LINGOBEE AND SOCIAL MEDIA: MOBILE LANGUAGE LEARNERS AS SOCIAL NETWORKERS

Emma Procter-Legg[1], Annamaria Cacchione[2] and Sobah Abbas Petersen[3]
[1]*Study Group, Bellerbys College, Oxford, UK*
[2]*University of Molise, Dept. of Social Science and Linguistic Centre, Italy*
[3]*Norwegian University of Science & Technology, Trondheim, Norway*

ABSTRACT

This paper presents language learners as social networkers and describes and discusses the types of users that can be identified by analysing the content created by them using a situated mobile language learning app, LingoBee, based on the idea of crowd sourcing. Borrowing ideas from other studies conducted on social network users, we can identify that language learners use LingoBee as a social network and they behave as social networkers by creating content, acting as Conversationalists, Critics and displaying other behaviours shown by social networkers. In addition to this, from our user studies, it can be seen that the language learners are stimulated by the contributions of other users as well as welcoming competition among users. LingoBee users as social networkers were analysed and discussed based on Luckin's idea of the Zone of Proximal Assistance and the Zone of Available Assistance (Luckin, 2009).

KEYWORDS

Mobile Language Learning, Crowdsourcing, Social Media, Community of Learners

1. INTRODUCTION

Social Networks and crowd sourcing have recently received a lot of attention in the area of Technology Enhanced Learning, introducing new concepts along with the ideas of learning as a social activity and communities of learners (Haythornwaite, 2011). Learners who already engage with social networks such as Facebook expect similar capabilities in their learning environments, sometimes even expecting the learning processes to be connected in some way to their social networks. This opens up a whole new dimension to the evaluation of learning and learning processes, drawing in ideas from Social Network Analysis and other disciplines to the area of Technology Enhanced Learning. This brings new insights and new means of understanding learning and the behaviour of individual learners as well as communities, or more appropriately, networks or crowds of learners (Altshuler, Fire, Aharony, Elovici, & Pentland, 2012).

In this paper, we present some user studies that we have conducted in several different countries, where the learners were provided with a mobile language learning app, LingoBee, to support their learning process. LingoBee is based on ideas that have been explored in an earlier project, in a mobile app called Cloudbank (Pemberton, Winter, & Fallahkair, 2010), which has a wiki-like functionality to crowd source language content from anonymous users. User studies conducted on Cloudbank showed that users were also social networkers. They showed that experience of applications such as Facebook played an important role in learners' expectation; e.g. some users expressed their wish to have an identity and desired functionalities to support multiple contributions, comments and ratings to "bubble up" good content (Pemberton & Winter, 2011). This experience highlights the role that social media plays in our lives and learning processes and how users' expectations are being affected by it. Thus, LingoBee included functionality to support social networking among users such as a user profile and identity as well as wiki-like contents and rating of content.

The aim for this paper is to identify whether LingoBee users act as a true social network or some kind of hybrid and to identify and describe the types of LingoBee users and the implications this has on how best to support teaching and learning, to positively impact on learners' engagement and use of LingoBee.

