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LingoBee and Detached Learners

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Master Thesis

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Abstract

LingoBee is a mobile application, which was designed as a tool for language learning. This application assists learners by providing them a community for language learning. This mobile app is running on Android operation system, and using Web 2.0 technology.

There are pre-existing social network applications that is used for language learning such as Livemocha. But LingoBee focuses not only on social network sites but also creating communities for language learning.

In this thesis I will analyze LingoBee user data collection, in order to evaluate this application. This evaluation is based on two aspects. First, LingoBee can provide an environment for learners to develop their learning process. Second, LingoBee gives the language learning communities the necessary environment to improve.

There are too many articles exists on these topics but none of them have consider these to aspects together.

Contents

1 Introduction

This report is master thesis with 30 points credits. This thesis is taken in Norwegian University of Science and Technology (*NTNU*). The course is TDT4900 – Computer and Information Science, Master thesis, and it is taken in spring 2013.

In this report I will study and probe into an existed mobile application (LingoBee), and its functionalities with data collected from user studies. This evaluation will help us to understand if LingoBee is a proper tool (mediator) for language learners and community of learning.

By creation of term Web 2.0 in 2004, researches start to pay attention on using Web 2.0 in e-learning. Language learning web sites also saw the use of this technology; Web 2.0, for improving the quality of learning.

The most important attribute of Web 2.0, is giving possibility of users' interaction. Therefore virtual classes could be created for the students, and they could share and discuss their resources and knowledge with each other.

But now these questions come to mind that if Web 2.0 can be useful for learners and how learners can benefit from this technology in their learning process.

LingoBee is a mobile application which is run on Android operation system, and benefits from Web 2.0 technology. This mobile app was developed as SIMOLA project. The main purpose of LingoBee is to support language learners by giving them a community for learning a new language. LingoBee application and its functionalities will be explained further in Section 1.1.

In section 1.2, Web 2.0 technology will be briefly introduced and I will give examples of how LingoBee is using this technology, and how Web 2.0 is helping learners.

In section 1.3, another technology will be introduced. Social Network Sites (SNS) is a technology that is using Web 2.0 and helps community to shape in virtual words. In this section an example of social network site which is used for language learning will be given. Furthermore I will examine if LingoBee can be considered as a SNS.

In Chapter 2, I will explain in detail how I have planned to do the literature review, and collect data from user studies. Also in that chapter I will introduce the research questions for this thesis. And the reason for selecting those research questions.

In Chapter 3, I will go through the literatures in order to study different learning processes and environments. Also to study community of learners and what factors will help to shape a community.

In Chapter 4, I will go through my experience with LingoBee in my Norwegian language course. This case story will help us to understand more about LingoBee functionalities and how students use this tool in learning language process.

In Chapter 5, I will analyze the collected data by a method called Social Network Analysis (SNA). Through this analysis we will see how members in LingoBee communicate with each other and why this information is required for evaluating LingoBee as a community of learners.

In Chapter 6, I will go though different factors, those are required for learning process and creating a community of learners. Through these factors we will find out what additional

functionalities LingoBee requires in order to assist the detached learners better.

At the end in Chapter 7, summary of the report will be given.

1.1 LingoBee

LingoBee is a mobile application that is run on Android operation system. LingoBee was developed as part of EU LLP project SIMOLA. This project has partners from six different countries and it contains five different European languages and Japanese (Peterson & Winter, 2012).

LingoBee has been developed in order to help language learners by providing a crowdsource Web 2.0 application. The above terms; Web 2.0 and crowdsource, will be explained later on Section 1.2. Furthermore in Section 1.2 I will state LingoBee linkage to these technologies.

The idea of developing LingoBee as a mobile application was to assist learners to have access to the application when ever and where ever they need it. LingoBee has different functionalities. These functionalities are presented in Figure 1.1.

These functionalities are (Peterson et al., n.d.);

1) Adding a new user by creating a profile. In LingoBee as Figure 1.1d) presents asks users to create their profile before becoming a member. The following information can be filled by user in LingoBee's user profile page; first name, last name, date of birth, email, phone and details about the user. After filling the profile page and creating a user in LingoBee, the learner can be assigned to an existed group.

Learners can be a member in LingoBee only by giving a username and password. There is no requirement for filling the above information. Therefore if the user wants he or she can give minimum information for privacy sake.

But this group assigning is done by the LingoBee's administrator and the learners cannot create their own groups. And the users can be member only in one group. If the user changes his or her group, he or she is no longer a member in the previous group.

2) Adding a data entry input LingoBee's repository; Figure 1.1b) which can be a word or a phrase. User can add data entry in his\her group or in another group's repository.

   Also the user can leave comments for other users in his or her group or in other groups.

3) A data entry can also contain other resources besides text; it can contain audio, picture, web links or all of them together. A text-to-speech functionality is available for correct pronunciations.

   A user can add the above recourses to another user's data entries.

4) Assigning a data entry as favorite, rating an existed definition or flagging a data entry are functionalities that support peer rating and feedback. When a data entry has been flagged it means the description or the format of data entry is wrong. Figure 1.1f) is a flagged data entry. And figure 1.1b) presents a data entry; *lenticchie*, as a five starts rating, which means this data entry has received a positive feedback.

5) User can view and browse through content's of LingoBee repository. S\he can sort and filter the search as shown in Figure 1.1e).

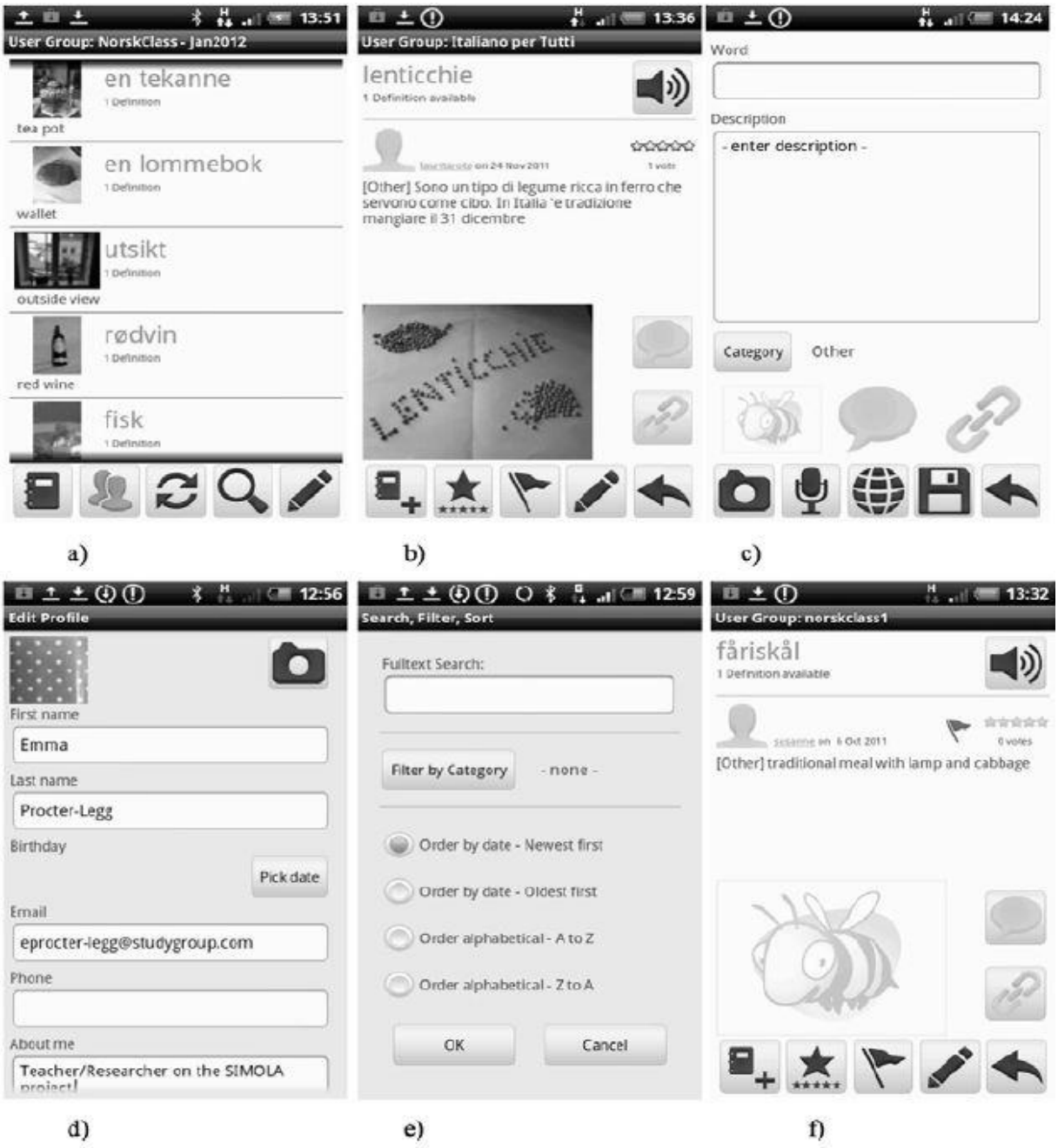


Figure 1.1: LingoBee functionality. a) LingoBee repository, b) definition of an entry; c) editor to enter a definition; d) user profile; e) browsing : search, filter, sort; f) a flagged definition (Peterson et al., n.d.)

1.2 Web 2.0

The term Web 2.0 was created in a conference brainstorming session between Tim O'Reilly and MediaLive International. The nature of systems in Web 2.0 according to O'Reilly is "*Architecture of Participation*". It means user contributes to the content, design and development process (O'Reilly, 2005). The first "*Web 2.0 conference*" was held in October 2004 which was beginning of Web 2.0 methodology on World Wide Web (WWW).

Tim O'Reilly has described software that benefited from Web 2.0 technology shortly. He has described it as

> Delivering software as a continually-updated service that gets better the more people use it, consuming and remixing data from multiple sources, including individual users, while providing their own data and services in a form that allow remixing by others, creating network effects through an "*architecture of participation*" (O'Reilly, 2005, Abstract).

In Figure 1.2 Web 2.0 principals and systems that have used Wed 2.0 is visualized.

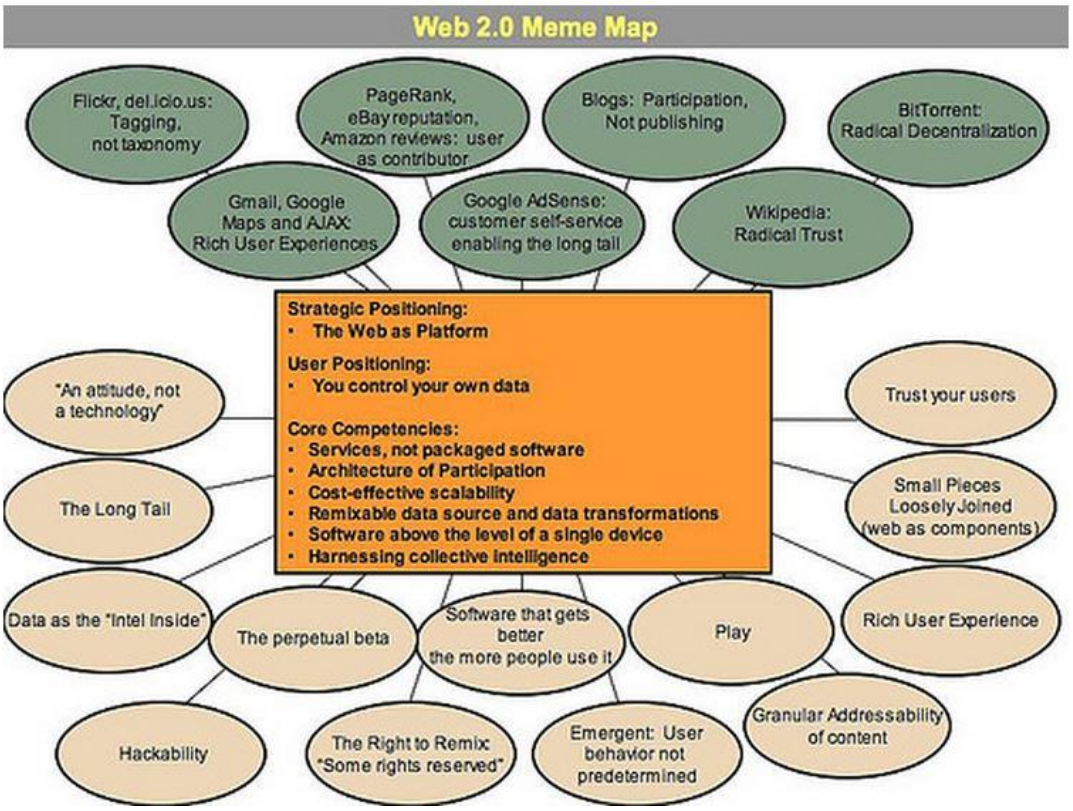


Figure 1.2: Web 2.0 Meme Map[1]

Web 2.0 despite of Web 1.0 which is read only, let users to write and read.

As we have learned through O'Reilly statements, in Web 2.0 crowds and their contribution is important in improvement of the product. Contribution and development of product by crowds is considered as crowdsourcing.

Haythornwaite (2009, 2011) has viewed crowds in crowdsource networks as "*lightweight*" collaborative structure. Crowdsource networks gain its information through its members. In crowdsource networks, members share their knowledge and resources to the other members through social network, for

[1] O'REILLY (2014) what is Web 2.0 [Online]. Available from: http://oreilly.com/web2/archive/what-is-web-20.html [Accessed 28th of March 2014]

instance Wikipedia is a crowdsource network. Haythornwaite has suggested this term "*lightweight*" because in crowdsource projects there is no need for direct contact with other members and there is minimum learning required in order to work with the social network. Also she suggested that the lightweight model requires minimal commitment for continuing in the future. But this model requires member's interest on the project, but not interest on other contributors (Haythornwaite, 2009).

Wikipedia is the best example for harnessing the power of the crowd. Wikipedia is an encyclopedia which allows users to add and edit articles. The more users' intelligence being shared the better the software will be (ullrich C. & Borau K, 2008).

LingoBee has Web 2.0 technology. It allows users to write and read the data entries. Also this contribution consists of adding additional resources to the data entries such as voice, picture and web links.

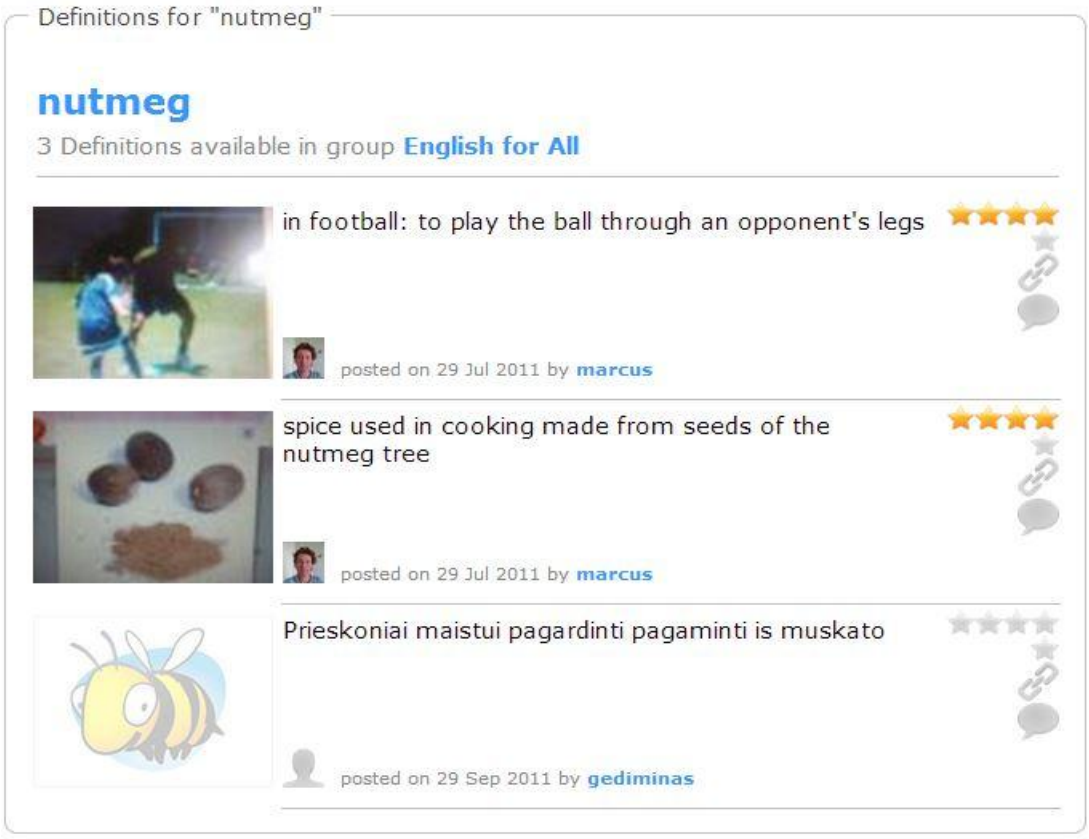


Figure 1.3: Shows members sharing their knowledge in LingoBee

As Figure 1.3 presents a member has inserted a new data entry with two different descriptions and another member has translated the data entry to another language in order to make it understandable for members with same mother tongue language. It is like how Wikipedia's topics are translated in different languages.

We can say that LingoBee is crowdsource network, because its members are the one that share their knowledge into the network. And the members are able to stop contribute further whenever they are not interested anymore on learning the language. In Chapter 5 I will give an example of a group that their assignment was to create a dictionary of Norwegian language that can be useful for foreign students in NTNU. This example is an example of crowdsourcing.

1.2.1 Web 2.0 in daily life

These days more and more people use Social networks, and they share their lives and experiences with their friends, colleagues or other people. Jarvis (2011) has used the term 'social age' in order to describe how people in recent years are living their lives with the public and its openness. Youth are using online Web 2.0 services these days for participating in online activities like file sharing and gaming, Marchant (2007) suggested that these activities are not only as an individual, also as participating in a community of practice with mutual engagement. Buckingham (2007) also has done a research on why young people are joining in Web 2.0 services such as facebook and twitter. She has suggested that young people reasoning for doing so were; because, their friends were there or they were bored.

In SIMOLA project they have collected data by asking pre-questionnaire; Appendix A. The participants were 16 female (61.54%) and 10 male (38.46%). The age range among the participants was; 26.92% were under 20 years, 53.85% were between 21-30 years, and 11.54% were between 31-40 years, 7.69% were between 41-50 years. The collected data as you can see in Figure 1.4 suggest that most participants were already using their mobile phones for a SNS such as facebook.

All of the above researches propose this idea that these days more and more people are suing SNS and they are more comfortable in using Web 2.0 technology in their daily life. Therefore it is possible to use Web 2.0 technology as a learning tool, Luckin et. al (2009) suggest that in order schools and institutes take advantage of Web 2.0 technology on school activities and use mobile devices as a learning tool in more informal environment,

teachers and students need to develop an understanding of the technology and come to a strategy of how to benefit from it.

