper. Det stod studenterna fritt att ta upp ämnen i relation till dikterna och utveckla teman för diskussion. I analysen av blogginläggen framstod fyra områden: Det första området handlar om innebörden av att blogga i en pedagogisk miljö. Utbildningens ramar för bloggningen syns tydligt i studenternas interaktion. Studenterna är noga med att följa instruktionerna som publicerades på startsidan och de avviker sällan från dessa. Ett exempel visar att studenterna har avslutat sin blogguppgift men lämnar en obesvarad fråga i bloggdiskussionen som ingen annan student besvarar. Detta visar att när man bloggar inom en utbildningsmiljö så har de pedagogiska normerna, att följa deadlines osv, högre prioritet än innehållet, vilket sannolikt hade varit brukligt i en vardaglig blogg-situation.

Det andra området handlar om studenternas kulturella och disciplinära bakgrund. Den visar sig i hur de introducerar sig själva och hur de lyfter fram sin språkbakgrund och utbildningsintressen i samband med att de berättar om sin erfarenhet av att tolka poesi. I interaktionen görs studenternas kulturella bakgrund relevant, vilket visar hur nya möjligheter för lärande kan skapas i möten mellan nationella, språkliga och disciplinära gränser.

Det tredje området tar upp hur diskussionstrådarna utvecklas när studenterna tematiserar innehållet och betydelsen av dikterna i den gemen-

samma tolkningen. Vissa teman tas upp av alla bloggrupper, såsom koppling till naturen, människans val av vägar i livet och frågor om döden.

Det fjärde och sista området handlar om hur språk och översättning hanteras av studenterna. Den interkulturella miljön bidrar till att studenterna involveras i översättningsproblematik och skillnader i ord och frasers innebörd. De amerikanska studenterna, som inte förstår svenska, är beroende både av de översatta versionerna av dikterna och av de svenska studenternas tolkningar, medan de svenska studenterna har tillgång till såväl den ursprungliga svenska versionen som översättningarna. Detta ger upphov till diskussioner mellan grupperna. Uppgiften i bloggmiljön innebär ett aktivt deltagande från studenternas sida och visar att den asynkrona teknologin passar reflekterat skrivande väl, såsom till exempel poesianalys. Att delta i sådana former av textarbete i en interkulturell miljö bidrar också till studenternas engagemang. Det ger dem möjlighet till att förbereda sig för en framtida karriär där kompetens inom språk och kommunikation i interkulturella sammanhang är viktiga kompetenser.

#### STUDIE IV

I Studie IV, med titeln *Peer-reviewing in an intercultural wiki environment – student interaction and reflections*, undersöks vilka typer av kommentarer studenter ger och får samt deras reflektioner kring peer review i en interkulturell miljö. Ett av de viktigaste målen med interkulturell utbyte i språkundervisning är att lära sig behärska diskursiva uttryck i andra kulturella sammanhang än de egna (Byram, 1997, Guth & Helm, 2010). Att vara engagerad i återkoppling i form av *peer review*, där man ger kommentarer på andras texter och tar emot kommentarer på egna texter, är en metod som ofta tillämpas i språkundervisning (Hyland & Hyland, 2006).

I denna studie undersöks peer review där studenter som har engelska som främmande språk vid ett svenskt universitet samarbetar med engelskspråkiga studenter vid ett amerikanskt universitet. Utbytet sker inom ramen för kurser i teknisk kommunikation (technical writing). Studien syftar till att undersöka vilka former av kommentarer som ges och tas emot av studenterna på det svenska universitetet samt hur studenterna själva reflekterar kring att ge och få kommentarer.

I studien medverkade sex masterstudenter från ett svenskt tekniskt universitet, vilka kom från fem olika länder, Kina, Etiopien, Iran (2), Slovakien och Spanien. De presenterade sig på en gemensam wikisida och laddade sedan upp sina texter i dokument på wikin så att de kunde kommenteras av de amerikanska studenterna. De amerikanska studenterna laddade upp sina texter på samma sätt.

Studenternas kommentarer, både de som gavs och de som togs emot, analyserades och kategoriserades. Vid analysen användes Liu och Sadlers (2003) kategoriseringsmodell där varje kommentar delas upp utifrån typ av kommentar, område och granskningsmöjlighet (type, area, nature). Dessutom delas kommentarerna in i globala kommentarer, vilket innebär att de var relaterade till innehållet såsom idéutveckling, målgrupp och syfte och organisation, och lokala kommentarer, vilka var relaterade till språk och form.