The rest of this paper is organized as follows: Section 2 provides an outline of the functionality of LingoBee; Section 3 outlines the general study design for the three user studies; Section 4 describes the data collection methods and the types of social networkers that are relevant for LingoBee; Section 5 presents evidence of users as social networkers; Section 6 presents and discusses implications for learning; Section 7 summarises the paper.
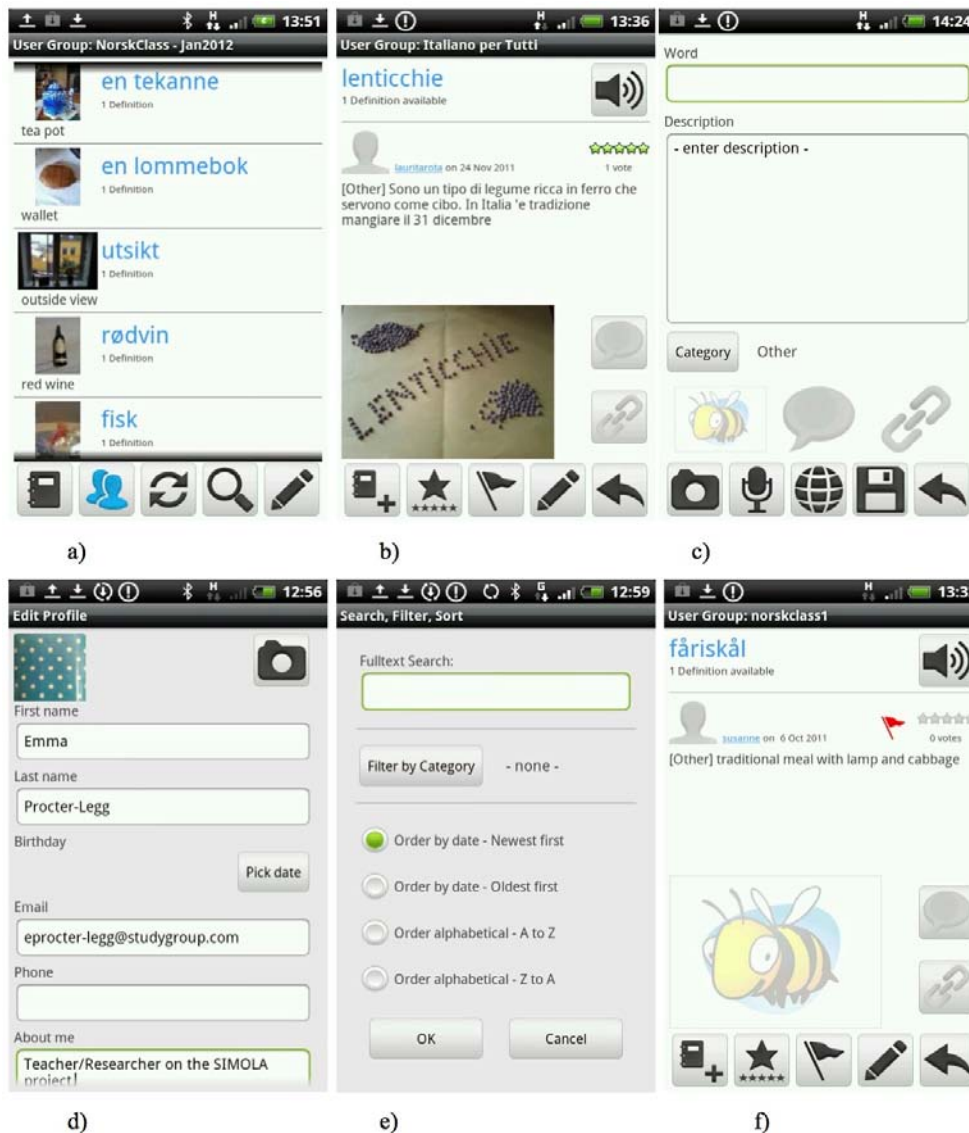
2. LINGOBEE MOBILE APP

Figure 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; c) a flagged definition

LingoBee is a mobile app to support situated mobile language learning and to help the learners in linguistic and cultural diversity. Based on the ideas of situated learning (Lave & Wenger, 1991) and contextualized learning, e.g. (Luckin, 2010), it is designed to capture language elements that learners come across in their everyday lives, whenever and wherever. Ideas of crowd sourcing and social networking are used to collect,

share and annotate the contributions of all learners in a shared online repository as shown in Figure 1a). Users are able to add entries, which may be words or phrases, to the LingoBee repository, which can be accessed by other users of LingoBee, see Figure 1b), which shows a definition containing a picture, and Figure 1c) where the user can enter new definitions. Learners are also able to add new definitions to existing entries and rate existing definitions; e.g. in Figure 1b) the entry "lenticchie" has one definition and users have rated it as five stars. Each entry can contain multimedia elements such as a picture and/or audio content as well as web links. In addition, a text-to-speech functionality is available for the correct pronunciation of the entries. Language articles are co-constructed through the use of LingoBee, where students add items and build meaning together through dialogue created via multiple entries.