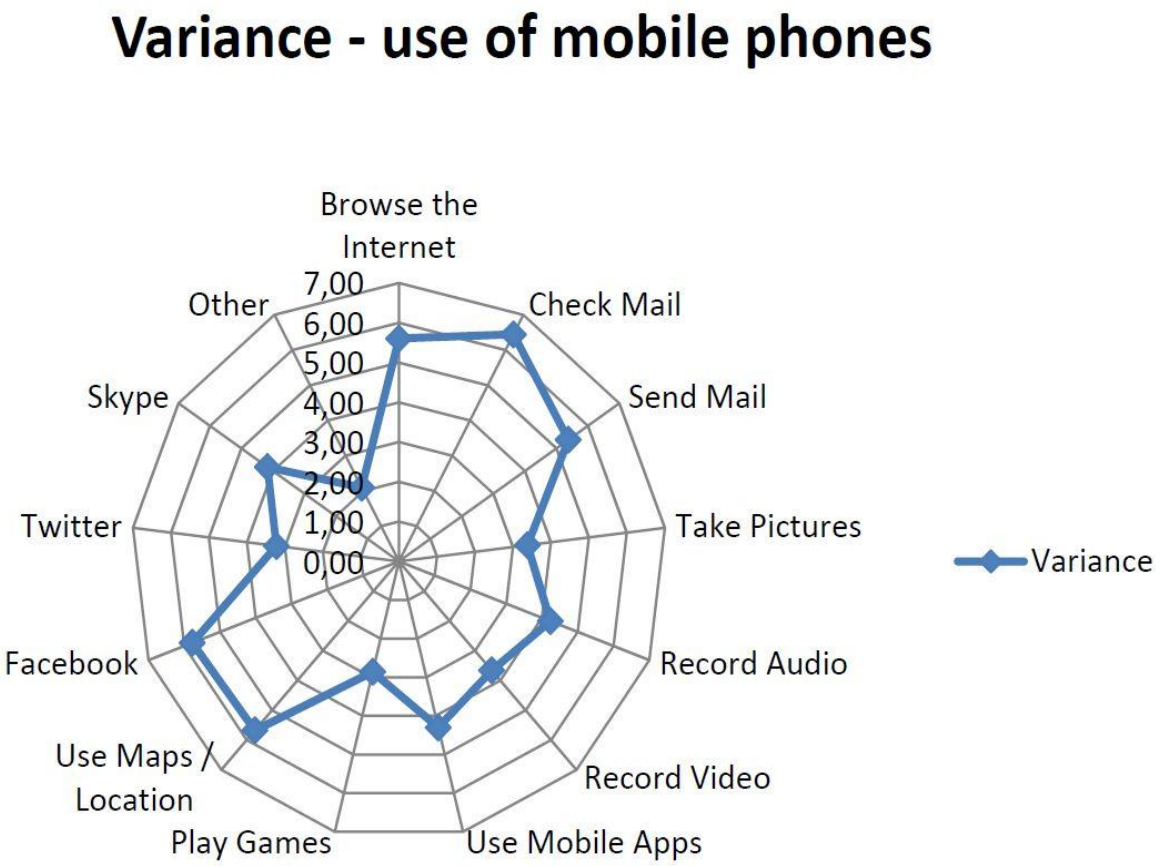


Figure 1.4: Mobile usage among LingoBee users (Peterson & Winter 2012)

1.3 Social Network Site (SNS)

Web 2.0 technology gave the idea to create web pages that allow users to interact with each other by write/read feature. The web pages that used Web 2.0 technology and allow the members to add, delete or edit content with collaborating with each other is called Social Networking Sites (SNS). Examples of SNSs are blogs, wikis and video sharing web pages.

There are also two public definitions for SNS; "*Social Network Sites*" and "*Social Networking Sites*". Boyd & Ellison (2007) have cleared these two definitions from each other. *Networking* term in Social Networking Sites is focused on establishing relationship between two strangers. And since our main focus in LingoBee is to connect strangers with *Joint enterprise;* which is second language learning, therefore from now on by *SNS* we mean *Social Networking Sites*.

SNS gathers strangers who share same interests in order to communicate with each other and share their knowledge or resources. SNS according to Web 2.0 topology uses "Architecture of Participation", and it helps to shape Community of Practice by giving tool and space to people with "Joint enterprise" to get together. The "Community of Practice" features will be discussed further in Chapter 2.

Boyed & Ellison (2007) have suggested a description for Social Network Sites (SNS). According to their suggestion;

1. Members have public or semi public profile
2. A member can see with whom he or she is connected, and
3. Those connections are visible to other members.

Figure 1.5 shows history of SNSs in short. The first social network site was in 1997; Six Degrees.com and it existed till 2001.

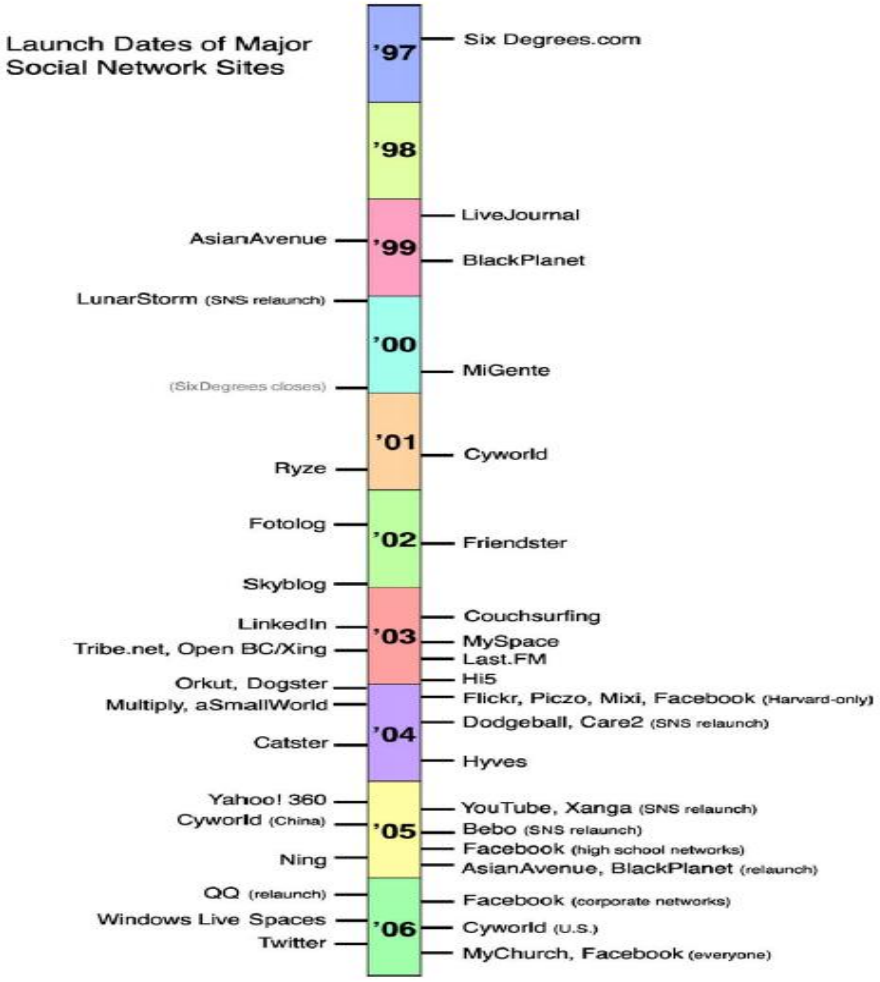


Figure 1.5: SNSs in history (Boyd & Ellison, 2007)

Boyd and Ellison (2007) also suggested that social networking sites have their differences and those differences make them distinguishable. They have recognized the following categories for the differences.

1. **Impression Management** is about the member's profile in social network. It presents the member's identity and what he or she wants other members to learn about them. Social network sites are different since they give different privacy levels for user profiles. This aspect it very important in SNS, we will discuss further about privacy later on this section.

2. **Friendship management** is linked to impression management. In that, users decide whom they want to be their friends according to their public profile. In short users establish their social interaction according to other users' displayed profile.
3. **Network Structure** related to the roles that users play in the social community in which they participate. This role can be passive or active. Some users are passive and have a restricted personal network. While others play greater role in developing and promoting the social networking site, by creating groups and communities and posting public information to encourage interaction.
4. **Bridging of online and offline social networks**, this topic is suggesting that social network sites maintain the pre-existed (offline) social relation.

Now we discuss the important of privacy in social networking sites. A lot of research has been conducted on this topic as Boyd & Ellison (2007) have indicated the importance of privacy in user's profile. They suggested users should be able to decide what information should be public and what information should remain private on their profile. The users' profile can bring trust or mistrust among members in a social network. Also Dwyer et. al (2007) have suggested that members' trust and goals affects on the contents they want to share. For example Friendster was a social network that encouraged the members to provide incorrect information on their profiles. But at the end, they lost their members because of lack of privacy and mistrust between members and the service itself (Harrison & Thomas, 2009).

LingoBee is a social networking site since it allows members to create profile as you can see on Figure 1.1 (d) and it shows the

members that are in a group, therefore through that you can found the relations exist between members,

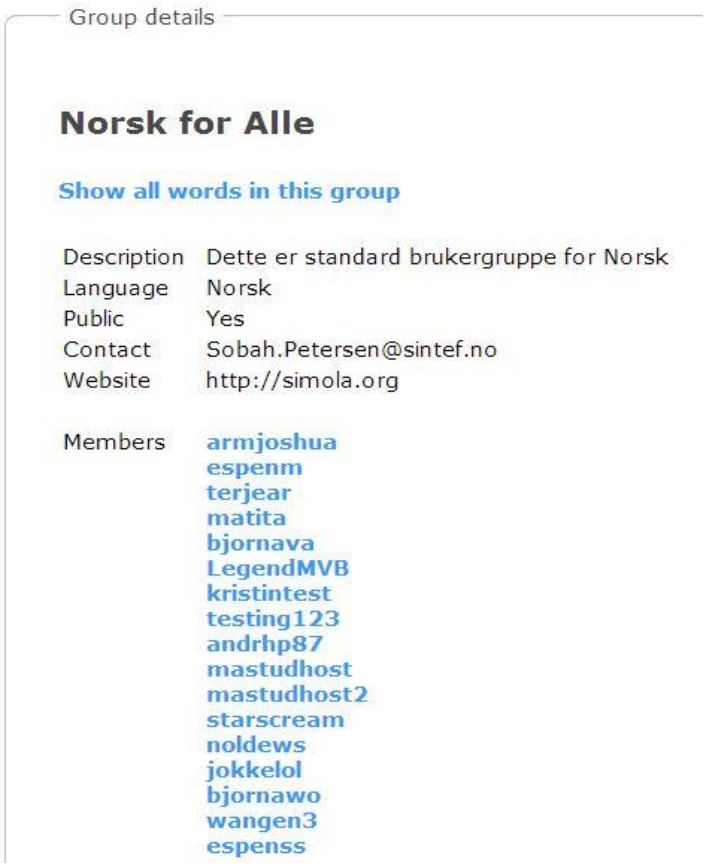


Figure 1.6: A group information in LingoBee

In LingoBee users can become member in a group that suits their goal. On the group information it is publicly visible to the other users that who the members in a group are. For that reason the social interactions and members' relations are visible through the group information, and by that you can find out which member is interested in which group.

There exists another similar application to LingoBee and it is called Livemocha.

- **Livemocha**: a multilingual SNS drawing on the theme of an online café (Harrison & Thomas, 2009)

Livemocha[2] is a social network site that was launched on 2007 in the United States. This application was a web application and it allowed teachers and learners to participate in the community for learning and teaching purposes. In Livemocha community the native-speaker members can assist the non-native language learners in voice or text chat.

Like any other SNSs, when user for the first time log into it, the software asks them to create a profile and fill in information of the languages they know and the languages they are willing to learn. This information helps members to find others whom know the language they want to learn.

Livemocha supports 12 different languages and has study plans for different levels of language learners. The study plan acts as a motivation for the members to participate in the communities.

Livemocha has different functionalities; audio recording, peer review, group chat session, audio lectures and publicly grading system (Harrison & Thomas, 2009).

Livemocha and LingoBee both are Social Networking Sites, and both break the formal teacher student class environment and help students and teachers to work with each other in more relaxed environment. But LingoBee mains focus is on creating a crowdsource application that works like a community of learners (Peterson et al., n.d.). In Chapter 3, we will discuss further of community of learners. Furthermore in Chapter 6 we will discuss

[2] Livemocha (2007) Free Online Language Learning [Online]. Available from: http://livemocha.com/ [Accessed 12th of April 2014]

[3] European commission (2013) Foreign Language statistics [Online].

if LingoBee has succeeded to assist language learners in their learning process by keeping its main principles.

2 Research Questions

In SIMOLA project three main questions were considered (Peterson & Winter, 2012);

RQ1: To what extent does LingoBee help leverage in-situ learning?

RQ2: To what extent does LingoBee provide a community for detached learners?

RQ3: To what extent do teachers feel LingoBee enriches their practice?

My thesis is based on question Number 2. In order to be able to reach the main research question; "to what extent does LingoBee provide a community for detached learners?", I have decided on 4 questions.

The main research question consists of two parts; first concerns community, and second concerns learning. In order to be able to answer the main question I have decided to separate my works into two sections; one doing research on community of learners and how it shapes, and second on learning process and how a learner can improve his or her learning ability.

The research questions are;

Q1. What is a community of learners?

Answer 1: Sections 3.2 (Community of Practice) and 3.3 (Legitimate Peripheral Participation)

Q2. What factors can improve learning process?

Answer 2: Section 6.1 (Improve learning process)

Q3. What factors can help a community of learners to improve?

Answer 3: Section 6.2 (Community of Learners)

Q4.Does LingoBee's functionalities are sufficient for improving community of learners?

Answer 4: Section 6.3 (Framework) and Section 6.4 (Suggested functionalities)

I have chosen different research methodologies for my master thesis; literature review, case story, data analysis.

First research methodology that I am going to use is literature review. In this methodology I need to focus on articles with three different perspectives; 1) Web 2.0 and social networks, 2) community of practice, 3) learning process.

Since LingoBee is a mobile application that has been designed as a social network for language learning, therefore I need to look through articles with following key words; mobile language learning, Web 2.0, Social network Sites.

The second group of articles that I need to go through is related to community of practice. The key words that I will use in my search are; Network community, learning community and community of practice.

The third group is learning process. The key words that I will use for my search are; language learning, learning process and classroom language learning.

Method	Description
Case story	Tells a story about the case but despite the case study there is no strict data collection method
Literature review	Articles that are related to my thesis topic
Data analysis	Using Google analytic data and users' input

After doing the literature review, I have planned to write about my experience in using LingoBee as a student. I will use case story as a methodology for describing my experience. I have chosen case story instead of case study, since my experience is more like a story and there is no official proof for the events that have happened offline.

The last methodology that I am going to use is data analysis. For doing so I have access to different data collection. Those data collections are; 1) Google analytic, 2) survey from pre and post questionnaires, 3) SIMOLA data repository.

Google analytic is collection of data from LingoBee website during first of May till 30th of August 2012. This data shows all the website activities for 20 different countries. But since this data collection does not show the information I require, therefore I have decided to not use this data collection on my thesis.

Pre and Post questionnaires are data collections, which were taken from participant before and after using LingoBee. These

questionnaires were taken from participant with age range under 20 till 50 years old. In this data collection there were 16 females and 10 males (Peterson & Winter, 2012). This data collection can give me a general idea of if users knew how to use smart phones and if they have been member in any social networks before.

SIMOLA data repository (SIMOLA, 2014) is my main data collection, since it gives more input from user activities and data input aspects. This repository is direct users' data entries; therefore, I need a method to analyze them. I have chosen social network Analysis (Wasserman & Faust, 1994) in order to analyze members participation and communication within their groups. SNA method has been used in Chapter 4 and 5.

3 Literature Review

As I have written the Chapter 1, the main design goal was to create a mobile application that can assist detached learners in their learning process by benefiting from crowdsoursing and community of learners' methodologies.

For that reason in this chapter, I will go through different articles related to learning processes, what benefits the learners, how a community can be shaped, and what the community of learner is.

3.1 Learning Process

European Commission (EuroStat) has mentioned that almost all the schools in Europe studying second language and some of them learning more than one foreign language at school[3]. This static shows the importance of having a tool that can support language learners. Thus we need to know what it means to be a good learner, and what the basic requirements are for learning a new language.

3.1.1 Teacher-Centered Learning

In this section I will through a theory; behavioral outcome (Naiman et. al, 1978), for learning a second language. This theory is formal, and it is based on the traditional education. In behavioral outcome theory, teacher is an active part of learning process.

[3] European commission (2013) Foreign Language statistics [Online]. Available from: http://epp.eurostat.ec.europa.eu/statistics_explained/index.php/Foreign_language_learning_statistics [Accessed 20th of March]

In language learning 6 concepts has been identified by Gardner et al. (1975), Hatch and Wagner-Gough (1975), and Schumann (1976);

1) Context
2) Learner
3) L2[4] Teaching
4) L2 environment
5) Learning
6) Outcome

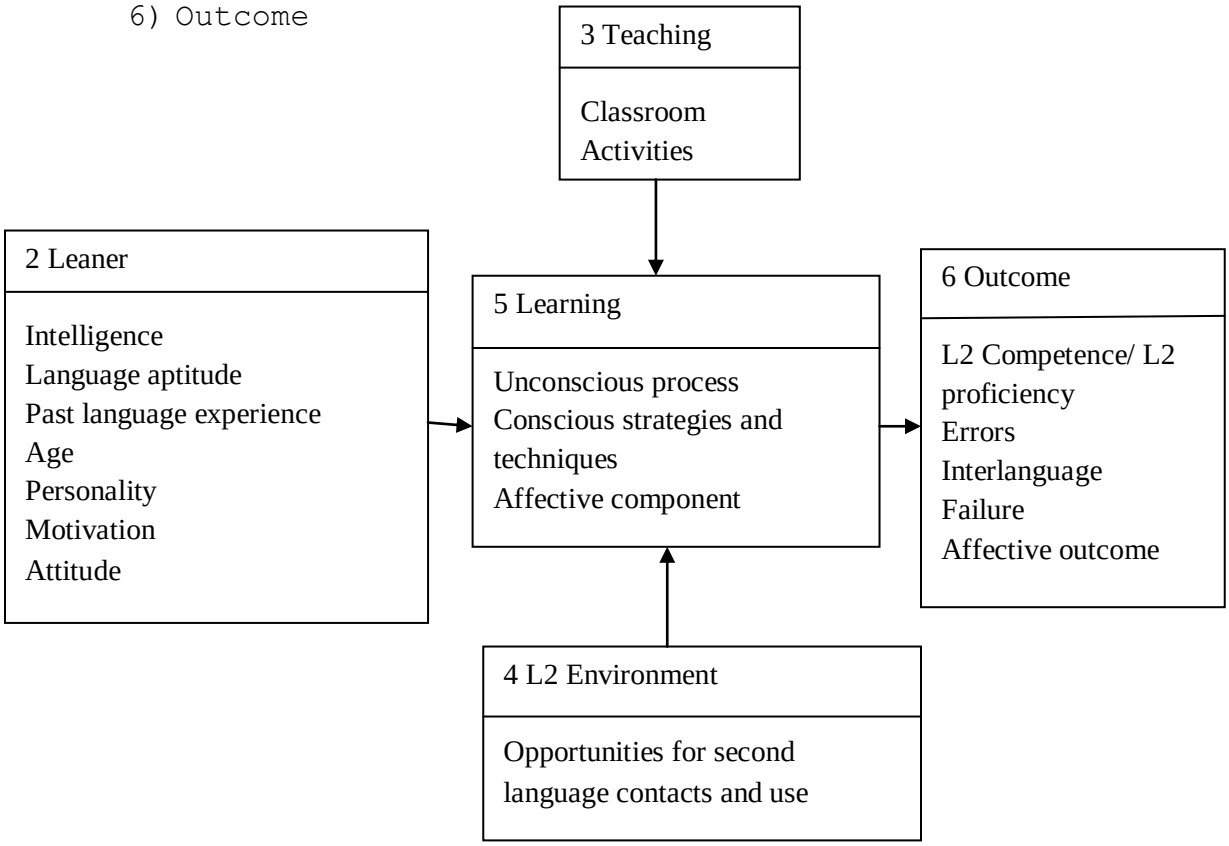


Figure 3.1: Model for the second language learner and language learning (Naiman et. al, 1978: 3)

As this theory has indicated, learning is affected by three different concepts; learner, teaching and environment.