De två vanligaste kommentartyperna, av de totalt 314, var förslag (120 kommentarer) och utvärdering (114 kommentarer). Dessa två var primärt globala. Studenterna från det svenska universitetet gjorde hälften så många kommentarer som de amerikanska studenterna och de föredrog att kommentera innehållet snarare än språket. Den tredje vanligaste kommentartypen var förändring, med 48 kommentarer. Denna typ inkluderade endast lokala kommentarer. Det fjärde området, förtydligande utgjordes av 32 kommentarer som alla var globala. När det gäller kommentarernas granskningsmöjlighet var de flesta av de 282 kommentarerna förändringsorienterade (revision-oriented), vilket visar att de syftade till att ge direkta förslag på förändringar i texten. Ett betydande antal av de synpunkter som gavs backades upp av en argumenterande förklaring.

Intervjuerna med de svenska studenterna var individuella och spelades in på video. Studenterna intervjuades i två omgångar. Den första omgången ägde rum efter halva utbytet och den andra omgången när utbytet var över. Studenten hade tillgång till de kommenterade texterna vid intervjun. Samma intervjufrågor ställdes under båda omgångarna.

Studien visar att studenterna från det svenska universitetet var fokuserade på kulturella aspekter i mötet med de amerikanska studenterna. De var angelägna om hur de skulle bemöta sina partners och hur återkopplingen skulle tas emot. Det innebär att studenterna bemödade sig om att inte vara

alltför direkta i sina kommentarer, vilket var något som de genomgående återkom till. När det gäller den återkoppling som studenterna tog emot betonade studenterna att det var värdefullt att ta del av hur deras texter togs emot av deltagare i en engelskspråkig miljö, även om inte alla kommentarer ansågs relevanta.

Att medverka i peer review erbjuder alternativa sätt att se på sin egen text. Genom att dela erfarenheter med andra, ges studenterna även möjlighet att utveckla sin kompetens i att ge och att ta emot kommentarer. Den stora variationen i kommentarerna och de kulturella aspekterna betraktas som resurser av studenterna. Dessutom visar resultatet att en asynkron miljö, såsom en wiki, erbjuder tid för eftertanke och erbjuder goda möjligheter för studenterna att utveckla diskursiva kompetenser.

## DISKUSSION

Sammantaget visar studierna att användning av webben i språkundervisning ger möjligheter för studenterna att delta aktivt i samproduktion av text. Aktiviteterna visar på en progression från fritt användande till mer specifik användning där samverkan kring innehållet är centralt. Även om studenterna uppmuntras att redigera och ändra texterna tillsammans, sker detta på olika sätt och de typer av aktiviteter som studenterna är engagerade i är mångfacetterade. De har sin utgångspunkt i hur digitala samarbetsformer delas när man arbetar på gemensamma webbaserade plattformar. För språklärande som handlar om det utbyte som sker genom deltagande i en gemensam skrivprocess, är deltagarnas produktion central, det vill säga att det finns texter att revidera. Studierna visar att studenterna producerar med en omfattning och variation som gör att de kan arbeta med språk på många sätt, både språkligt såväl som innehållsligt.

Samtidigt som webbaserade miljöers fördelar brukar uttryckas i termer av öppenhet och lättillgänglighet så förändras förutsättningarna när de används för utbildningsändamål i vissa avseenden. Studierna visar att de anpassas till undervisningssituationen och tar andra former än de som de ursprungligen var avsedda för. För språkundervisning blir användningen av webben något som skiljer sig markant från traditionella undervisningsmiljöer. Genom nätet kan studenterna komma i kontakt med andra

studenter , även från andra kulturer och arbeta på sätt som inte varit möjliga innan. Den pedagogiska strukturen, som exempelvis kursplaner och uppgifter, kan också begränsa den webbaserade interaktionen. Även teknologin kan innebära begränsningar då asynkron webbaserad innebär att endast en användare kan bidra i taget.

De fyra studierna visar hur de olika aktiviteter som möjliggörs i webbaserade lärandemiljöer öppnar för nya former för språklärande. Om studenterna samverkar genom enskilda bidrag eller om de samarbetar gemensamt kring en text har konsekvenser. På ett innehållsligt plan, är det skillnad på om man diskuterar och argumenterar om texter eller om man fokuserar på mer språkliga aspekter genom att ge respons på gemensam eller enskilt skriven text. De aktiviteter som är möjliga i webbaserade miljöer och hur de utvecklas, bidrar därför på olika sätt till språklärande. För dagens användare krävs relativt liten teknisk kunskap för att vara produktiv på nätet, vilket innebär att studenterna erbjuds en lättillgänglig samproduktionsmiljö där de i hög utsträckning kan ägna sig åt att utveckla sin skicklighet i att bli goda skribenter.



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