To support social networking, LingoBee provides the capability for the users to define their profiles such as the username and contact details as shown in Figure 1d). Users are able to view or browse through the contents of the LingoBee repository and the functionalities to support browsing are shown in Figure 1e). Other ideas from social networks have been included such as peer rating as shown in Figure 1b) and flagging an entry as a form of feedback as shown in Figure 1f).

LingoBee was developed as part of an EU LLP project SIMOLA, with partners from six different countries, (SIMOLA, 2012b). Thus, LingoBee is supported in 6 different European languages and Japanese. It is a mobile app developed for the Android platform.

3. USER STUDIES

User studies of LingoBee have been conducted in several locations (Italy, UK, Norway, Lithuania, Hungary and Japan) since July 2011. The user studies presented in this paper were carried out in three different European educational establishments: Bellerbys College, Oxford, part of Study Group UK (Study Group), The University of Molise (Unimol), Italy, the Department of Social Science and Linguistic Centre and Department of Languages and Communication at the Norwegian University of Science and Technology (NTNU). The users were all language learners, enrolled on university or pre-university courses.

The study design involved introducing LingoBee to international students learning English, Italian and Norwegian, and providing them with a free smartphone for use in their daily lives. LingoBee was formally introduced to the students in a classroom setting, although it did not always form any part of the classroom activities. In general, the students were provided smartphones with the LingoBee app pre-installed. LingoBee was introduced in different ways: by presenting the basic functionalities for adding content to LingoBee, through demonstrating the functionality through a video, through the help guides uploaded onto a VLE and through activities designed to encourage students to explore the functions of the app.

Considering the users as motivated, independent learners, which is one of the findings of the studies conducted by (Pemberton & Winter, 2011), one of the aims when introducing LingoBee was to show the students the basic functionality without influencing them with our views of the app and its usage. Another of the aims of evaluation was to see how the users perceived the systems and used the functionality.

4. METHOD

The results presented in this paper are based on the content in the LingoBee repository and the pre- and post-intervention questionnaires and interviews conducted with the participants in the studies at Study Group, Unimol and NTNU. In addition to these, data logs created by the LingoBee system were used to determine some of the activities of the users that were not visible from the LingoBee mobile app interface. Google Analytics were also used to detect activities of users. However, for the results that are discussed in this paper, we have not analysed the data from Google Analytics in detail. Our focus so far has been on the content created by the users in the repository.

In this paper, the main analysis has been to identify LingoBee users as social networkers. Based on the motivations for the design of LingoBee and the work conducted in analyzing the types of Social Networking users such as The Social Technographic Ladder by the Forrester Research Inc. ("The Social Technographics Ladder," 2011-2012), we have identified the following types of users as relevant for LingoBee and potentially other social networking based language learning apps:

- Creators: users that create entries in the LingoBee repository by adding new words, phrases, additional definitions and multimedia content.
- Conversationalists: users that add entries onto other users' definitions.
- Critics: users that provide peer reviews by using the rating and flagging functionality on content in the LingoBee repository.
- Collectors: users that add other users' definitions from the LingoBee repository to their favourites list. In LingoBee, an individual user's wordlist or favourites are on their mobile device. These are entries created by them and the entries that they have downloaded from the repository to their favourites list.
- Spectators: users that viewed content in the LingoBee repository.
- Inactives: users that were none of the above or users who were active users at the beginning and then stopped.