[4] Second Language

In this theory the outcome of learning L2 is important. As Figure 3.1 presents L2 competence and L2 proficiency are first outcomes. Learner skill in second language differs at different level of language learning, from zero to native - like fluency. Complete competence is hardly ever reached. Nevertheless reaching maximum competence can create motivation for learners.

But until a language learner can reach the maximum competence level, he or she faces "*massive learning problem*" (Stern, 1975). This *massive learning problem* has been referred to as "interlanguages" by (Selinker, 1972). Interlanguage happens when learner develops a linguistic system in learning the target language. This system is nothing like neither the mother-tongue language nor the target language. Sometimes when a learner makes mistake in developing the linguistic system, for example the common English language error "usage of who instead of whom". Such interlanguages must be constantly revised by teacher, or else the learner remains at a low level of language capability. "Fossilization" term has been used by Naiman et. al (1978: 1-5) for describing learner situation if his or her interlanguage is not corrected. Fossilization happens when the leaner does not have a supervisor whom corrects his or her incorrect language.

In short this theory indicates that learners require a constant help from someone more experienced, in order to avoid any fossilization in language learning.

3.1.2 Student-Centered Learning

In the past knowledge was considered as something valuable that would be transferred from elderly to their younger generation; behavioral outcome. But appearance of experimental learning by Kolb the focus in teaching has shifted from teacher oriented to

student oriented. This shift mainly has done; because of, the importance of experience in learning process.

Kolb is one of the researchers who emphasized on importance of experience in learning. He has used "experimental" learning term for two reasons. The first is due to presented models of learning by Dewery, Lewin and Piaget. The second reason is due to the importance of experience in learning (Kobl, 1984). He defined experimental learning theory by suggesting that the ideas are not fixed, they are formed and reformed through experience. Hence, no two ideas are same, since experience is involved.

Kolb (1984) has come up with the idea of *experimental learning* after studying learning models of Lewin, Dewery and Piaget. He has studied the similarities between these three models.

The first model is Lewinian model (Lewin, 1946) of action research and laboratory training. This model has four stages, as it is shown in Figure 3.2. Actors or organizations act on impulse or here-and now experience. Then the data is collected after observing the experience. The collected data is analyzed and the feedback at the final stage is returned to the actors or the organizations. This feedback is used by the actors in their next experience and they adopt the new idea and improve their old idea by the feedback. Lewinian model has two important aspects. First is acting an impulse and here-and-now experience. Second is receiving feedback after analyzing collected data from observing the experience.

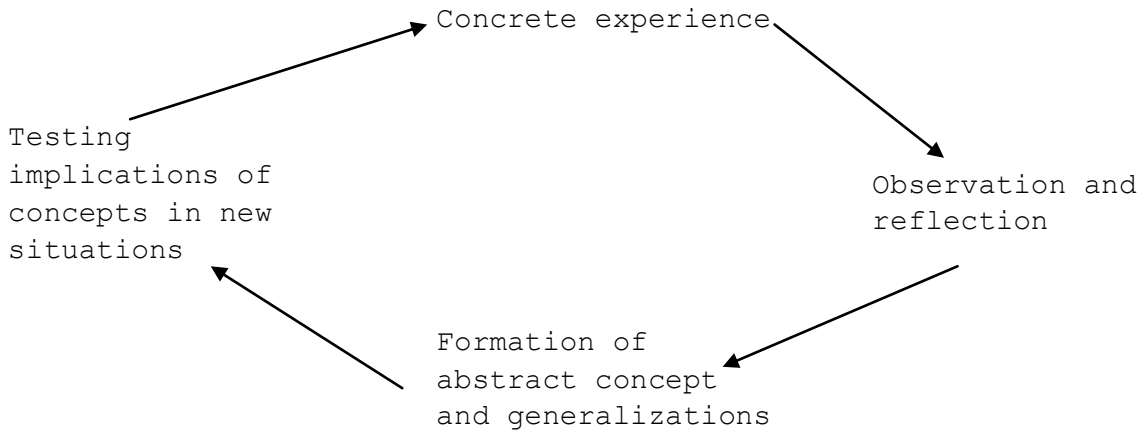


Figure 3.2: Lewinian model of learning (Cross & Israelit, 2000, p. 314)

Since this model requires feedback from someone who is eligible to observe and analyze the actors' experiences; for that reason, we can claim that this model is formal. In this model (Lewinian model) existence of someone who is knowledgeable is required. But still this model is student-centered model since the learners are the ones who act impulsive and use new knowledge in their experiences.

The second model of learning is Dewey's model (Dewey, 1933). This model is similar to Lewin's model. But except Lewinian model, there is no need for feedback. Dewey has explained his model

> "The formation of purposes is, then, a rather complex intellectual operation. It involves: (1) Observation of surrounding conditions; (2) Knowledge of what has happened in similar situations in the past, a knowledge obtained partly by recollection and partly from the information, advice, and warning of those who have had a wider experience;

> and (3) judgment, which puts together what is observed and what is recalled to see what they signify… The crucial educational problem is that of procuring the postponement of immediate action upon desire under given observation and judgment has intervened." (Dewey, 1938, p.69)

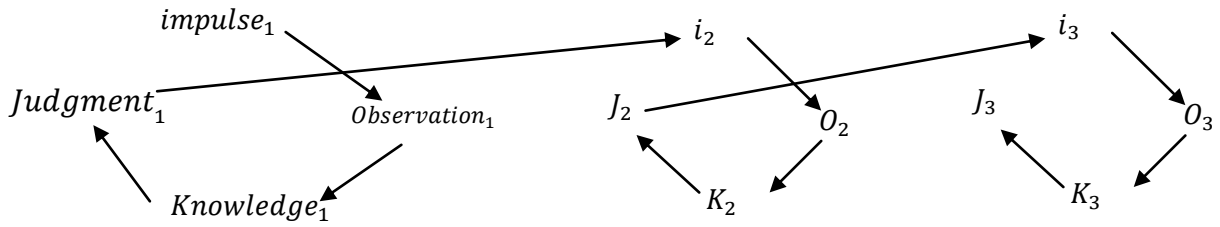


Figure 3.3: Dewey's Model of Experimental Learning (Cross & Israelit, 2000, p. 316)

Piaget's model of learning and cognitive development; he has suggested the learning process takes place in cycle of interaction between environment and the individual. These interactions are the experiences that are gained by the individual from the world. In his theory the key for learning is to replace new ideas from experiences and events with old ideas, and apply the new knowledge and information into the experiences. These constant interactions help the process of learning progress.

Piaget has suggested four phases for cognitive development. These phases start from birth till age of 14-16. Therefore the first experiences are only images that the infant has from observing his or her surrounding environment.

All of the above models have similar aspects. In short, interaction between environment and individual helps to progress in learning. These interactions happen in shape of experiences. Learners can use the knowledge they gain through the experiences in their next impulsive action. Therefore this cycle can help the learner to develop through constant experience and gaining knowledge.

3.2 Community of Practice

Learning has been thought as a process that has a beginning and an end; and that is the reason teaching takes place (Wenger, 1998: 3). But as we have discussed earlier in Section 3.1.2, experience that can be gained through participation in daily life is also considered as learning process.

This theory brought Wenger and Lave to the idea of community of participation. They suggests we all are part of a community in our daily life, either it is at work, or school, or at home. They have defined the membership in community of practice as

> "Participation in an activity system about which participants share understandings concerning what they are doing and what that means in their lives and for their communities (Lave & Wenger, 1991, PP. 98)."

Community of practice according to Wenger has different characteristics (Wenger, 1998, pp. 73-85); joint enterprise, mutual engagement and shared repertoire.

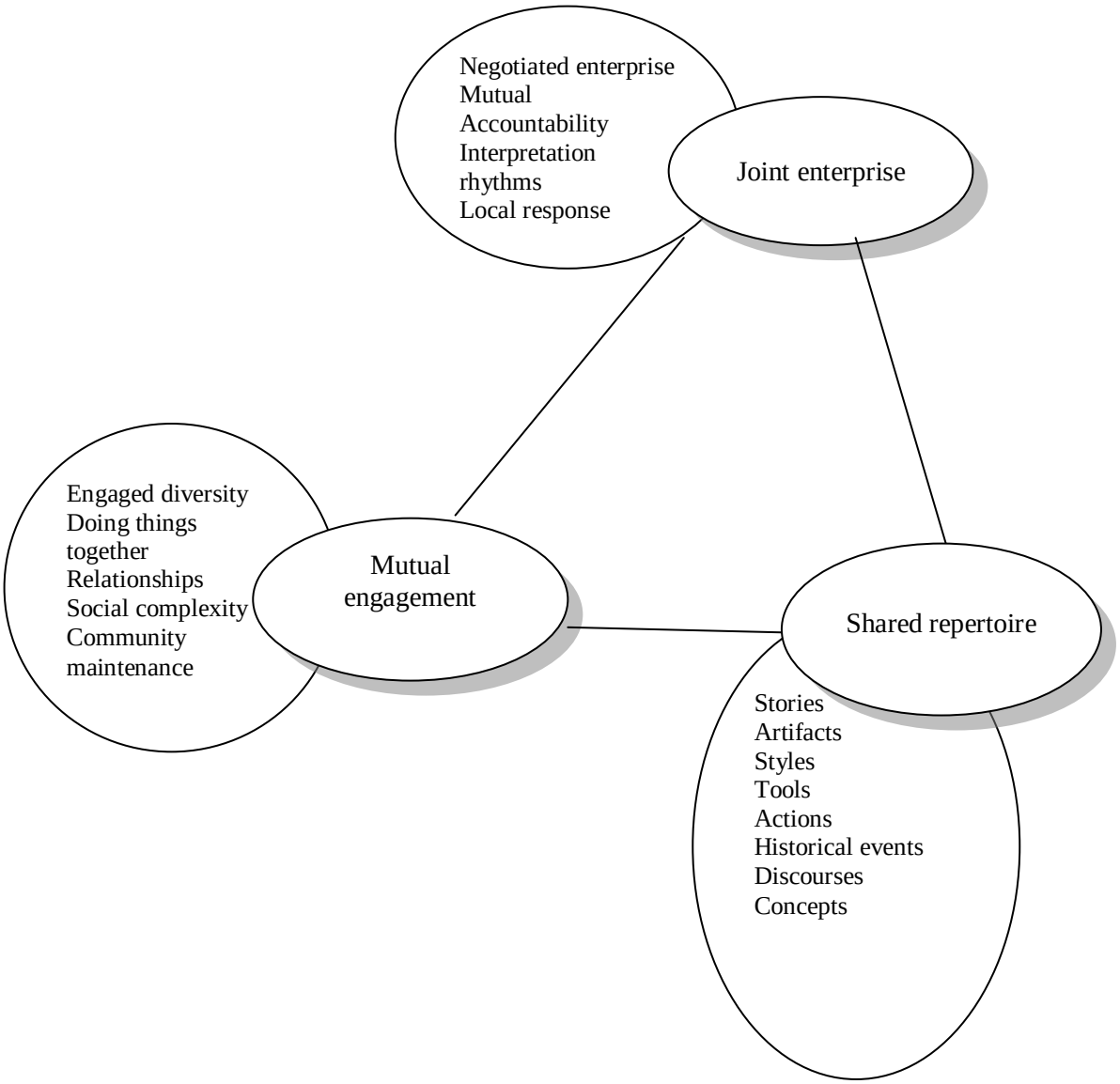


Figure 3.4: Dimension of Practice as the property of a community (Wenger, 1998, pp.73)

Mutual engagement: Practice exists because people are engage in actions that bind the members together into a social entity. It is more about how the community functions.

Joint enterprise: It is the common interest that helps the community shape. Joint enterprise needs to be constantly reconsidered by the members in order to make sure the community is moving toward the common interest.

Shared repertoire: It is a source of community.

Community shapes around things that matter to people and the relations among members develop over time by doing tasks together (Lave & Wenge (1991: 98), Wenger (1998)).

Woodruff (1999) has suggested shared value and mutual engagements as one the factors that helps a community to cohere. He has named them as "Glue factors".

3.3 Legitimate Peripheral Participation

Now by knowing that we all are part of a community in our daily life and we learn through experiencing in our daily activities. Now we came to the point that how a new member in a society can develop, does he or she needs an experienced person to guide him or her through his or her experiences. There are different articles that suggest the importance of benefiting of more experienced person in our learning process.

In the previous section as we have discussed in traditional learning process; behavioral outcome, and even in one of the experimental learning; Lewinian model, the importance of having someone more experienced cannot be denied.

Lave and Wenger (1991, PP. 29) have called process of learning, "*Legitimate Peripheral Participation*". *Legitimate Peripheral Participation* considers a newcomer as apprentice; and computer, teachers and old-timers as masters. By old-timers we mean old members of the community of practice.

Also Feuerstein et al. (2003) mentioned the importance of having someone more experienced in our learning process. They have suggested that intelligence is dynamic and it is not fixed. For that reason learners with low cognitive ability are able to benefit from an experience person. He suggested if the learner

has being thought how to think, then s\he can develop herself or himself in learning process.

Legitimate Peripheral Participation indicates that learners require fully participation in community of practice. Participation in community of practice means newcomers need to observe masters and being observed by them.

According to Lave & Wenger (Lave & Wenger, 1991, pp. 47) learner internalizes knowledge, whether discovered, transmitted from others, or experienced in interaction with others. This internalization helps learners to move to higher competence level in Zone of proximal Development (ZPD). An example of this theory will be given in Chapter 4.

According to Vygotskys' Zone of Proximal Development (Vygotsky, 1980, pp. 86), it is important that an experience person with higher level of competence assist others with lower level of competence. It helps the less capable person to reach higher level than he could achieve alone.

First, the zone of proximal development is often characterized as the distance between problem-solving abilities exhibited by a learner working alone and that learner's problem-solving abilities when assisted by or collaborating with more-experienced people.

As Figure 3.5 shows; a less competence learner stands in the biggest sphere "*Learner cannot do anything*" zone, but while he receive assistance from more capable person he stands in inner sphere "*Learner can do with guidance*" zone and gradually after a while learner takes over and become a more capable person himself.

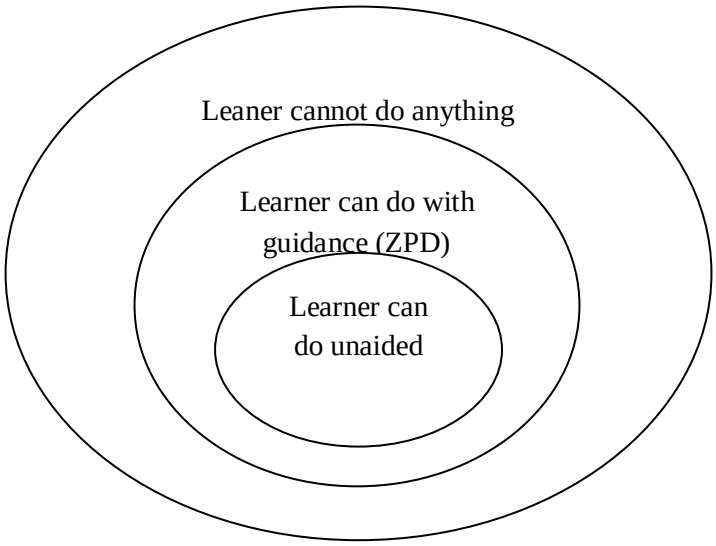


Figure 3.5: Zone of Proximal Development[5]

3.4 Collaborative Learning

Now this question comes in mind that if only one person with higher experience can guide the others to move from one level to a higher level of competence, or collaboration between learners can also help them in resolving an issue.

A literature in Human-centered Technology (HCT) has discussed the difference between cooperation and collaboration (Teasley & Roschelle, 1993). They have declared that cooperation means each person individually is responsible to solve one part of the whole task, while collaboration means all the group members need to cooperate and maintain a shared understanding of the task.

Collaboration results in shared understanding. This shared understanding can act instead of the experienced person (old comer) in ZPD. Collaborative learning can improve learner's level of competence through group discussions and sharing their knowledge with other learners. Yuill (2009) suggests that when

[5] Wikipedia (2014) Zone of Proximal Development [Online]. Available from: http://en.wikipedia.org/wiki/Zone of proximal development [Accessed 12th of February 2014]

learners discuss something in a group and share their understanding it increases their comprehension's score toward the language.

As Vygotsky has suggested in Zone of Proximal Development (ZPD) learners require society to learn externally from. But also he has suggested that learning is not only external, the process of learning is also internal. Knowledge cannot be transmitted from master to new-comer. Knowledge needs to be internalized by the learner (Stromment & Lincoln, 1992), and learner needs to have his/ her understanding of problem solving by using the pre-existed knowledge. This brings another theory which is constructivism. The social oriented constructive theory suggests importance of collaboration among learners in learning process (Vygotsky, 1978). Vygotsky (1978) has considered collaboration among learners as a source for learning.

In constructivism, the learning process shifts from master (teacher) to learners (new comers); therefore, learner plays an active role in learning process. Learning takes place in context and in collaboration and provides opportunities to solve realistic and meaningful problems (Ullrich & Borau, 2008).

4 Case Story

NTNU holds Norwegian courses in three different levels for its foreign students. Spring semester 2012, NTNU had a beginner level Norwegian course; Norwegian for Foreigners 1 (*NFUT0107*). I was one of the students in that class.