5. LINGOBEE USERS AS SOCIAL NETWORKERS

Based on the results of the studies at Study Group, Unimol and NTNU, we can categorise LingoBee users as social networkers, using the categories described in Section 4. We will illustrate the different types of users, using examples sourced from the LingoBee repository, the post-intervention questionnaires and interviews.
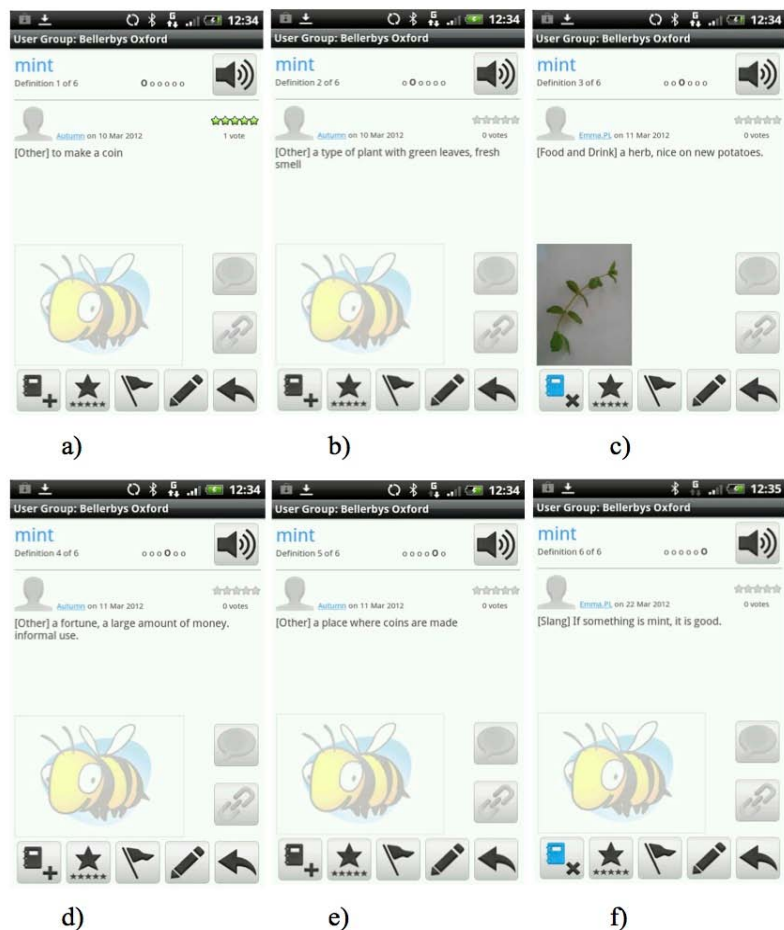

Figure 2. Definitions of "mint": a conversation between a learner and the teacher

The obvious category of user is the Creator as evidenced by the LingoBee repository, which is accessible from (SIMOLA, 2012a) and examples of which are presented in Figure 1a), b) and f). It is interesting to note that Creators were of two main types: i) true creators that created entries autonomously and adopted

LingoBee as a natural part of their language learning, adding an entry when they saw something new and ii) those that required prompting to add new content. The analysis of our results concluded that the initial studies at all three locations experienced the second type of Creators. Thus, prompts were used to stimulate the creation of more content, such as tasks set by the teacher, e.g. scavenger hunts, or a Facebook group to support each other.

In the same way, there seem to be two types of Conversationalists: i) true conversationalists that interact and exchange content taking into consideration what others previously said, just like in any other real life conversation, and ii) those who simply add entries in a row, without being influenced by others' content. The example in Figure 2 shows a "Conversation" where users have created collective definitions in a wiki-style. Such users are Conversationalists, where one user's definition of an entry is complemented by another user's definition. In this particular example, a conversation between the teacher and a student is shown. This is also a prime example of how a conversation between the learner and a native speaker could take place through LingoBee, where LingoBee users include native speakers as well as learners. There are several other examples where one user's entries have additional definitions. For example, in the Unimol user group the following entries were made:

3 different entries for SEDIA (chair):
04/04/2012,B,sedia,
22/04/2012,F,sedia,
03/04/2012,Si,Se, sedia
4 different entries for POLLO (chicken)
19/11/2011,E,pollo al curry,
29/11/2011,P,Pollo,
01/12/2011,P,Pollo,
19/04/2012,S,Pollo,

These are not true conversations; they are multiple attempts at one single definition by different users in the Unimol trials. It is interesting to see such examples. Here, the users are in fact Creators of new entries. However, it appears that they are unaware of existing entries, thus creating a new entry rather than adding to existing definitions, i.e. a conversation. Had the entry "Pollo" existed before the user wished to add the entry "pollo al curry", would it have been a conversation? These are the types of questions that we focused on answering through our interviews. With regards to this point, we can observe that this is due to a feature of LingoBee, it detects automatically identical entries and links them together, but it does not inform the user that there is already an entry in the repository. If it did warn the user, they may be less inclined to make a separate entry.