The class participated in an experiment for LingoBee. Due to experiment I had a chance to use LingoBee as a mediator for language learning. In this chapter I will use my experience in order to see if LingoBee is a proper tool for providing community to distanced learners (detached learners).

First I will give more details of the Norwegian course, how many candidates were participating in the class, and how many of them took the final exam. Second I will go through the events that happened during the experiment and helped me to learn more about the tool and participate more in our small language learning community.

Since the class was not mandatory, not all the candidates participated in the class activities. For that reason they did not participated in LingoBee experiment. The total number of users from our class in LingoBee was 6 students.

As we have discussed earlier in Section 1.2, LingoBee is a crowdsource network as *lightweight* collaboration. Therefore their interest for participation is essential.

In order to distinguish members' determination we can check how many of the class participants took the final exam and how many of them have passed the exam. We cannot say that 100% of the participants who have passed the exam were also 100% active in the virtual community (LingoBee), but it can be a proof of their seriousness in learning Norwegian.

In the class "*NFUT0107*", according to student web page on my exam results page as you can see on Figure 4.1 total registered candidate for this class was 19 students. And only 12 students took the exam. Among these 12 students only 4 of them have passed the exam. So 33% of the exam participants succeeded in the final exam.

Exam:	NFUT0107 2012-06 (Written examination/Oral examination) Norwegian for Foreigners 1
Grading scale:	Letters
Number of candidates (registered):	19
Number attending the examination:	12
Number of those who passed:	4
Number of failures:	8 (67.00%)
Mean grade:	B
Publicised when:	12-Jun-2012

Figure 4.1: a snap shot of result distribution on course NFUT0107[6]

From LingoBee project team a representative (*Sobah Abbas Petersen*) chose our class (*NFUT0107*) for experimental. She brought us smart phones which were running on Android operation system; htc and Samsung. Also during that session she explained from where we can download LingoBee and how to log into LingoBee. She also handed us a pre-questionnaire.

The pre-questionnaire (Appendix A) was focused on learner's age, sex, language we were learning, our level of competency in the language, if we have used any smart phone before, for what purposes we have used smart phone before, If we are familiar with any social network sites (SNS)and how we have learned a new language up until then. This pre-

[6] StudentWeb (2014) StudentWeb ved NTNU [Online]. Available from: https://studentweb.ntnu.no/cgi-bin/WebObjects/studentweb2.woa/5/wo/tbpeLab5TLuRsenYkthbFM/4.0.23.20.7.22.1.0.19.0 [Accessed 28th March 2014]

questionnaire gave researchers a general grasp of learners' perspective on his/her current strategy for learning a new language, how learner record a new vocabulary, how learner use vocabulary notebook and if learner use his/her phone as a language learning aid tool (Peterson & Winter, 2012).

Approximately more than 10 smart phones were distributed among students by the LingoBee's representative (Sobah Peterson). And we were told that we are allow to use the given smart phones as our personal phones during the experiment period in order to have access to LingoBee whenever we needed.

A new group was created under Norwegian language group. Our LingoBee group's name was *NorskClass-Jan2012*. I logged into the group as *Arezoo* username ID and did not give any further information in my profile page. The reason I did not filled all the information is mainly because I did not wanted other members in LingoBee have access to my personal information since LingoBee provides no privacy in profile page.

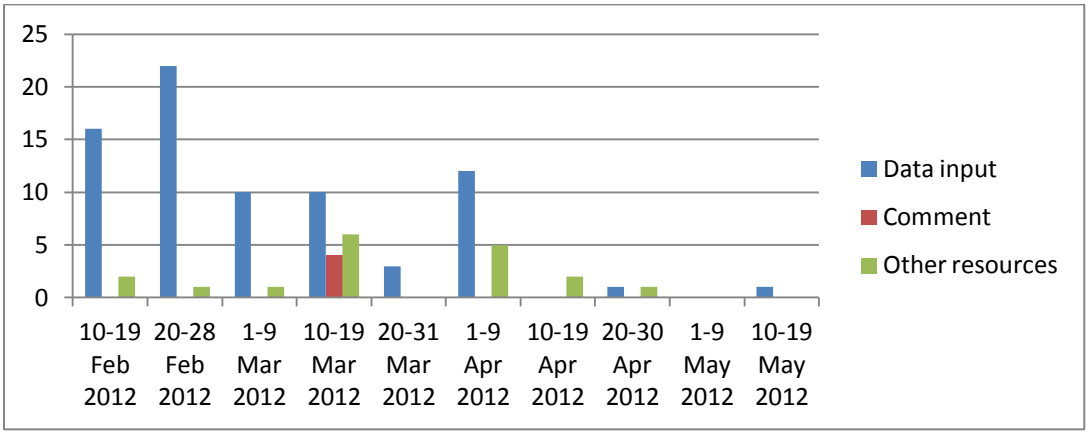
Figure 4.2: Arezoo's profile

The importance of privacy in SNS profile has been discussed earlier in Section 1.3.

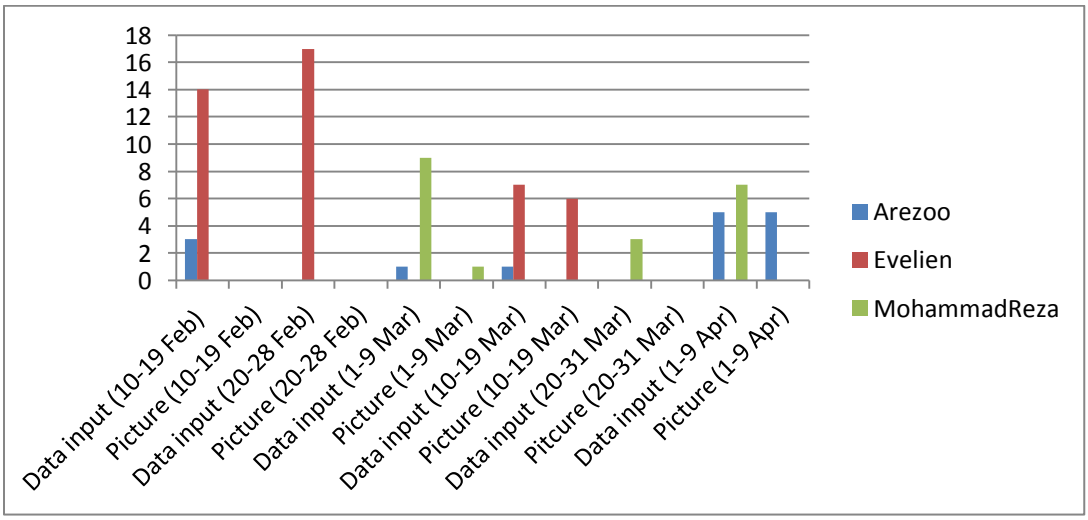
Despite lack of privacy in LingoBee's profile system, as I have noticed during my experience, there is no necessity of direct contact between members in LingoBee. It means LingoBee does not

require any direct contact such as live chat or email system, in order to community work properly. Therefore it is not affecting the community if a member does not share any contact information in his/her profile.

Figure 4.3a) represent the activity in group *NosrkClass-Jan2012* from 10th of February 2012 till 19 May 2012. These activities are only done by the current group members. And these activities are divided into three forms; Data input, Comment and Other resources.



a)



b)

Figure 4.3:a) shows the group activity from 10th of February till 19 May 2012, b) shows Evelien, Mohammad Reza and I activity during the course.

Data input is the new vocabulary that the user inserts into LingoBee. This new data input does not require having any description, for instance user can insert the new vocabulary without knowing what its meaning is. Figure 4.4 shows Evelien has inserted a new vocabulary while she did not know what it means. This way user can ask other members for help.

Figure 4.4: New vocabulary without any description

The other form of activity is Comment. I considered comments when a user leave further description or add more resources to another user's data input. I have also considered comments as a measurement to value the existing relationship between users in a community. A comment shows that another user has intended to develop another user's knowledge and act as a master in a community.

But sometimes these comments might have no meaning or add no further information to the existing description. For instance Figure 4.5 shows the teacher left same comment '*get in*' for the existing description. Despite the fact that these comments would not add any further knowledge to the users, I have considered them when I was evaluating the relations between users.

Figure 4.5: Comment does not add any further information to the vocabulary

The last form of activity in LingoBee is "Other resources". Since LingoBee gives this advantage to add picture, web link and voice for the inserted vocabulary, therefore I have considered them as extra resources. Not all the users use these qualities; the more advanced ones use other resources for comments.

And in Figure 4.3b) the bar chart presents our improvement in using LingoBee by dividing our activities in two categories; Data input and Picture upload. Since none of us have left comment for others or used any other LingoBee features except uploading picture, therefore I do not consider them in the bar chart.

Now that I have explained how I have divided the users' activities in LingoBee, I can go through the events that caused me to develop from new comers to old comers in LingoBee.

I became member in LingoBee in 16th of February 2012. Besides me there were five more students as *NosrkClass-Jan2012* members and one teacher. In total there were seven members in our group. Our teacher also became member in our group for helping us in our new vocabulary data input.

Before becoming member in LingoBee since we were all attending to the class from month ago, I was friend with another classmate

of mine. Her name is Evelien and her username was same as her name (Evelien) in LingoBee. During my journey in LingoBee she acted as my master in community of practice (Wenger & Lave, 1991). She became member in LingoBee one day before me, in 15th of February.

First data input in *NosrkClass-Jan2012* was done by the teacher *Olafag2* in 17th of Feb. Evelien was the only active member for the first week after logging into LingoBee. She has inserted 14 new vocabularies during the first week from 15th of February till 19th of February; 6 vocabularies inserted in 18th of February, and 8 vocabularies in 19th of February. As you can see in Figure 4.3 the total data input during the first week is 16, and 14 of them belongs to Evelien and two of them belongs to the teacher. Evelien was the first student member who used LingoBee as mediator tool for learning Norwegian in our class.

She started to use LingoBee as a mediator for saving new vocabulary she read in her study book. In our next Norwegian class, she explained to me that how she has used it. In another word, she became an old-timer (Lave and Wenger, 1991) in LingoBee for me, and thought me how to use LingoBee.

After that I have decided to use LingoBee for inserting new vocabularies, but the problem was I did not know that many Norwegian words. Furthermore I wanted to find words or phrases that were not already in our text book. So I have decided to take LingoBee out to my university workplace; where all the last year student were working on their thesis, and ask other Norwegian speaker students for any Norwegian words.

Figure 4.6: Asking for Norwegian words from native speaking students

As you can see in the Figure 4.6, we have used LingoBee for fun and the words that they have thought me were not some serious phrases. Figure 4.6 also presents Marchant (2007) and Buckingham (2007) research on how young people are using Web 2.0 technologies for fun and entertainment. It is easier to use a language learning tool when fun factor is also considered.

Since Evelien's major was psychology and she was mostly working with Norwegian text books, therefore she continued to use LingoBee as a place to save new vocabularies that she was facing during her study time. She had inserted 10 new words from her studies in 24th of February and 7 more words on 27th of February.

Figure 4.7: LingoBee is used as a placed for saving new words facing

On our next class Evelien and I started to talk about how we were using LingoBee and also our teacher asked me where I have found my recent Norwegian word, which I have explained I saw the subtitle while I was watching a famous Norwegian TV series on that time called "*Lilyhammer*"[7], Figure 4.8.

Figure 4.8: LingoBee and data input from famous TV series

Another student; Mohammad Reza, whom known us were seated next to us and he was motivated by how we were using LingoBee and talking about our data input in the class. He logged into

[7] IMDb (1990-2014) Lilyhammer [Online]. Available from: http://www.imdb.com/title/tt1958961/ [Accessed 28th of March 2014]

LingoBee since 15th of February and he was not active till that day 1st of March. Our discussion about LingoBee and sharing our experiences in the class was a motivation for Mohammad Reza to be part of LingoBee. As Backstron (2006) has suggested having friends in a social network has small effect on joining into a social network, but chance of joining increases over a fixed time frame. Mohammad Reza joined to LingoBee after, Evelien and I were active about two weeks already.

Figure 4.9: User participation after being motivated by class discussion

Evelien and I had a discussion of how I have used LingoBee as a fun activity with my universities' classmates. I have opened another possibility of using LingoBee for Evelien and how it can be used while you have fun with your friends. After that, she has taken LingoBee out into the streets.

Evelien used additional feature of LingoBee (uploading pictures) while she was out in the streets. As you can see in Figure 4.10 she has used uploading picture's feature in LingoBee for the first time.

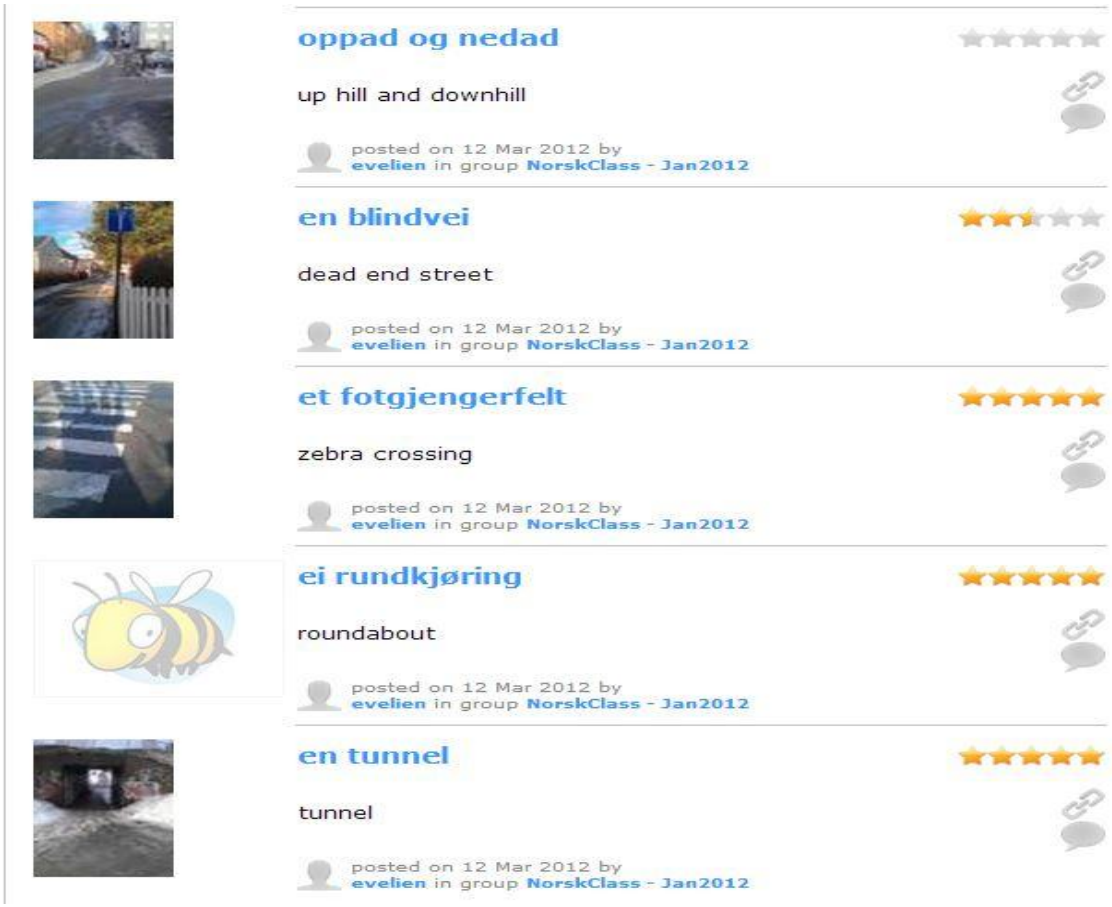


Figure 4.10: LingoBee in streets

Next time we tried uploading picture through LingoBee was while we were both in an Iranian ceremony"*Chaharshanbeh suri*"[8]. In this ceremony she took picture of me while I was jumping a pile of fire. After she took picture we tried to make a correct sentence that can describe the picture in Norwegian. Evelien and I experience is close to constructivism theory. As we have

[8] Wikipedia (2014) Charshanbeh Suri [Online]. Available from: http://en.wikipedia.org/wiki/Chaharshanbe Suri [Accessed 24th February 2014]

discussed in Section 3.4, Evelien and I collaborated with each other and used our previous knowledge; jumping and fire, in order to gain new knowledge which is making a complete sentence in Norwegian. Availability of LingoBee as Web 2.0 tool helped us in capturing the jumping moment.

In the next class we have asked our teacher if the sentence we made was correct or not. And after his approval we have uploaded the picture with description, shown in Figure 4.11.

Figure 4.11: Two students are using LingoBee in an informal way

At the same night Evelien showed me how picture can be uploaded into LingoBee. So I could use the picture feature when I was spending Eastern holidays with my Norwegian friends. Here again Evelien acted as master for me and thought me a new functionality in LingoBee.

Figure 4.11: Using a new feature after being thought by old-comer

Evelien was the first member who used LingoBee in our class, so we were all followed her after that. But I was the first one who started to use LingoBee in more social situations and asking native speakers to assist me in adding new Norwegian vocabularies. I have encouraged other LingoBee members in our class by introducing the fun factor of this tool and bringing up a more informal face of LingoBee.

During that course Evelien and I changed our role as master constantly. We all the time transferred our knowledge to the other one and helped each other to improve in Norwegian by using LingoBee. But since we have stopped learning Norwegian after few month, therefore none of us could reach the most inner layer in ZPD of Vygotsky's theory (1978).

In this experience most communication in the group has happened between Evelien, Mohammad Reza, teacher and me. And those communications were offline; we mostly were discussing the issues in the class and used LingoBee as a device to deliver our knowledge into the class.

Since all the communication and collaboration were done offline and there is no track of them in LingoBee; therefore, when I have analyzed data in our group (*NorskClass-2012Jan*) there is not much interaction between members in our communities that can be shown by SNA.

Table 4.1 shows the interaction between members and their participation in the community through data analyzing. This method is sociomatrix that is presented by Wasserman (1994) for analyzing data in social networks. The column is the actors (members) that have left comments, and actors in rows are the ones that have received them. The layers in the matrix represent the relation value between actors. The relation value is calculated by the number of times that a member has left comment on another member data input.

Places that actor in a column face same actor in the row demonstrates the number of data input that the member has inserted into LingoBee. These places have been marked by light green color. These places represent density of the member's participation in the community. As you can see in the Table 4.1 the only interaction has happened between the teacher ('Olafag2') and the students.

Actors	Olafag2	Arezoo	Evelien	Mohammad reza	Ikenna	Danuta	Shaui00
Olafag2	3	2	1	1	0	0	0
Arezoo	0	10	0	0	0	0	0
Evelien	0	0	39	0	0	0	0
Mohammad reza	0	0	0	19	0	0	0
Ikenna	0	0	0	0	2	0	0
Danuta	0	0	0	0	0	1	0
Shuai00	0	0	0	0	0	0	1

Table 4.1: data analyze of group NorskClass-Jan2012

As you can see in Table 4.1 there is not that much collaboration between the members in the *NorskClass-Jan2012* community. Most of our group collaboration happened face-to-face and they were due to the existed friendship in the class (Buckingham, 2007).

5 Data Analysis

A community functions through its members' participation. Members in a community not essentially need to communicate with each other in order to reach their goals. But the relationship among the members is inevitable. Master and apprentice (Lave & Wenger, 1991) relationship can be one factor or the members collaboration (Yuill, 2009) can be another one for the communication.

For evaluating LingoBee Google Analytics data is available. But Learning Management Systems (LMS) like Google analytics data is not enough for measuring communication level between group members. Therefore we need another measurement system for analyzing the interaction between the members.

In this Chapter community in LingoBee will be evaluated by analyzing data. In network society since we have no knowledge of offline events; like we used in the case story in Chapter 4, therefore in order for evaluating the level of communication between members; we need to use another method to do so. The method that I am going to use for evaluating the level of communication among users is Social Network analysis (SNA). This method was brought by Wasserman in 1994.

Social Network Analysis (SNA) is based on an assumption of the importance of relationships among interacting units (Wasserman & Faust, 1994, pp. 4-98).

According to SNA social network consists of a finite set or sets of actors and the relation or relations between them. Actor can be an individual, corporation, a group of people or corporations. And the relation between them is a linkage between a pair of actors.

The data is collected by observing interaction between the actors in a group. Leaving comments on each other data input has been considered as a source for interaction.

According to Wasserman (1994) there are three different notation schemes for analyzing network data;

1. Graph theoretic
2. Sociomatric
3. Algebraic

Here we only use graphic theoretic and sociomatric schemes. I have chose graphic theoretic since it is an elementary way to represent actors and relations, and sociomatric for evaluating the relationship and members' contribution to the community.

Sociomatric scheme is the most common in the social network literature. In sociomatric rows and columns presents actors and the matrix layer presents the relationship among them.

In this scheme N is set of g actors $N = \{n_1, n_2, \ldots, n_g\}$. X is a single value directional notation. We have R relations that is indexed by r=1,2,…,R then let's assume that we have x_{ijr} relation, it means the tie from the ith actor to the jth actor on the rth relation.

x_{ijr}= the value of the tie from n_i to n_j on relation x_r,

There are R relations in $g \times g$ sociomatrics. Therefore we can consider the matrix as three-dimensional matrix of size $g \times g \times R$.

In order to be able to evaluate communication between users, since LingoBee has not any direct communication features such as email or chat, therefore I use leaving comments for another user as a communication feature. Also since we want to check if LingoBee can be considered as a community tool, therefore we

also need to evaluate the level of users' participation in LingoBee. For doing so, I also will consider the number of data input from each user.

In LingoBee there are several language groups. But not all of the languages have many active members. The languages that have more input data than others are English, Hungarian, Italian, Lithuanian, Norwegian and Dutch.

In this Chapter I will analyze some subgroups in Norwegian language. Also there is a study group in LingoBee that has been made by Norwegian University of Science and Technology (NTNU). I will explain further about this group later.

The first group which I am going to evaluate is Norwegian language. This group consists of several subgroups. The subgroups are *norskclass1* and *NorskClass-Jan2012*. In Table 5.1 the number of members for each group, and the shorten form of the groups' names have been shown. This shorten form is going to be used in agents' name.

Each user; individuals, is considered as an actor in Sociomatrix. In order to show each actor belongs to which group I will use the shorten form for the groups' names.

Group name	**Number of members**	**Short form**
Norskclass1	27	nc1
norskClass-Jan2012	7	ncj

Table 5.1: Norwegian language groups

While I was checking data inputs from the members, I have noticed some mistake in data entries from users. But since the action is important to us not the data, thus I have ignored those mistakes. I can refer to the following mistakes from users as data input mistake;

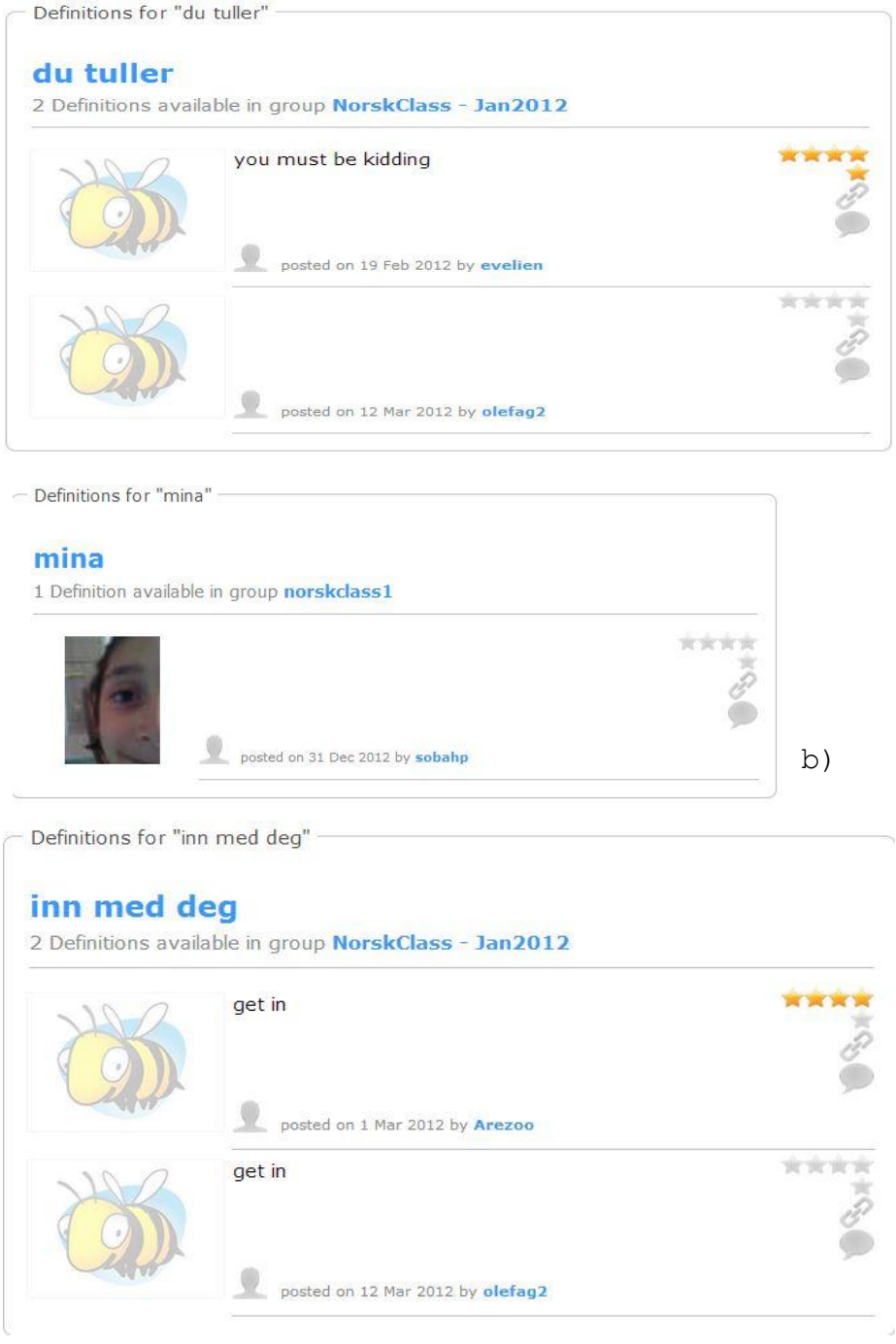


Figure 5.1 (a-c): not related data input

Figures 5.1a), 5.1c) show that the comments are not useful and cannot be considered as complimentary comments. And Figure 5.1b) is not a related data input to the group's common purpose, which is learning Norwegian language.

Despite of the existing data mistakes as data inputs, I have considered them in my evaluation. The action of communication and participating in community is more important than the correctness of those actions.

Now I will evaluate subgroups in Norwegian language group by creating matrix for each subgroup. There are two actors who have participated in more than one subgroup; therefore I will put them in each matrix. Those actors are *GTncj* whom is a teacher, and *GR1* whom is a LingoBee researcher.

Actors / Actors	GTncj	G1ncj	G2ncj	G3ncj	G4ncj	G5ncj	G6ncj
GTncj	2	1	1	2	0	0	0
G1ncj	0	19	0	0	0	0	0
G2ncj	0	0	39	0	0	0	0
G3ncj	0	0	0	10	0	0	0
G4ncj	0	0	0	0	1	0	0
G5ncj	0	0	0	0	0	1	0
G6ncj	0	0	0	0	0	0	2

Table 5.2: NorskClass-Jan2012 Socio-matrix

Actors / Actors	GTncj	GR1	G4ncj	G1nc1	G2nc1	G3nc1	G4nc1	G5nc1	G6nc1	G7nc1	G8nc1	G9nc1	G10nc1	G11nc1	G12nc1	G13nc1	G14nc1	G15nc1	G16nc1	G17nc1
GTncj	0	0	0	3	0	0	0	1	0	0	0	0	0	0	0	0	1	1	0	0
GR1	0	5	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0
G4ncj	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
G1nc1	0	0	0	166	0	2	1	0	0	0	0	0	0	0	0	0	0	0	0	0
G2nc1	0	0	0	0	2	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
G3nc1	0	0	0	0	0	9	0	0	0	1	0	0	0	0	0	0	0	0	0	0
G4nc1	0	0	0	0	0	0	21	0	0	0	0	0	0	0	0	1	0	0	0	0
G5nc1	0	0	0	1	0	0	0	13	0	0	0	0	0	1	0	0	0	0	0	0
G6nc1	0	0	0	0	0	0	0	0	11	1	0	0	0	0	0	0	0	0	0	0
G7nc1	0	0	0	0	0	0	0	0	0	5	0	0	0	0	0	0	0	0	0	0
G8nc1	0	0	0	0	0	0	0	0	0	1	5	0	0	0	0	0	0	0	1	0
G9nc1	0	0	0	0	0	0	0	0	0	1	0	22	0	0	0	0	0	0	0	0
G10nc1	0	0	0	0	0	0	0	0	0	0	0	0	3	1	0	0	0	0	0	0
G11nc1	0	0	0	0	0	0	0	0	0	0	0	0	0	8	0	0	0	0	0	0
G12nc1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	18	0	0	0	0	0
G13nc1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	22	0	0	0	0
G14nc1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	8	0	0	0
G15nc1	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	3	4	0
G16nc1	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	17	0
G17nc1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1

Table 5.3: norskclass1 Socio-matrix

As you can see in Table 5.3, user *G1nc1* has more data input than others but his\her high activity also he or she has left comments for the other members. We can consider him or her as an active member in the norskclass1 community.

But since participation in a community is not only sharing your knowledge or resources to others, it also means communicating

with other members. So in the following Figure 5.2, I have shown the relation lines between actors in two different community groups.

One of the pillars for community of practice; Figure 3.4, shows is *"mutual engagement"*. The factors for *"mutual engagement"* are engaged diversity, doing things together, relationships, social complexity and community maintenance. Therefore relationship is as important as participation in the community. By participation in LingoBee, I mean sharing knowledge and recourses as an individual. Since one purpose of LingoBee is creating a mediator environment for learning second language, therefore members can insert the new word or phrase they have learnt into LingoBee and share it with others. But for coherent community it is not everything, members need to communicate with each other and through this communication they can share more knowledge or they can correct a mistake or resolve a problem.

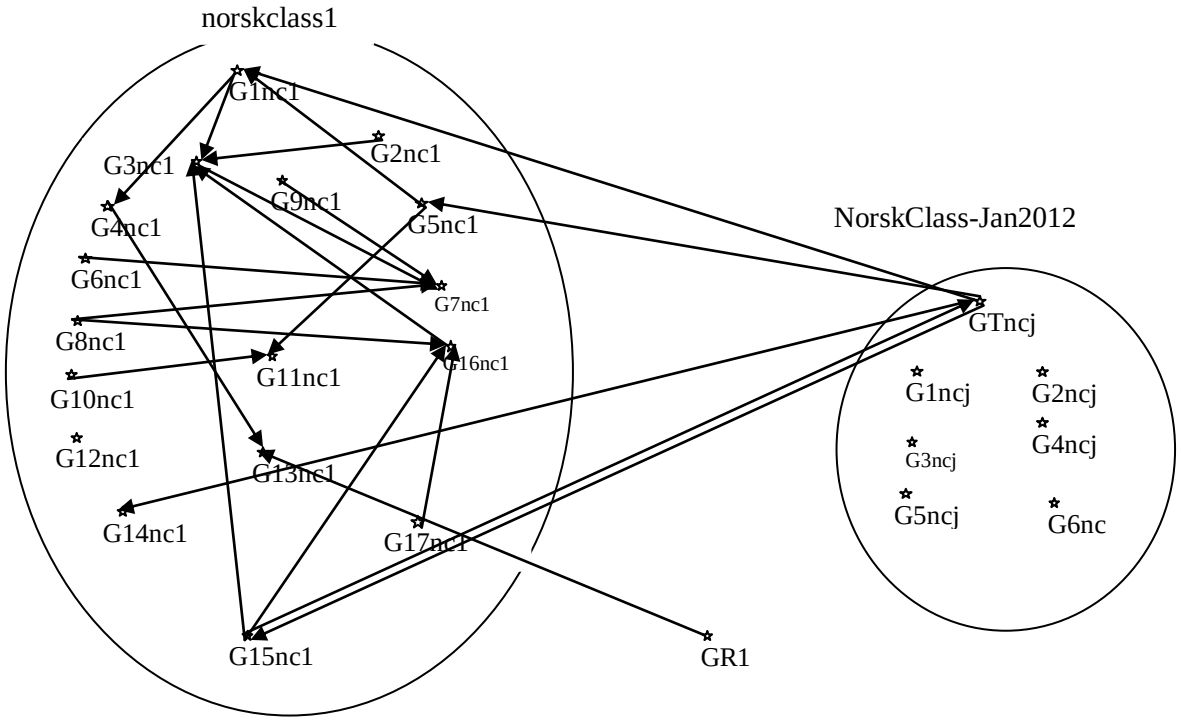


Figure 5.2: SNA graph for 'norskclass1' and 'NosrkClass-Jan2012'

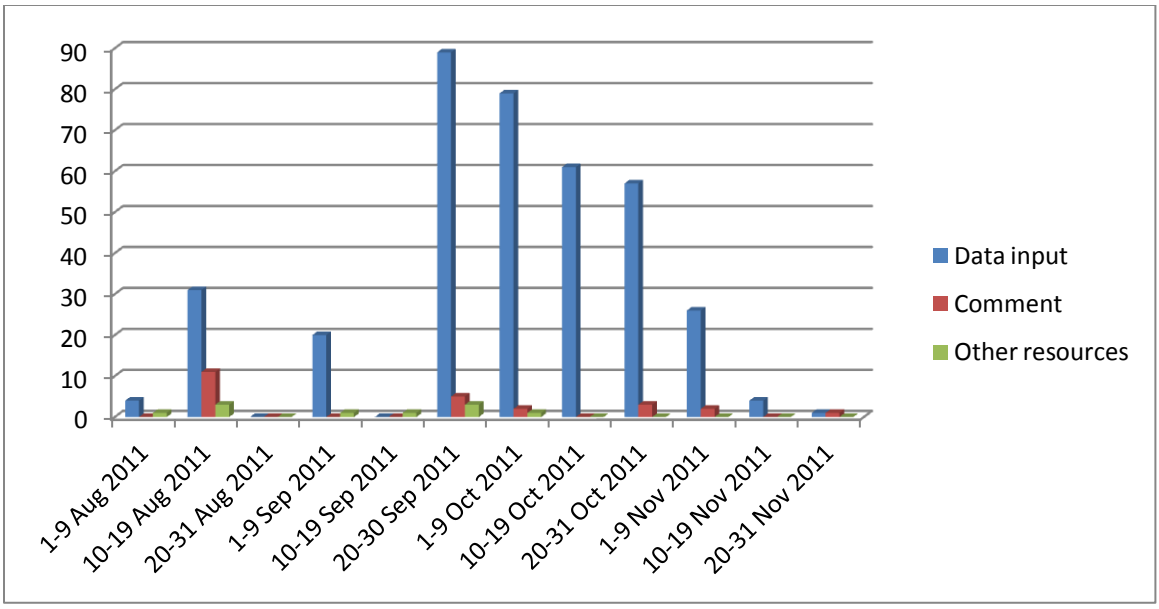


Figure 5.3: Chart bar for Norwegian language groups from 1 august 2011 till 31 November 2011

In graphical scheme If we consider there are N nodes, then each node in order to have maximum communication with other nodes (actors) is $N-1$. And if each node has two ways for communications; sending and receiving. Then we can say maximum number of relation lines is $2(N-1)$.

In the above figure the maximum interaction in a node is 5. They are two nodes that have maximum 5 relations' lines; the teacher *GTncj* and one of the members in *norskclass1* *G3nc1*. If you check *G3nc1* in table 5.3, you will be noticed that this actor was less active than the actor *G1nc1*, but he or she has received more comments on his or her comments. Figure 5.4 (a to d) shows the comments that have been left by other members for *G3nc1* in *norskclass1* community. Despite of only one of the comments is correct; I have considered all the comments in data analysis.