Examples of Critics can be seen in Figures 1, 2 and 3; users have rated entries in the LingoBee repository, e.g., in Figure 1b) and Figure 2a), the entries have a rating of five stars. Similarly, users have flagged content; e.g. in Figure 1f), the entry is flagged as it is spelt incorrectly. Flagging could indicate several things such as incorrect spellings, inappropriate or abusive content. Both learners and teachers acted as Critics; e.g. the entry in Figure 1f) was flagged by the teacher to draw the learners' attention to the incorrect spelling.

Collectors are not obvious from the LingoBee interface. However, we asked in the post-intervention questionnaire 'Is it helpful to see the words and phrases added to LingoBee by other users' rated on a Likert scale of 1-7, where 7 indicates the highest and 1 indicates the lowest level of agreement. The combined results, across all three studies showed that 68% of all respondents agreed and that 42% strongly agreed (rated 7) with this statement. This, combined with the logs created by the system, identified entries from the repository that have been added to other users' favourites lists. Examples of Collectors are shown in Figure 3; both the entries have only one definition, but you can see from c) from the data collected by LingoBee, that they have been added to favourites 6 and 3 times respectively. It is not possible to detect Spectators from the LingoBee interface. However, based on the data from the Google Analytics (which we are analysing at the time of writing), the post-intervention questionnaires and interviews, it is clear that all three studies had users who were Spectators that browsed the LingoBee repository. The Google Analytics data will also help to find out how many times an entry has been viewed but not added to favourites. The post-intervention questionnaire (which we are currently analysing) had questions such as the number of hours a learner used LingoBee during the day and the level of LingoBee usage in different locations such as home, city, etc., on a Likert scale of 1-7. The data from the questionnaires shows that some students reported a higher number of hours of using LingoBee per day compared to the level of activity shown on the logs in terms of them as Creators, Conversationalists, Critics and Collectors. We believe this is an indication that

some users are Spectators. In addition to this, some of the learners that have been interviewed reported face-to-face discussions related to LingoBee content with other LingoBee users in their language class.

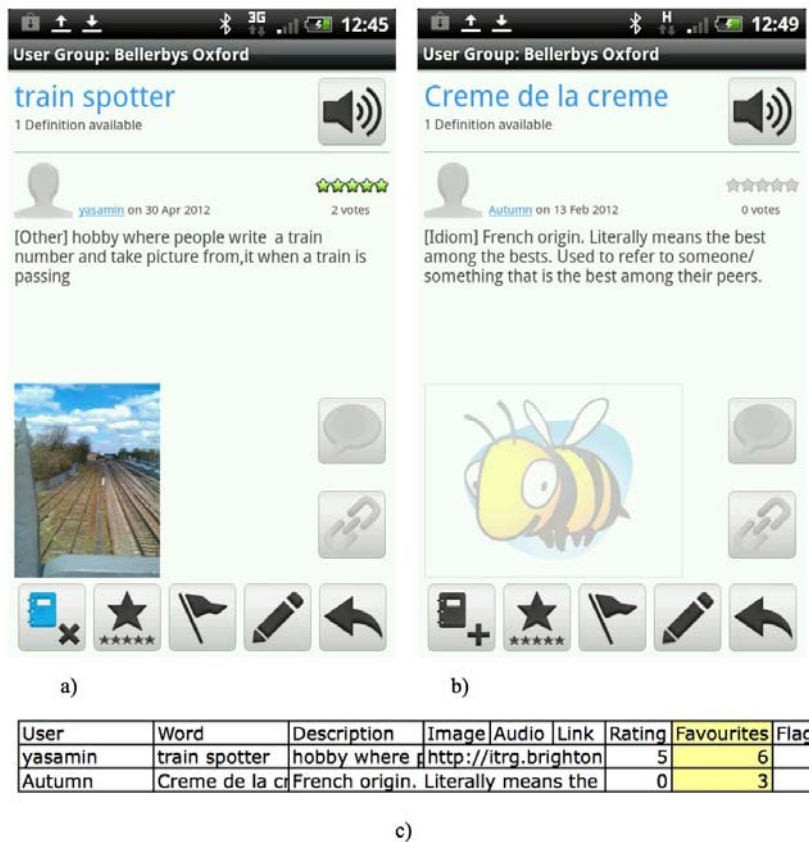| User	Word	Description	Image	Audio	Link	Rating	Favourites	Flag
yasamin	train spotter	hobby where			http://itrg.brighton	5	6	
Autumn	Creme de la cr	French origin. Literally means the				0	3	