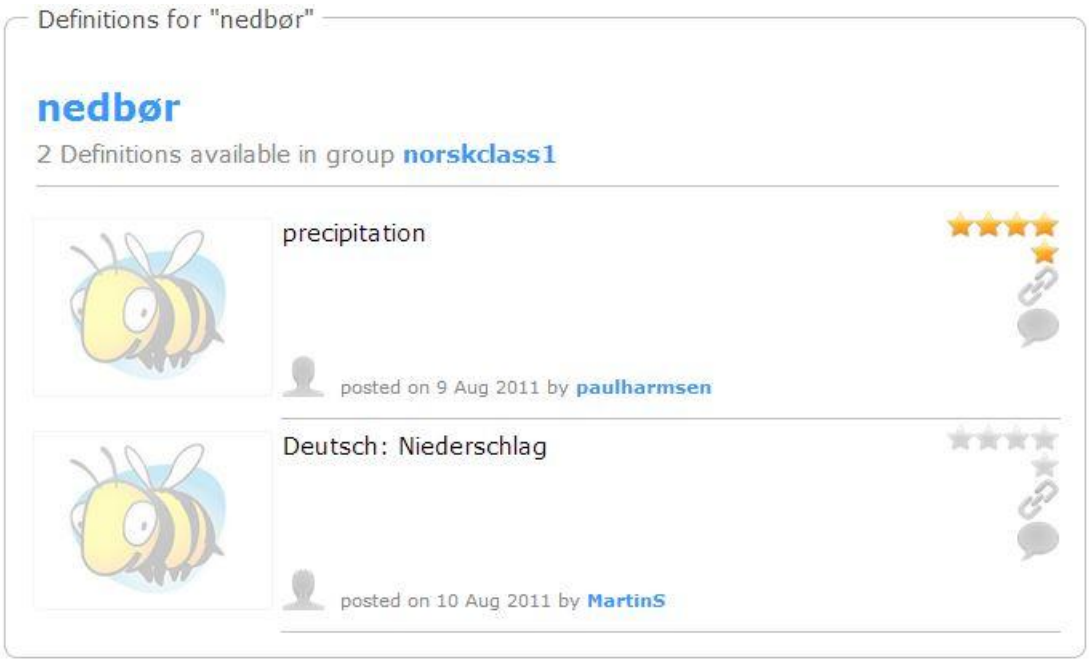


Figure 5.4a) another member has put another translation of the word *nedbør*

Figure 5.4b) another user have left same comment; mistaken data input

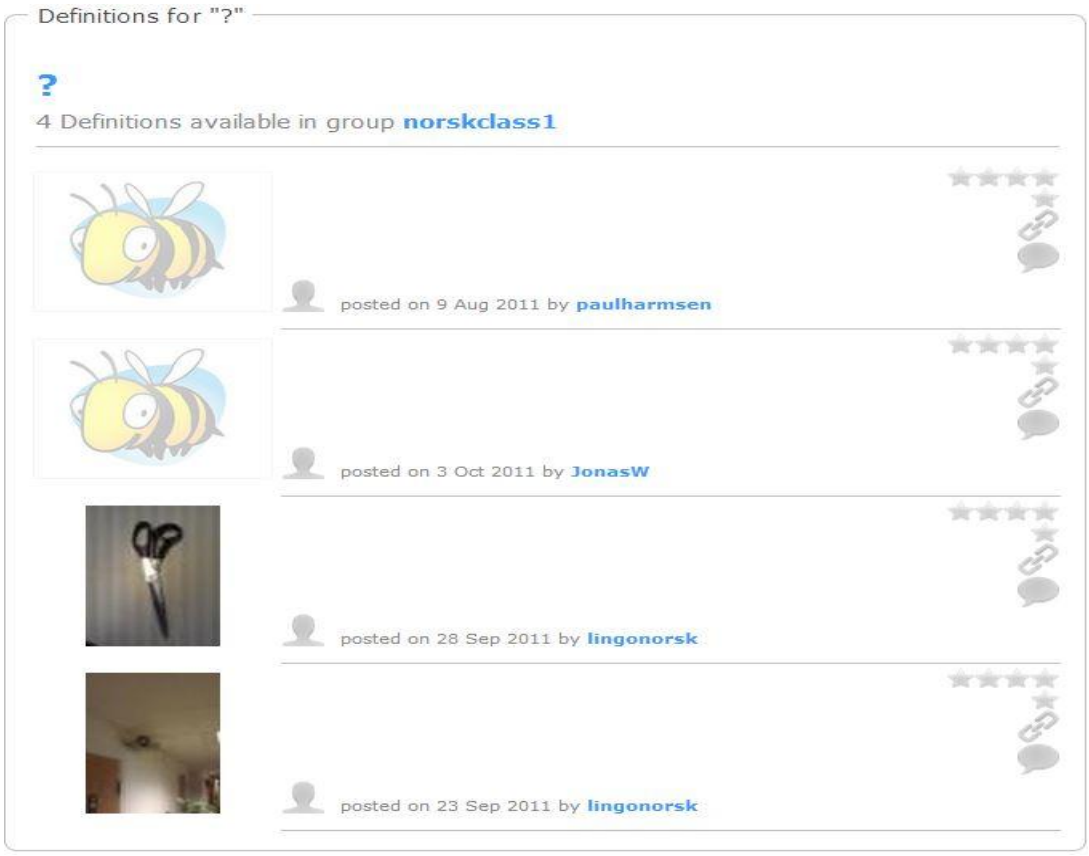


Figure 5.4c) several actors have left comments on *G3nc1* without adding more info; mistaken data input

Figure 5.4d) no correct data input

When I was analyzing the LingoBee data I have noticed that a study group that belong to a course in NTNU; *TDT4245*, has used LingoBee as a mediator for helping each other in the course. The Course *TDT4245* was held in NTNU in Autumn 2013[9].

This mega group *TDT424* has several sub groups such as *TDT4245-norwgian*, *TDT4245-group1*,…, and *TDT4245-group9*. These groups were created due a research experimental that has done by Fominykh et. al (n. d.). In this research the students were told to; (a) create a dictionary of Norwegian terms and phrases that can be useful for new comers into the town (Trondheim), and (b) to create a glossary of terms related to cooperation technology.

In task (a) students should have their own data entries and then comments on others' data input in order to improve the quality of them. Also rank the other members data inputs. In task (b) first each group made their own repository privately then the groups would be public and the groups need to revise other groups data input.

Group name	**Number of members**	**Short form**
TDT4245-norwegian	7	tn
TDT4245-Group1	4	Tg1
TDT4245-Group2	1	Tg2
TDT4245-Group3	6	Tg3
TDT4245-Group4	2	Tg4
TDT4245-Group5	2	Tg5
TDT4245-Group6	3	Tg6
TDT4245-Group9	1	Tg9

Table 5.4: 'TDT4245' groups

[9] IDI.NTNU.NO (2013) TDT4245 – Cooperation Technology and Social Media Autumn 2013. Available from: http://www.idi.ntnu.no/emner/tdt4245/ [Accessed 28th March 2014]

Actor	G1tn	G2tn	G3tn	G4tn	G5tn	G6tn	G7tn	G1tg1	G2tg1	G1tg2	G1tg3	G2tg3	G3tg3	G4tg3	G5tg3	G1tg4	G2tg4	G1tg5	G2tg5	G1tg6	G2tg6	G3tg6	G1tg9
G1tn	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0
G2tn	2	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
G3tn	0	1	4	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0
G4tn	0	0	0	2	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0
G5tn	0	0	0	0	2	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
G6tn	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
G7tn	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
G1tg1	0	1	0	1	0	0	1	4	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
G2tg1	0	0	0	0	0	0	0	1	2	0	0	0	0	0	0	1	0	0	0	0	0	0	0
G1tg2	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0
G1tg3	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	1	0	0	0
G2tg3	1	0	0	0	0	0	0	0	0	0	0	3	1	0	0	0	0	0	0	0	0	0	0
G3tg3	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0
G4tg3	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0
G5tg3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
G1tg4	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	2	1	0	1	0	0	0	0
G2tg4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0
G1tg5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	2
G2tg5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0
G1tg6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0
G2tg6	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1	0	0	0	2	0	0
G3tg6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0
G1tg9	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1	0	0	2

a)

Actors	G4tn	G1tg1	G2tg1	G1tg5
G4tn	1	3	0	0
G1tg1	0	6	0	0
G2tg1	0	1	0	0
G1tg5	0	2	0	0

b)

Actors	G1tg2
G1tg2	4

c)

Actors	G3tn	G1tg3	G6tg3	G1tg9
G3tn	2	0	0	0
G1tg3	0	3	0	0
G6tg3	0	1	4	0
G1tg9	0	1	1	0

d)

Actors	G5tn	G3tg1	G1tg4	G2tg4
G5tn	4	0	0	0
G3tg1	0	0	0	1
G1tg4	0	0	0	4
G2tg4	1	0	0	5

e)

Actors	G2tn	G1tg5	G2tg5
G2tn	1	0	0
G1tg5	0	4	1
G2tg5	0	0	6

f)

Actors	G1tn	G1tg6	G2tg6
G1tn	3	0	0
G1tg6	1	3	0
G2tg6	0	0	1

g)

Actors	G2tg3	G3tg3	G4tg3	G5tg3
G2tg3	11	0	0	0
G3tg3	0	10	0	0
G4tg3	0	1	0	0
G5tg3	1	0	0	1

h)

Table 5.5: Socio-matrices of different sub groups in 'TDT4245' course a) 'TDT4245-norwegian', b) 'TDT4245-Group1', c) 'TDT4245-Group2', d) 'TDT4245-Group3', e) TDT4245-Group4', f) 'TDT4245-Group5', g) 'TDT4245-Group6', h) 'TDT4245-Group9'

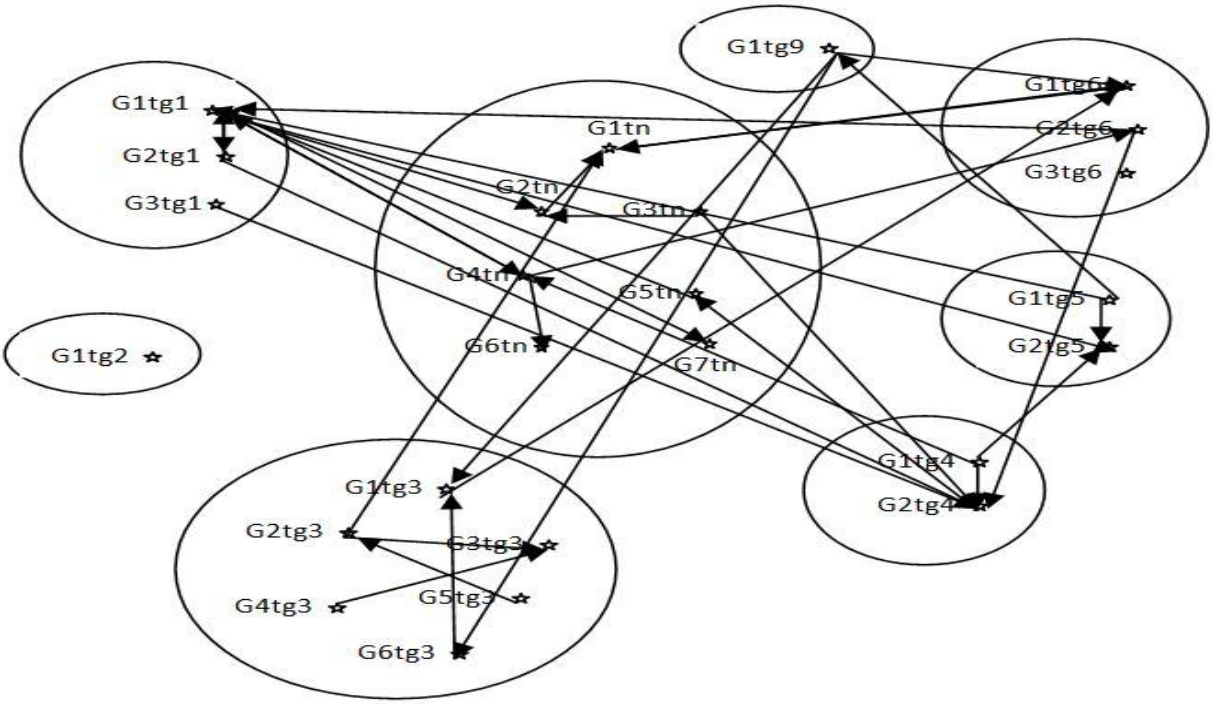


Figure 5.5: SNA graph for TDT4245 mega group

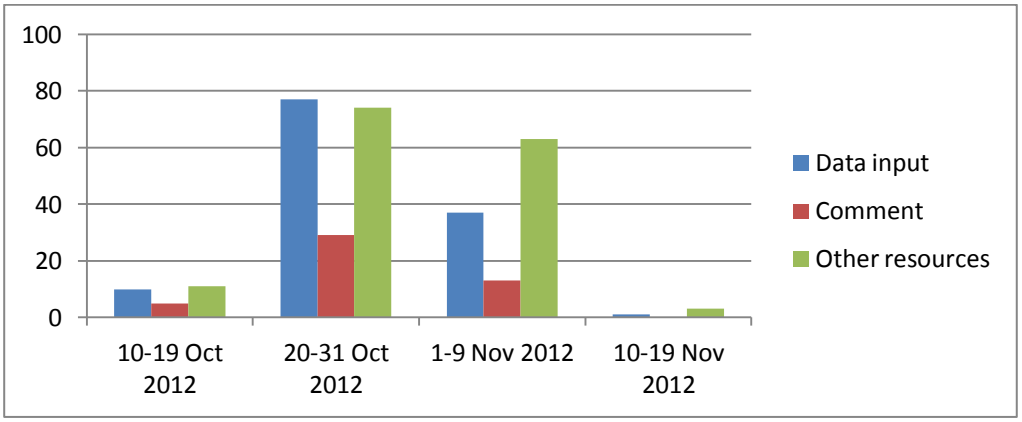


Figure 5.6: Chart bar for 'TDT4245' mega group

As you can see in Figure 5.5 Group 1 has 11 relations' notations is the most active group in receiving and leaving comments for

other groups, after them Group 4 been more active with 8 relations.

This example shows the motivation plays important role in a community. These groups; *TDT4245* subgroups, have less data input than the other group *norskclass1* (166 data input by *G1nc1*) but they have more relations with other group members since the tasks mostly were about improving the data input.

6 Discussion

In this chapter I will write about the factors that can a learner to improve in his or her learning process in Section 6.1. And about the factors which assist a community to improve their quality in order to fulfill their goal.

6.1 Improve learning process

Learning process as we have discussed earlier in Chapter 3, can be considered from different aspects. Learning can be formal or informal. Formal means teacher has direct affect on the learning process, he or she supervise students and whenever it is needed they will correct students and put them in the right path. Formal learning process prevents students from fossilization and teachers' experiences can be used by students in their future encounter with the language.

Formal learning process is the most traditional but as much as it is effective, it has some week points. In this technique student gain her knowledge from her teacher, but in order to internalize the knowledge she needs to experience it herself and use the pre-existing knowledge in a new experience.

Therefore we come to this point that in order knowledge becomes internalized student need to experience the language encounter herself, and since in language learning everyone uses her knowledge from previous language and tries to adopt the new information with the old ones therefore collaboration with other peer learners can assist her to have a better understanding of the new language and find its own linguistic logic.

In Section 6.1 I will go through all this factors and give an example from LingoBee data collection.

Motivation; one of the most important aspect of learning is learner's motivation. Learner needs to be motivated to study and participate in learning activities. In social networks there are two types of motivations; first one, as Backstron (2006) as suggested having friends in the social network motivate others to be a member; for example, Mohammad Reza in group *NorskClass-Jan2012* (Chapter 4). Second one, which is more important than having friends in the network is having same goal or as Wenger (1998) has suggested having *joint enterprise;* Section 3.2 . Also Haythornwaite (2009); by suggesting the *Lightweight* model, reminds that learners remain in a community as long as their motives and goals are met. For example group *TDT4245*, as we have seen in social network analyzing data (SNA) they had more relationship and they were active during their course since their motivation as I have mentioned in Chapter 5 was the given tasks by their course' professor.

Adaptation of New Information; one of the factors that improve the learning process is the adaptation of new information. Educators need to not only implant the new ideas but also to dispose or modify the old ones as well. The resistance for new beliefs comes from its contradiction with the old ones. In order to facilitate the learning process, beliefs and theories of the learner should be examined and tested and then integrate the more new and refined ideas into the learner's belief system (Kobl, 1984). Also Piaget has identified two mechanisms that the learner uses for adopting the new idea. These two mechanisms are integration and substitution. Piaget has suggested that if the new information integrates with the old ones then the new information becomes highly stable in the learner's mind. On the other hand, by the substitution there is

always possibility of turning back to the earlier level beliefs (Cross & Israelit, 2000: 321). For instance; the difference between Evelien and me in our language learning process was that she was able to catch the grammatical and pronunciation concepts easier and faster than I could. She was from Belgium and because her mother tongue language was German, it was easier for her to adopt the new information into the old ones.

Environment; environment can be formal and informal. Formal environments are more like a classroom; it means teacher plays an active role in it. Examples of formal environment in LingoBee will be given later in *Formal Learning Process*, Figure 6.1. In those examples the hierarchy can be felt, student made a mistake and the teacher corrected his or her mistake, or suggested the grammatical correct form of words' genders.

Informal environment is outside of classrooms and since LingoBee is a mobile application therefore it is convenient to use it out doors while spending time with friends or doing any fun activities. The informal environment means there is no official supervision and the teacher student hierarchy cannot be felt; Figure 6.6 and Figure 6.1, and activities can be light and out of any pressure; Figure 4.11.

In Figure 6.1, the teacher is *Emma.PL* and she left a complementary description into the two pre-existed descriptions that were added by the students. In this example the power of teacher's observation cannot be felt and she has acted as same as other students.

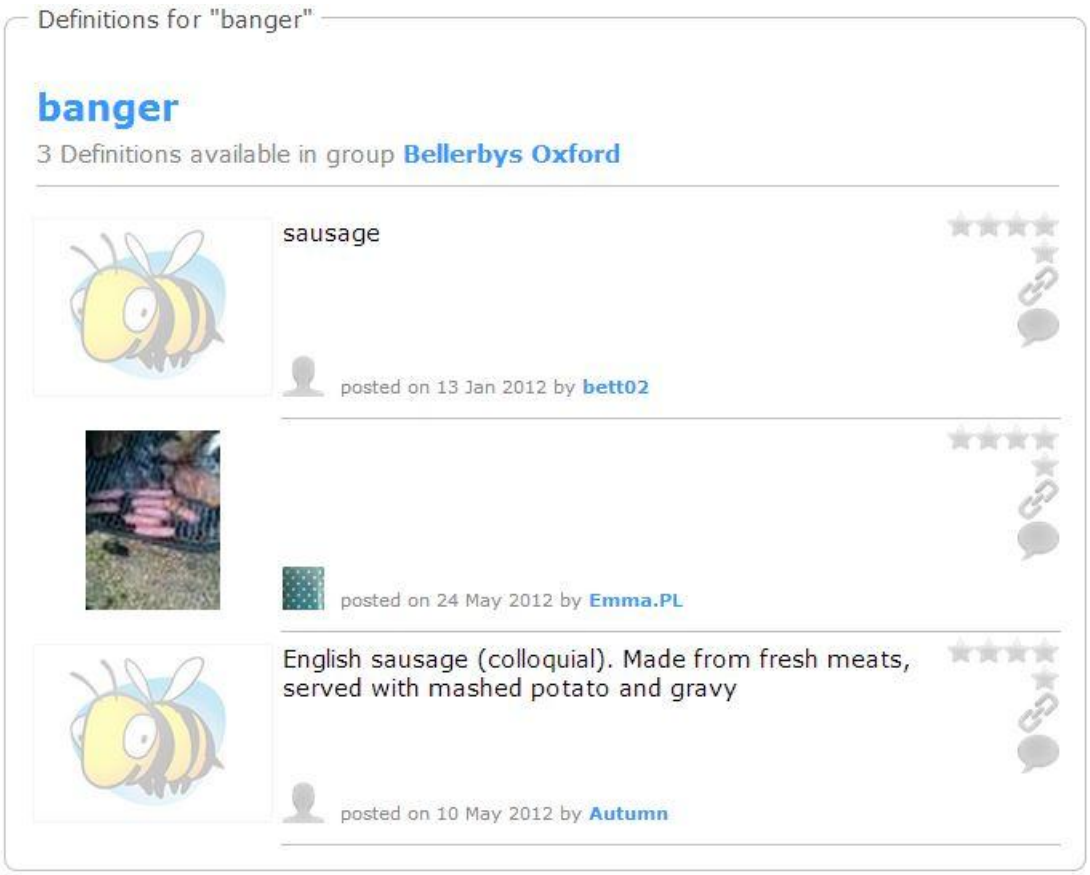


Figure 6.1: Teacher and students are discussing word "Banger".

Formal Learning Process; this type of learning process is more classic and it is mostly effective in the classrooms. As I have explained in Section 3.1.1, this method; behavioral outcome, requires a teacher in order to make sure the fossilization does not happen, while the students are learning the language. LingoBee can be used as informal and formal environment mediator tool, as we saw it in the previous discussion (*Environment).* Here I will show examples of LingoBee being used in more formal environment and in these examples teacher has stronger voice and uses his knowledge to guide the students in the correct way.

a) Describing a grammatical form of the verb and correcting form of a joined word

b) Giving example of a correct form of genders

Figure 6.2: (a) Teacher corrects the student mistake ("lettmelk") or answer his or her question ("gjaldt") (b) Teacher gives examples of correct gender usage in Norwegian language.

In Figure 6.2 (a) and (b) we see the teacher has used his power as some one more experienced in the language communities; norskClass-Jan2012 and norskclass1 in order to correct the students mistake and pass his knowledge to them by using LingoBee as a mediator.

Experience; another factor in learning process is experience. As we have discussed earlier it is an important factor for internalizing the pre-existing knowledge. There are three suggested models for using experience in learning process by Lewin, Dewey and Piaget. The models of learning have been explained in Chapter 3.1.2; Student-Centered Learning. Since the experimental model is based on experience, and each individual experience and internalize new ideas in her own way; therefore, the knowledge as Kolb (1984) has mentioned is not measurable and experiences are different for each individuals. Here I will bring examples of experimental learning in LingoBee.

a) Lewin's model:

One of the examples in LingoBee is receiving feedback from teachers by the learners. This example is closer to Lewin's model since receiving feedback from an experienced person is one of the requirements in this learning process model. In this example teacher's rating and teacher's act of correctness are considered as feedback. I have experienced during LingoBee's usage, considering the teacher's rating as a positive feedback from him. So I knew the path I was taking was correct and my data entries were approved by him. By considering his approval I continued to explore other resources in order to learn more; Figure 6.3.

Figure 6.3: Teacher gave feedback by rating

As Figure 6.4 shows mohammadReza on 9th of March made a grammatical mistake by writing a connected word separated. He received feedback by the teacher on 12th of March and the teacher showed him the correct form of the word. On 5th of April mohammadreza wrote another word that follows the same rule and this time he wrote the word in its correct form.

a) Teacher's feedback

b) Internalized Knowledge

Figure 6.4: Teacher's feedback and internalized knowledge by the student for the later experience

b) Dewey's model:

The following example is closer to Dewey's model of learning process. In Dewey's model an impulsive act ends up with an observation, and the learner can gain knowledge through the collected data by observation, previous experiences, from someone who has more experience and then the learner uses this information for the next impulsive act.

As I have explained in Chapter 4, Evelien and I had a constant knowledge exchange and these exchanges of experiences and

knowledge helped us to develop in Norwegian language till we were able to make our own sentence, Figure 4.11. During LingoBee usage, Evelien and I after each impulsive experience that we had; we shared our gained knowledge with each other. And this sharing of knowledge helped us in our own next experiences.

c) Piaget's model:

Piaget suggested that learning starts since the baby is born. The baby starts to learn at the beginning phase by looking at the environment and remembering the pictures, and then she expands her surroundings when she become older and mix pictures with sounds.

We can find similar example for Piaget model in LingoBee. In Chapter 5 group TDT4245 were shaped because of a given task in the course that some foreign students were attending. The first task was to create a dictionary that can help the new comers in Trondheim. Since the members themselves were new comers in the school as exchange students, we can consider them as new born baby in the new city. Because they had no information about the surroundings and the culture they were going to face beforehand. In Figure 6.5 the development of their learning is visible. At the beginning they were only learning by being in the school, so they data input were mostly related to the building they were studying and the student's related activities, Figure 6.5 (a).

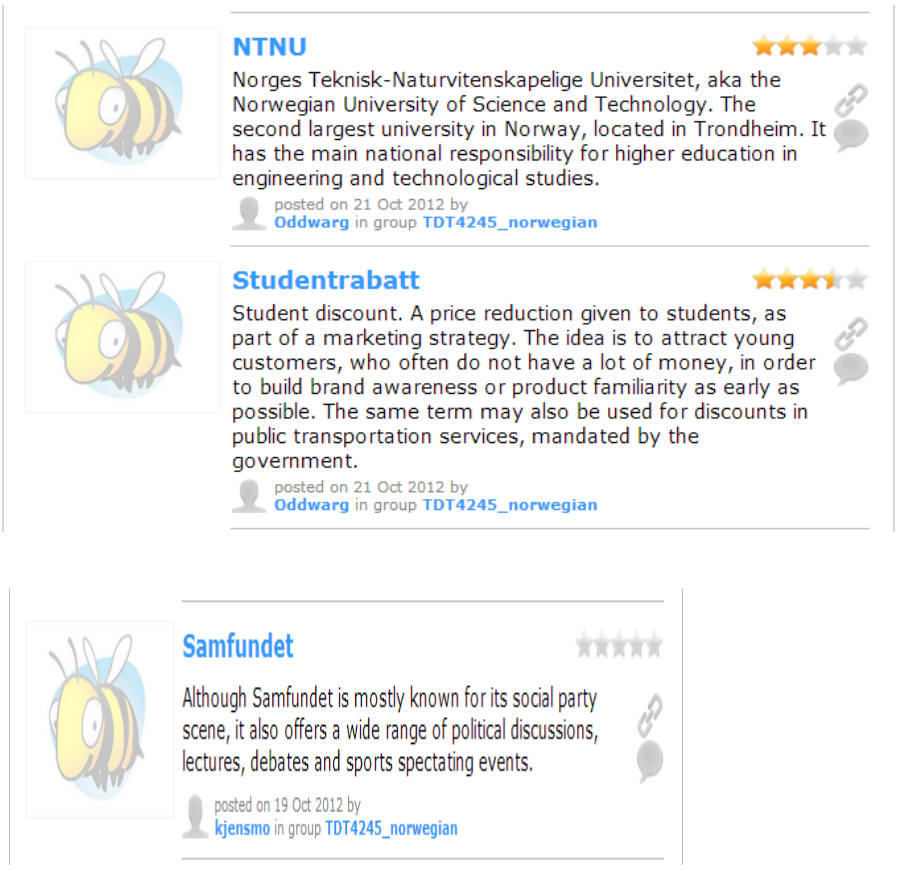
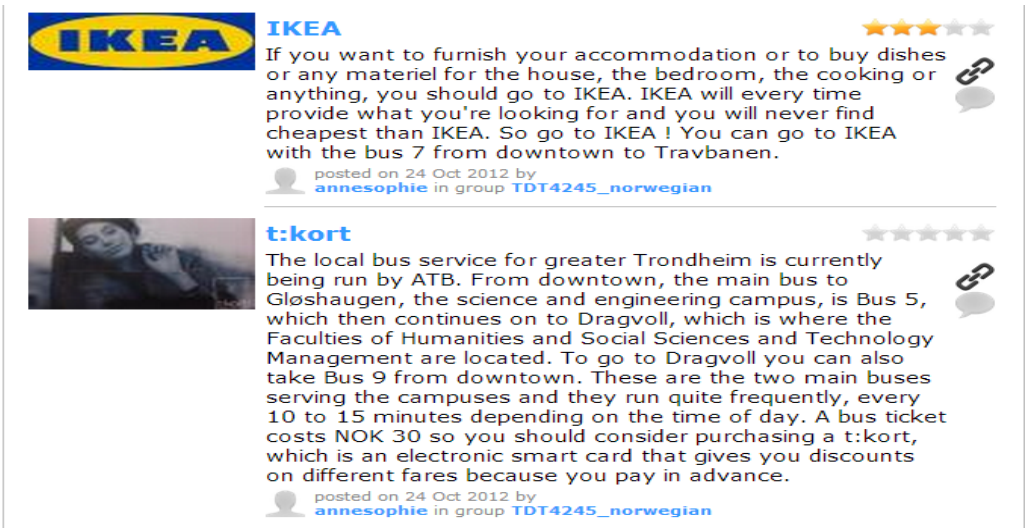


Figure 6.4a) TDT4245-Norwegian first data entries were mostly about NTNU and activities related to students



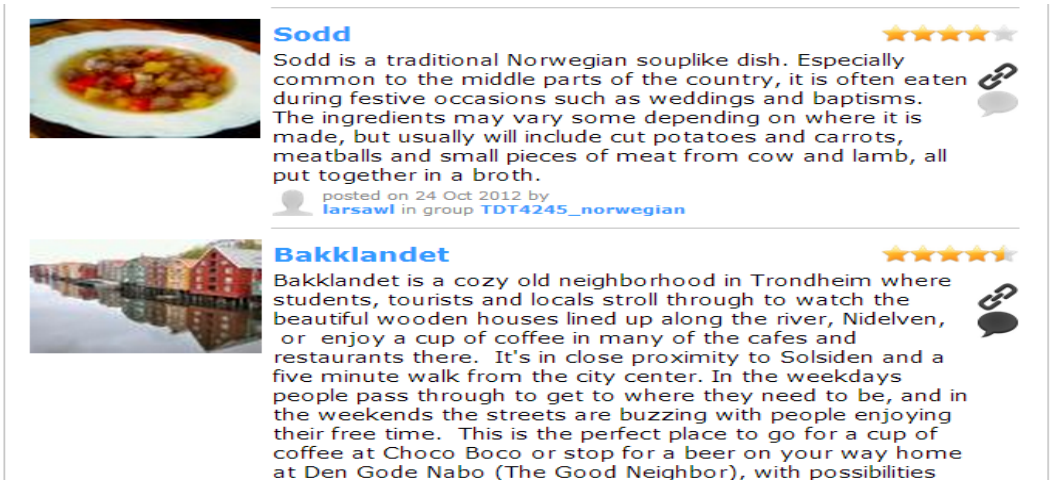


Figure 6.4b) TDT4245-Norwegian group starts to experience the city (Trondheim) and the activities inside the city

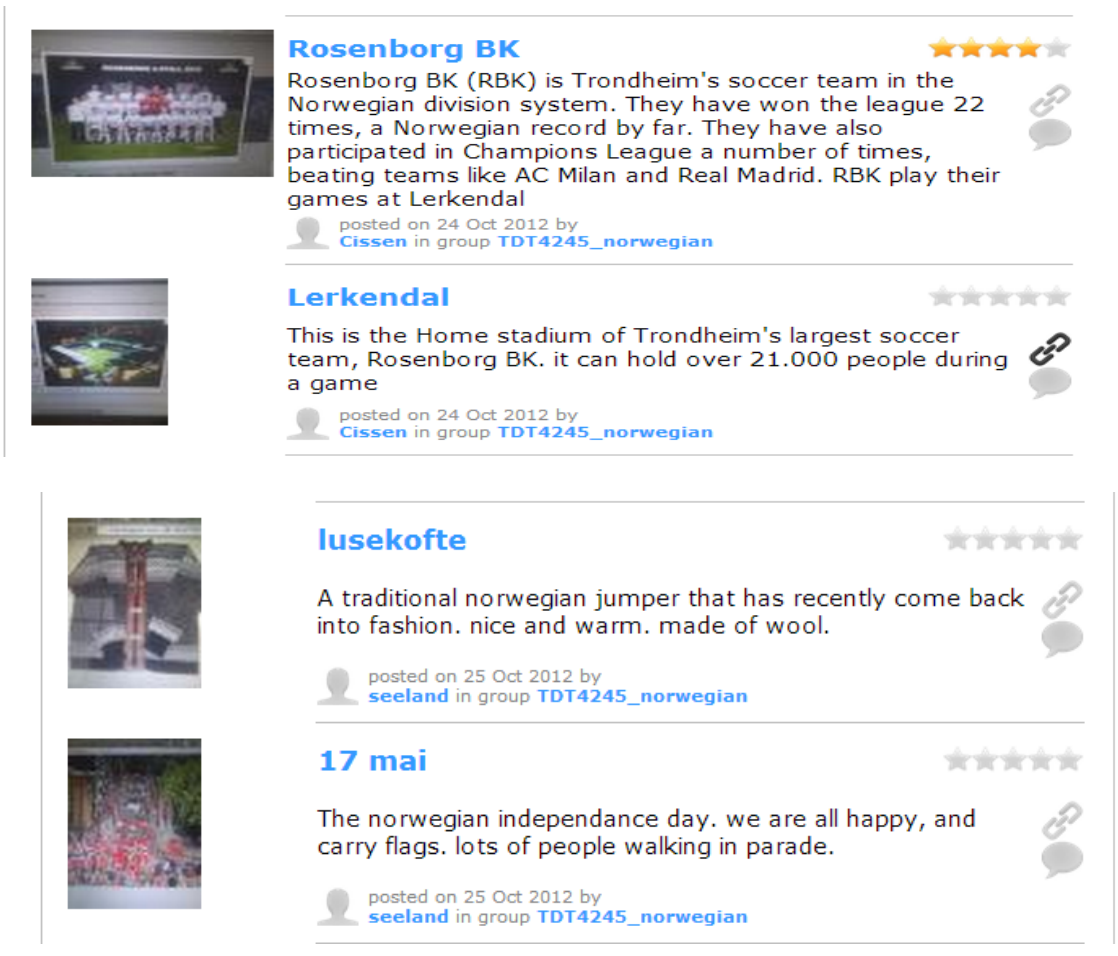


Figure 6.4c) TDT4245-Norwegian group starts to experience the Norwegian's cultures

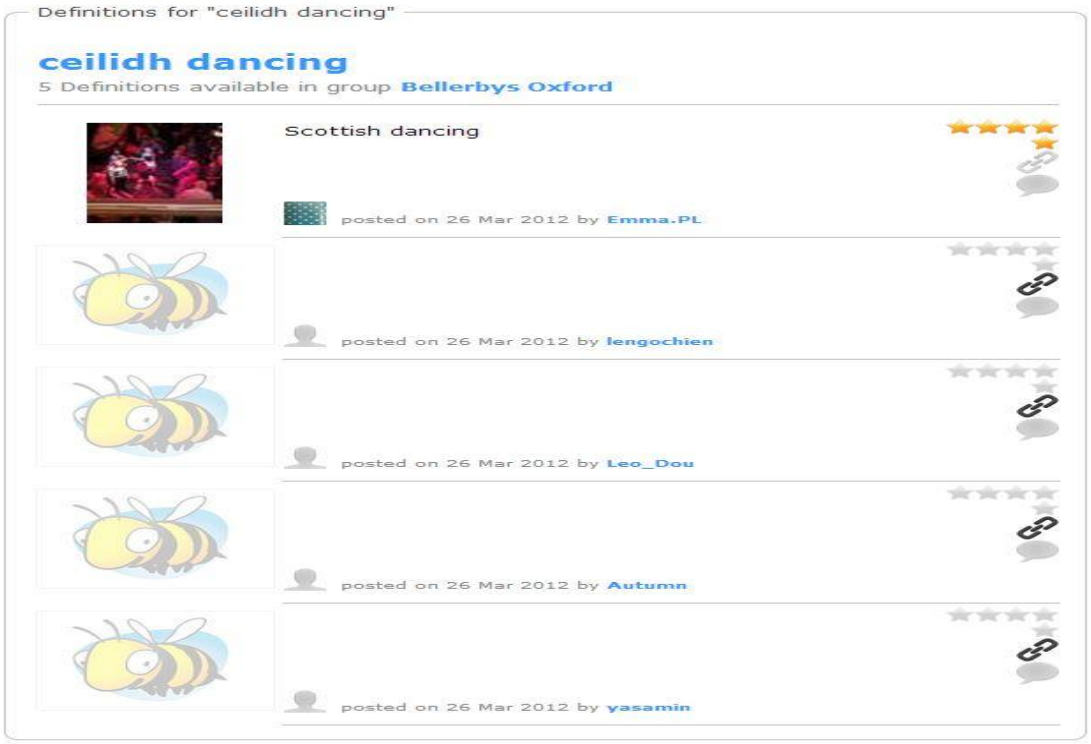
Then after a while they start to expand their environment and getting out of student environment and getting into the city; Figure 6.4(b). At the end they start to explore the Norwegian culture and learn about Norway; Figure 6.4(c).

Collaboration; collaboration among learners is as important as having someone more experienced. Learners by collaborating with each other and group discussions are able to internalized information and increase their level of competence by solving the issue; Section 3.4.

Figure 6.6 (a) shows collaboration between teacher and a student for understanding better the phrase 'to have cold feet'.

Figure 6.6 (b) is an example of this group discussion. Teacher has added a new word "*ceilidh dancing*" with a picture and text description. But students have searched for more resources and shared it with others in order to increase their understanding of the word.

(a)



(b)

(c)

Figure 6.6: Group discussions

And Figure 6.6 (c) is an example of teachers having collaboration for word 'Punter'. The last example shows that not only students or teacher\students can have group discussion but also teachers can have discussion about a word or a phrase in LingoBee.

6.2 Community of Learners

Community of learners has three pillars; joint enterprise, Mutual engagement and Shared repertoire, Section 3.2. These are required for a community of learners to shape.

At the beginning we discuss if LingoBee can provide this environment for learners in order to shape their community. Then we will discuss if LingoBee helps community or learners to develop by giving examples from LingoBee repository.

a) Joint Enterprise:

Joint enterprise according to Wenger (1998) is a common goal, which makes members to get together and start a community. Here in LingoBee learning a second language is the common purpose for the users. And for group TDT4245 the tasks within the course TDT4245 were the common goal, Chapter 5.

Having motivation and goal is very important in maintaining a community, as Haythornwaite (2009) suggests members stay within a community as long as their goals are met. Also Wenger (1998) has suggested that the goals should be revised by the members here and there to make sure that the joint enterprise is still the same for all the members inside the community.

b) Mutual Engagement

Mutual engagement is the actions that bind the members together. Group TDT4245 is the best example since one of their tasks was motivating them to work together and make each other data

input's quality better. As Figure 5.5 shows, this group has many relations and communications among the members.

Inserting vocabulary, voice, web link, picture, rating and leaving comments for other members are also can be considered mutual engagement in LingoBee.

c) Shared repertoire

Here LingoBee as general is a shared repertoire, which provides users a virtual Web 2.0 environment to share their data entries with other members.

But there are additional repertoire that members can use, such as web link in order to add more description and sources to the data entries. For example Figure 6.7 shows that one of the students has added a new data entry as "hell's teeth".

Figure 6.7: using shared repertoire in LingoBee

Also in this example you see the teacher *Emma.PL* has added a link to a web page that is a dictionary for old fashion British swearing. Here she has used a common resource to add more information into the phrase (hell's teeth).