c)

Figure 3. a) Definitions of Train spotter b) Definition of Crème de la crème c) Extracts from the logs showing number of times these entries have been added to a users favorites list

Some users were Inactives as they joined the study and accepted a smartphone with LingoBee, but either never used LingoBee or stopped using it during the course of the user study, as they stopped attending the language classes for various reasons.

We are currently conducting an in-depth analysis of the data and therefore we have not supported our observations reported in this section with statistics. In addition to the types of users discussed so far, the response to the post-intervention question "What additional functionalities would you like in LingoBee to support language learning?" provided a few interesting responses such as "*widget that shows best definition/information ranked, so people can compete (against) each other, to be ranked on the table….*", *"It could be more interactive like a network. Maybe using questions about the name of some objects and doing a competition between the users with a game*" and "*motivation*". These responses from the learners illuminate two key points, the first that students like the idea of using LingoBee in a similar way to which they use other social media, e.g. number of likes on Facebook or Instagram or playing competitive games via Facebook and they could possibly be motivated by this. If students tend to think it could be more "*like a network*", maybe LingoBee is not a real social network, at least not in the sense they would like. It currently has basic social network functionalities, but it could allow more interaction and be more integrated with other networks – e.g. allowing automatic integration with Facebook. Furthermore, within the growing family of social media, LingoBee appears to resemble interest-focused networks like Instagram or Pinterest, where you do not necessarily search for friends but for people sharing the same interest.

The second point is that a competitive spirit is indicated as a means of motivation and recognition among peers. This identifies language learners as a new type of social networker: Competitors and Motivators.

6. IMPLICATIONS FOR LEARNING

In this section, we analyse the types of LingoBee users from the perspectives of the work produced in the area of Technology Enhanced Learning, in particular, learning contexts. An interesting approach is developed by Luckin, whose ideas are based on the Zone of Proximal Development proposed by (Vygotsy, 1978). Luckin added two additional concepts by defining a Zone of Proximal Adjustment and a Zone of Available Assistance, (Luckin, 2009). The Zone of Available Assistance describes a variety of assistance that can be made available to a learner, whilst the Zone of Proximal Adjustment represents a selection from the Zone of Available Assistance for a given learner and the educational situation.
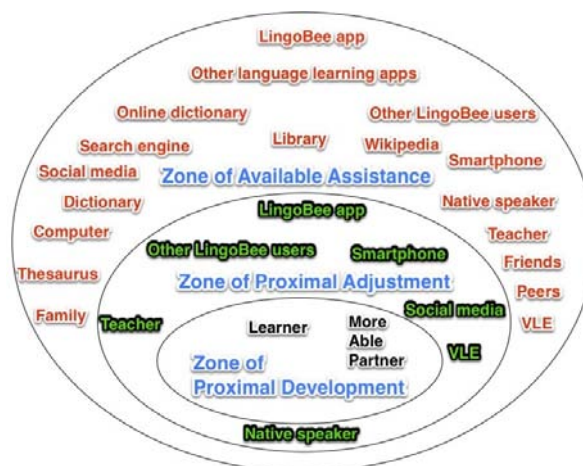