Now that we have seen that LingoBee has all the factors for a community of learners, we are going to discuss if LingoBee can assist the learners within a community.

As Lave and Wenger (1991) and Vygotsky (1980) suggested the importance of master\apprentice relationship can improve learners' competence.

Figure 6.8: ZDP example in LingoBee

Figure 6.8 is an example of master\apprentice relationship. But in this example both sides are students, one of the students have more knowledge on the data input than the other one. Therefore he or she has acted as a master in this example. Also we can refer to Figures 6.4 (a) as an example for master\apprentice relationship.

AS we have discussed in Section 3.4, collaboration has same affects as Lave and Wenger; master\apprentice, theory.

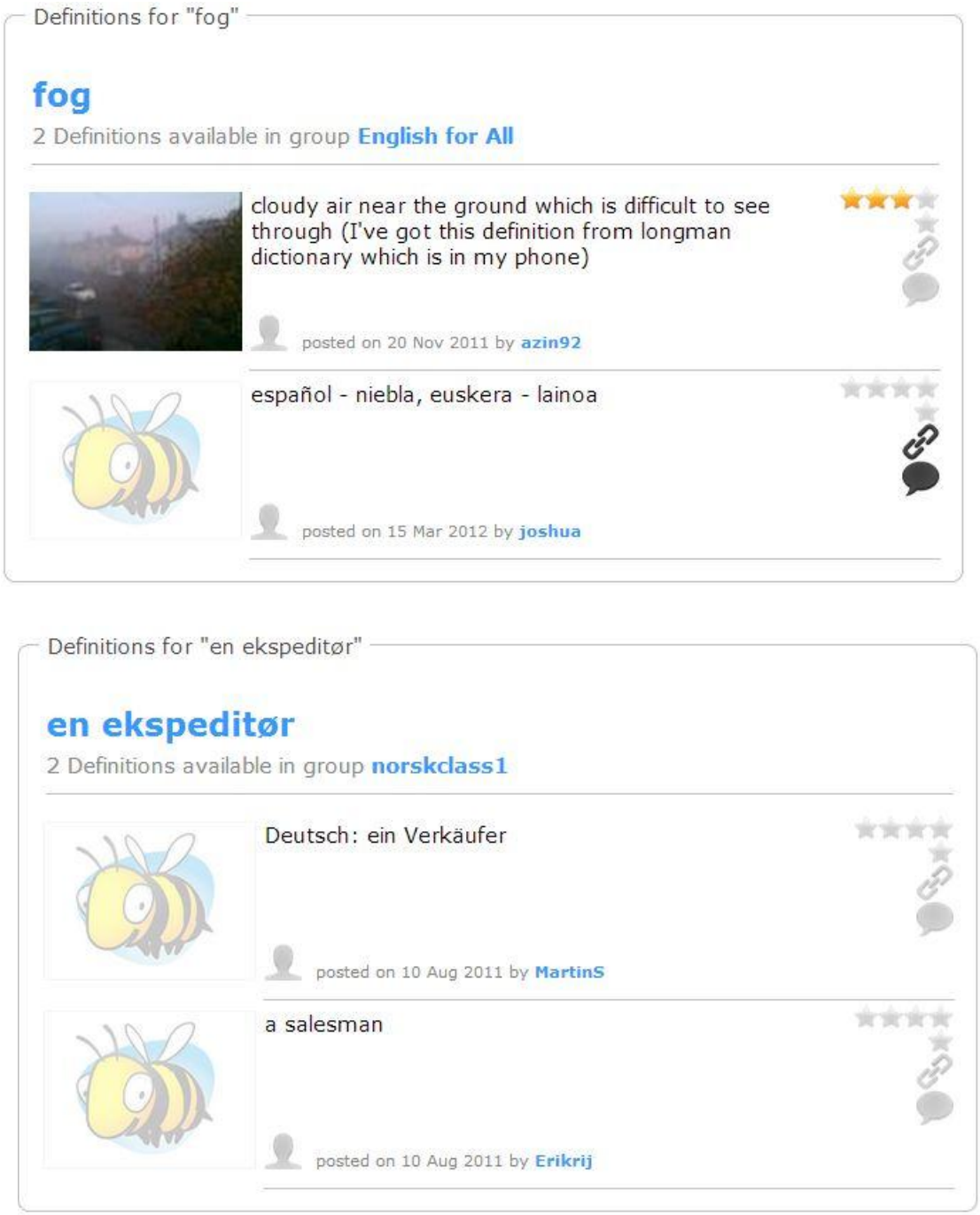


Figure 6.9: Give an example of collaboration in translating the context into different languages.

In short as we can claim that in order to have successful community of learners; motivation, collaboration, master\apprentice relationship, mutual engagement, joint enterprise and shared repertoire are essential.

6.3 Framework

In Table 6.1, I have presented a framework for a Web 2.0 social network mobile application that supports detached learners by providing functionalities for community of learners. In this framework I have considered the functionalities that can improve learning process and community's quality. In the next section I will explain the functionalities that are needed to be added into LingoBee.

Currently in LingoBee fulfills user login, adding resources, giving feedback and capturing requirements.

User Login: Since LingoBee is a SNS, therefore it is required for the user to create an account. LingoBee already has the user profile functionality and user through this function can create an account. In the next section I will explain why the privacy needs to increased.

Giving feedback to data entries: This requirement has been fulfilled by rating and flag functionalities. Rating is used to give positive feedback, Figure 1.1 (b) and flag for indicating the wrong data entry, Figure 1.1 (f). This feedback can be used by the user in their learning process; Lewinian model.

Adding resources: Being able to add web link, voice and picture functionalities help the community expand its shared repertoire. And it makes it easier for the other members to understand the data entry.

Since LingoBee is a mobile application, therefore user has access to infinite resources via internet. Thus when the user inserts her data entry, she can add web link in order to make it clearer for the other members, Figure 6.7. Adding voice also help users to avoid fossilization in their pronunciation.

Capturing experience: Being a mobile application gives this advantage to the members to have access to LingoBee whenever and wherever they want to. For that reason, it makes it easier for the user to capture her experiences and share them with other members. The user can also have access to her experiences later on for observation; experimental model. Furthermore, this function makes it easier for the teachers to observe students, Lewinian model.

Requirement	Implication: for effective instruction	Implication: Specific to software design
User login	Increase privacy	User profile functionality
Giving feedback to data entries	Sorts according the rating	Rating and flagging
Adding resources		Web link, picture and voice functionalities
Increase motivation		Create group, invite members and internal group chat functionalities
Capturing experiences	Mobile application, mobility	User interface
Level of competence	Divide language groups by their competency	Create group

Table 6.1: Framework for Web 2.0 tool for detached learners in community of learners

6.4 Suggested functionalities

In this section according to the designed framework for LingoBee, I suggest more functionality in order to make the application helps the community of learners to improve.

Privacy: This feature is important in SNS technology, since users trust the social network through the strong privacy (Dwyer et.al, 2007). The importance of privacy in SNS has been discussed earlier in Section 1.3.

Figure 6.10 (a) presents an example teacher's profile, and Figure 6.10 (b) presents an example of student's profile. As you can see, teacher has filled in more information than the student.

(a) Example of teachers' profiles

(b) Example of students' profiles

Figure 6.10: user profile

But I should also mention that profile privacy does not affect the community of learners' functionality. It only causes learners have less confident in the application.

Level of competence: Since in LingoBee users are not able to create any groups according to their needs; therefore, it might happen that in one group different students with different learning competencies exist. Figure 6.11 presents two different levels of data entries in one group (a) beginner level and (b) advanced level.

These level differences might cause the beginners feel exhausted of being expose into many advanced vocabularies. And the more advanced students feel bored by beginner vocabularies.

Definitions for "class"

class

1 Definition available in group **English for All**

posted on 6 Mar 2012 by **faysun3**

Definitions for "mobile phone"

mobile phone

1 Definition available in group **English for All**

an equipment which could be used for several purposes particularly communicating.

posted on 25 Oct 2011 by **azin92**

(a) Beginner level of data entries in group *English for All*

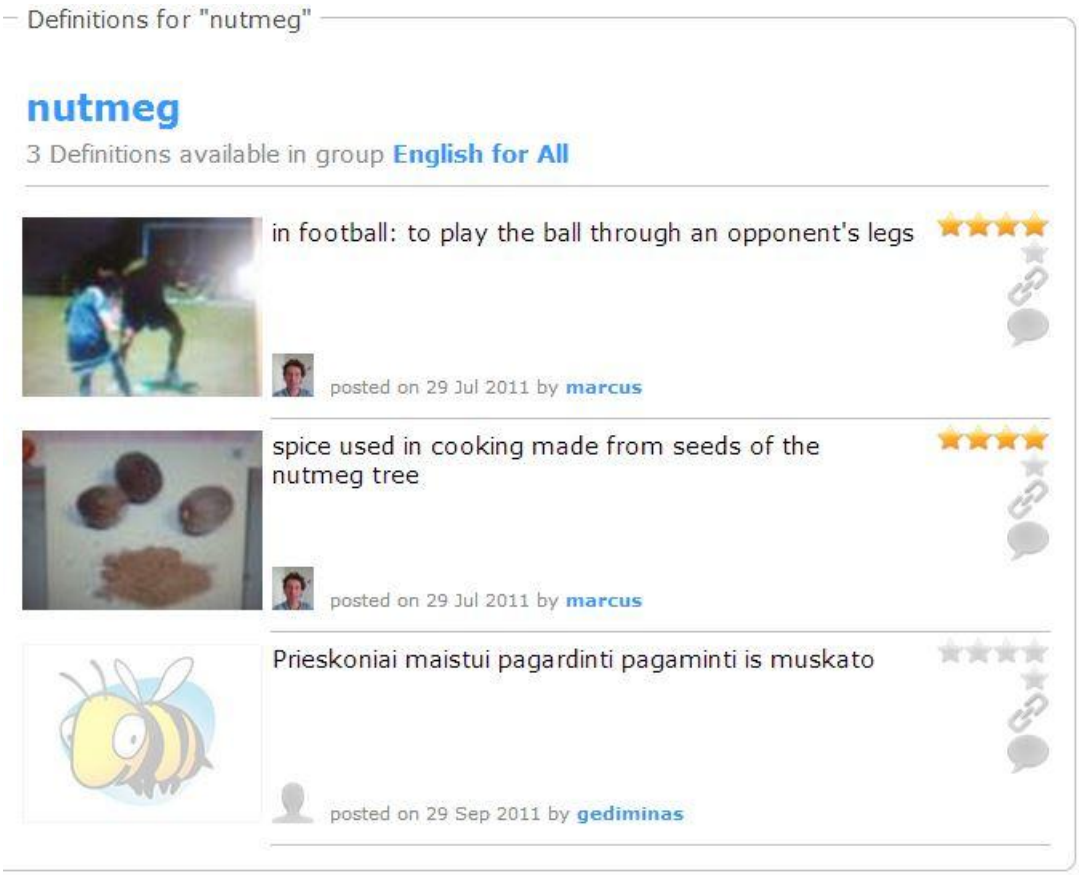
Definitions for "maelstrom"

maelstrom

1 Definition available in group **English for All**

originally, a powerful whirlpool with considerable downdraft. often used metaphorically for a dynamic, complex, fast moving situation.

posted on 8 Aug 2011 by **marcus**



(b) More advanced level of data entries

Figure 6.11: Different level of language competencies

Creating groups: LingoBee can give the possibility to the users to define their own communities. This way the learners motivation increases for instance they might want to collect data entries on idioms and proverbs, or work on different themes for their data collection.

This functionality will increase the users' motivation since the joint enterprise is more common and stronger among the members. Also this functionality will give the members mutual engagement since they all can focus on smaller areas in the target language. For example group TDT424 in each task concentrated

only on small tasks, so their participation and communication were stronger than other groups.

Invite members: This functionality will help to increase the number of members in LingoBee. Since outsiders can be invited into a special group in LingoBee which suits their goals.

Group Internal Chat: This functionality can help the members to discuss about new tasks that they can collaborate together, or about the community functionality. This functionality will increase the community communication and it can help the community to improve itself.

The group chat is not as important as creating groups functionality. Because if a learner finds out his or her goals are no more met in the current group she can create another group and invite members that she knows have same purpose, or she can join into already existed group. But since the groups are only created by the admin, thus there in not many variety and new comers have less group options to choose.

7 Conclusion

As we have seen the most effective learning process requires learner's full concentration and debut. Therefore motivation is the most important key for having a progressive learning.

The classical teaching mode where the teacher is required to give all the information and the students need to sit and listen has shown is not very responsive. Learning needs to be internalized and for doing that the learner needs to experience the pre-existed knowledge.

In learning process, learner needs a supervisor whom can help her to avoid language fossilization and help her to move further in ZPD toward the layer "Learner can do unaided". Therefore existence of someone more experienced is as important as learner experience issues.

Also we have seen that collaboration among a group of students can be effective in internalizing the knowledge and in learning process. Group of students can work on a task and discuss the issue together and with discussion come to a share understanding.

We have learned in Chapter 6 that LingoBee provides all the aspects of community of learners; joint enterprise, mutual engagement and shared repertoire. And as we saw through user data collection in Chapters 4, 5 and 6 LingoBee provides environment for learners to develop. But since learning is more personal and it differs from each individual, so we can assume that if a learner wants to benefits from LingoBee as a mediator he or she can.

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Appendix A

This questionnaire captures some background information that helps us to better understand your use of Lingobee. All information you provide is confidential. **Your name will not be stored; it will only be used to correlate information.** All data will be analyzed anonymously.

1) Name:

2) Age: ☐ < 20
☐ 21-30
☐ 31-40
☐ 41-50
☐ 51-60
☐ > 61

3) Gender: ☐ Female
☐ Male

4) What is your main language?

_____
__

5) Do you speak any other languages? If yes, please list here:

_____
__

6) How long have you been in this country?

_____ Years _____ Months

7) Are you thinking of staying longer in this country?

☐ Yes ☐ No ☐ Don't know

8) Are you in this country mainly for:

☐ Study ☐ Work ☐ Tourism ☐ Asylum ☐ Other reason

9) Do you have a phone with a touch screen? ☐ Yes ☐ No ☐ Don't know

If YES, which phone?

_____

10) Do you have a data plan for your phone? ☐ Yes ☐ No ☐ Don't know

If YES, is internet use limited or unlimited? ☐ Limited ☐ Unlimited ☐ Don't know

11) I use my mobile phone for the following activities:
(Please circle a number: 1 = "Never", 7 = "Very often")

Browse the Internet:		1	2	3	4	5	6	7
Check email:		1	2	3	4	5	6	7
Send email:	1	2	3	4	5	6	7	
Take pictures:	1	2	3	4	5	6	7	
Record audio:		1	2	3	4	5	6	7
Record video:		1	2	3	4	5	6	7
Use mobile apps:	1	2	3	4	5	6	7	
Play games:		1	2	3	4	5	6	7
Use maps / location:		1	2	3	4	5	6	7
Facebook:	1	2	3	4	5	6	7	
Twitter:	1	2	3	4	5	6	7	
Skype:		1	2	3	4	5	6	7
Other (please specify):	1	2	3	4	5	6	7	

_____

12) I use my mobile phone for learning about language and culture:
(Please circle a number: 1 = "Never", 7 = "Very often")

Wikipedia:	1	2	3	4	5	6	7	
Urban dictionary:	1	2	3	4	5	6	7	
Other online dictionary:		1	2	3	4	5	6	7
Language learning apps:		1	2	3	4	5	6	7
To take notes:		1	2	3	4	5	6	7
Other (please specify):	1	2	3	4	5	6	7	

_____
_

13) Do you have access to a computer? ☐ Yes ☐ No

14) How much time do you spend on the computer per day?
☐ none
☐ up to 1 hour
☐ up to 2 hours
☐ up to 3 hours
☐ up to 5 hours
☐ more than 5 hours

15) How much time do you spend on the Internet per day?
☐ none
☐ up to 1 hour
☐ up to 2 hours
☐ up to 3 hours
☐ up to 5 hours
☐ more than 5 hours

16) Do you use any of these social networks?
☐ Facebook
☐ Twitter
☐ LinkedIn
☐ Skype
☐ Other social sites _____

17) Do you use any of these websites?

☐ Urban dictionary
☐ Other dictionary
☐ Thesaurus
☐ Wikipedia
☐ Other social sites _____

18) Do you play games on your computer? ☐ Yes ☐ No

19) Do you play games on a games console, e.g. PlayStation? ☐ Yes ☐ No

20) Do you play games on a handheld device, e.g. Nintendo DS? ☐ Yes ☐ No

21) How long have you been learning Language X? _____ Years _____ Months

22) Why do you want to improve your Language X?
(Please circle a number: 1 = "Not important", 7 = "Very important")

To speak to people: 1 2 3 4 5 6 7
To help me with my studies: 1 2 3 4 5 6 7
To help me find a job: 1 2 3 4 5 6 7
To perform better in my job: 1 2 3 4 5 6 7
To integrate better into the society: 1 2 3 4 5 6 7
To understand the culture of this country better: 1 2 3 4 5 6 7
Other (please specify): 1 2 3 4 5 6 7
_____
_

23) I use the following tools to support my language learning:
(Please circle a number: 1 = "Never", 7 = "Very often")

Flashcards: 1 2 3 4 5 6 7
Wordlists: 1 2 3 4 5 6 7
Vocabulary Notebook: 1 2 3 4 5 6 7
Textbooks: 1 2 3 4 5 6 7
Listen to radio / tapes: 1 2 3 4 5 6 7
Watch TV / films: 1 2 3 4 5 6 7
Read books: 1 2 3 4 5 6 7
Read the newspaper: 1 2 3 4 5 6 7
Other (please specify): 1 2 3 4 5 6 7
_____
_

24) When you find a word or a phrase that you don't understand, what do you do?

(Please circle a number: 1 = "Never", 7 = "Very often")

Use a dictionary:	1	2	3	4	5	6	7
Use an online dictionary:	1	2	3	4	5	6	7
Search on Google:	1	2	3	4	5	6	7
Search Wikipedia:	1	2	3	4	5	6	7
Ask a native speaker:	1	2	3	4	5	6	7
Ask the teacher:	1	2	3	4	5	6	7
Ignore it:	1	2	3	4	5	6	7
Other (please specify):	1	2	3	4	5	6	7

---

25) How far do you agree with these ideas about language learning?
(Please circle a number: 1 = "I don't agree at all", 7 = "I completely agree")

I think it's good to work with other students.
1 2 3 4 5 6 7

I discuss the meaning of words with other students.
1 2 3 4 5 6 7

I sometimes explain the meaning of words to other students.
1 2 3 4 5 6 7

I think we learn everything we need in class.
1 2 3 4 5 6 7

I keep in contact with fellow language learners out of class.
1 2 3 4 5 6 7

I ask native speakers about words and expressions.
1 2 3 4 5 6 7

I think learning about culture is important to language learning.
1 2 3 4 5 6 7

I like to explore the meanings of words and expressions just out of interest.
1 2 3 4 5 6 7