Figure 4. The Zone of Collaboration around LingoBee users adapted from (Luckin 2010)

LingoBee users as social networkers or as a community of learners can be considered in the context of the ideas proposed by Luckin; as shown in Figure 4**.** The tools available to users within the Zone of Available Assistance are: other LingoBee users; native speakers; the teacher as well as a myriad of tools and technologies, such as online dictionaries providing potential assistance to the learners. The key to engaging learners in the user studies, was ensuring LingoBee and other LingoBee users moved from the Zone of Available Assistance into the Zone of Proximal Adjustment. The first trial group at Study Group struggled to have any tools in their Zone of Proximal Adjustment, they had never used mobile phones in formal learning, they weren't able to use the VLE and they were too new to the college to understand the importance of being able to use these. Their main tools or available assistance was their teacher, email and text messages and the LingoBee app (only when supported to use it). In the second Study Group user study, through class discussions, it became apparent that the entries by one particular user was liked by the other participants of the study and stimulated them to learn the language and use LingoBee, thus this user became a More Able Partner (Luckin, 2010) or at least another tool in their Zone of Proximal Adjustment. Similarly, some of the entries by users in the NTNU user study were rated by the teacher, encouraging and promoting those users and similar entries in the LingoBee repository. Similarly, the example in Figure 2 shows how the teacher can provide support to a learner. What is important is that the network of learners and through ideas of social networking, LingoBee users could provide implicit support to one another in their learning process. Thus, the LingoBee users can play a significant role in both the Zone of Proximal Adjustment and the Zone of Proximal Development as a More Able Partner.

The Luckin diagram works as a powerful tool for teachers and researchers. It helps to assess the preliminary situation in order to prepare the setting to introduce the app. It also highlights the constraints that could have a negative impact on the learning process. In any case, the experiences of our studies show that current users' expectations of social networking cannot be ignored as they are part of their mind-set and orientate them in creating, selecting and sharing learning objects.

To enable LingoBee users to provide relevant support to one another, there is a need "*to have a big group (using LingoBee)*", as stated by one of the users in their post-intervention questionnaire. Our earlier user studies indicated that the learners required assistance in starting to use LingoBee, thus requiring scaffolding initially by the teacher in various ways. For example, in addition to the teacher being a Conversationalist to

prompt the users, Study Group introduced various activities to support learning, e.g. a scavenger hunt, walking tour, show and tell activities (often around food), access to a VLE and tasks to engage with the target culture such as watching specific television programmes. Similarly, the second study conducted at Unimol introduced a Facebook support group to motivate and encourage the users. Our studies suggest, there is a need for scaffolding when using LingoBee and when engaging users with the other tools in their Zone of Proximal Assistance (Wood, Bruner, & Ross, 1976), (Vygotsy, 1978) and (Luckin, 2010).

7. SUMMARY

This paper presents LingoBee users as social networkers and describes and discusses the types of users that can be identified by analysing the content created in the LingoBee repository and the data that is available. Borrowing ideas from other studies conducted on social network users, we can identify that LingoBee language learners use LingoBee as a social network. As social networkers they are: Creators of content; Conversationalists, Critics of other users' entries; Collectors that download entries created by other users; as Spectators that browse the content as well as Inactives. In addition to this, from the post-intervention questionnaires and interviews, it can be seen that the language learners are stimulated by the contributions of other users and welcome competition. LingoBee users as social networkers were analysed and discussed based on Luckin's idea of the Zone of Proximal Assistance and the Zone of Available Assistance.

The next stage of our work is to analyse the data that has been gathered in more detail and to provide statistical evidence. In addition, we will analyse the data for a better understanding of language learners as social networkers and the role of crowdsourcing and social networking in language learning to provide better support to language learners.

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