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Interaction intensity levels in blended learning environment

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Abstract

This paper deals with the concept of blended learning in foreign language teaching. It describes human and non-human types of interaction in a blended learning environment. The way to help students achieve high interactive online/real-world learning experiences to shift them into a different paradigm of learning based at high, intermediate and low interaction intensity levels using group work will be discussed.

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Keywords: blended learning environment; social competence; group work; types of interaction; interaction intensity levels

1. Introduction

One of key trends to acquire foreign language competences through blended learning has led to the fundamental issue: how to make this education form most useful. There is a wide variety of models to organize blended learning at university foreign language courses. The choice of blended learning models depends on the learning environment, general purposes and traditions in foreign language teaching.

Considering blended learning in certain foreign language teaching (FLT) contexts, there is a pressing need to rethink issues such as interaction types and their intensity in the electronic environment compared to the interaction in the traditional classroom. These differences are crucial for group work organization and collaboration of all subjects of the educational process. The focus of this research is the social interaction in the group work in the blended learning environment, its types and intensity levels, because it is a challenge for the teacher to design a thoughtful blended learning course which is based not only on a non-human but also human/social interaction.

In section 2 the concept of blended learning and features of the social competence development in the virtual

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environment will be analyzed.

In section 3 different interaction types that can be used in a blended learning environment for FLT will be discussed.

Interaction intensity levels and their influence on aspects of the pedagogical course design will be considered in section 4 in the research focus on group work.

2. Blended learning and social competence

2.1. Blended learning

In section 2 the concept of blended learning and features of the social competence development in the virtual environment will be analyzed.

In recent years the concept of blended learning is actively discussed. In modern pedagogical literature three main environment types to deliver education are described: online/distance learning, face-to-face (F2F) in the traditional classroom and F2F online learning / live virtual classroom. F2F learning in the traditional classroom means that students and the teacher (instructor) are in one place at this time. Synchronous F2F in a live virtual classroom implies that students and the teacher work together simultaneously but in different places. Synchronous delivery online creates a sense of a virtual community. It means that everyone has to be at the computer at this time. It requires that students should coordinate with the instructor and classmates to plan a schedule to be available at a prescribed time (McVay Lynch, 2004). An asynchronous environment delivers education in non-real-time. The most common interaction type in the e-learning environment is asynchronous. Students participate in an asynchronous activity at convenient time (Klink, 2006).

When the delivery environment is no longer purely synchronous or asynchronous we could say that it is the *blended learning environment*.

There are many interpretations of this term, but all of them summarize the understanding of blended learning, or what is also referred to as hybrid learning, that is understood as a combination of multiple learning approaches.

Driscoll & Carliner (USA, 2005) mention that blended learning integrates both offline and online interaction methods, so it can present material through an asynchronous format as well as through a synchronous one. According to Malcevski, Maestri, Marmioli (Italy, 2011) blended learning is the combination of multiple approaches to learning. These methods may also include a mixture of face-to-face classrooms, self paced learning and online classrooms. Boddy, Detellier, Duarte et al. (Canada, 2013) define blended learning as a combination of best online and face-to-face instructions to improve outcomes and increase access in a cost-effective way. Blended learning is the “thoughtful integration of classroom face-to-face learning experience with online learning experiences” (Klink, 2006).

We agree that this educational approach is important today because it has unchallengeable advantages in comparison with the traditional classroom or online distance learning in their pure form. Boddy, Detellier, Duarte et al., 2013, in the *Report of the E-Learning Working Group* point out the following benefits of blended learning:

- Students gain a positive experience and attitude towards technology-mediated teaching and learning;
- It supports different styles of learning;
- It fosters improved learning outcomes and increases interaction quality among learners, between students and instructors, as well as with outside experts and communities, and the variety of learning resources;
- It creates flexibility and provides greater time to reflect in online discussions;
- It provides a more dynamic and interactive learning environment which results in a higher level of engagement;
- It highlights the importance of the instructional design for optimal learning outcomes;
- It provides an opportunity to a fundamental redesign of teaching and learning approaches to realize increased effectiveness, convenience and efficiency;
- It provides better ways to address multiple needs of learners and learning styles, as well as a strong pedagogical foundation for engaged and sustained learning.

Blended learning integrates both learning programs in different formats to achieve a common goal and synchronous and asynchronous (multimedia, online) learning activities. There are numerous possibilities to combine

synchronous and asynchronous delivery environments and interaction methods (Klink 2006).

2.2. Social competence development in virtual environment

The purposes and uses of foreign languages can be very diverse, but regardless of the reason for learning foreign languages have something to offer everyone. In *Standards for Foreign Language Learning* (American Council on the Teaching of Foreign Languages) five goal areas that encompass all of these reasons are pointed out: Communication, Cultures, Connections, Comparisons, and Communities - the five C's of foreign language education. All C's are important for FLT, but communication is at the heart of the language learning, no matter whether the communication takes place face-to-face, in writing, or across centuries through the reading of literature. One of targeted competencies in FLT as the base for the efficient interaction and communication is social competence, which includes personal, interpersonal and intercultural competences and covers all forms of behaviour that give help individuals to participate effectively and constructively in social and working life, particularly in increasingly diverse societies, as well as to resolve conflicts, if it is necessary (*Key competences for lifelong learning. European Reference Framework*, 2007). This is also one of key competences in the life-long-learning concept.

It is important for blended learning course designers and teachers to keep in mind that the social competence development in the blended learning environment has some differences in comparison with the traditional classroom. Technological, didactic, methodological resources of blended learning facilitate the development of social competence, but not all teachers are able to take advantages of this potential.

New skills and competencies (such as good communication skills, independent learning, ethics/responsibility, teamwork, flexibility, thinking skills / critical literacies, knowledge navigation, IT-skills embedded in the subject area) are required in the present day society and it plays an important role in their development. According to Bates and Sangra, 2011, one of the core competencies required in nearly all subject domains, and more specifically in different occupations and professions, is embedded digital literacy, i.e. the ability to use information and communications technologies in ways that are specific to a particular knowledge or occupational domain. This trend has led to changes in technology, methods, means and forms of FLT and the learning process.

One of highly effective ways of social competence development in FLT is team-work in blended learning, including online-collaborations and different strategies of group work. Group work, on the contrary, is a condition for efficient communication, interaction in FLT, therefore for the efficient social competence development.

Group work (including pair work) is increasingly used in foreign language university courses as the instructional focus has shifted from teaching discreet aspects of language, such as grammar and vocabulary, to developing students' social competence. In group work students can have ample opportunities to interact with each other in a foreign language in natural ways, that is likely to develop their social competence. In these circumstances, students benefit from recognizing overall success of the group and from observing the success of its individual members (Johnson & Johnson, 1999). They claim that cooperative group work can enhance learning outcomes, communication skills, learning motivation, and psychological health (Fushino, 2010).

The social competence development in a virtual environment has advantages both in asynchronous and synchronous delivery environments. Klink (2006) mentions that blended learning allows designers to adapt the learning content to needs of different educational levels in student groups. Further she describes the benefits of different delivery environments. However, flexibility of virtual asynchronous environment gives the access to the teaching material, on the Web or in computer conference discussions, it can take place at any time and from any location with an Internet. In blended learning students, who can demonstrate mastery of the prerequisite content, can skip the online part and pass directly to the classroom section. Those who are not good at the content can learn it at any time, without other students nearby, who already know the material and express their frustration with these beginners. Such frustration could be a hindrance for the group success.

In FLT the context it is important that students should have time to reflect: rather than to react immediately, asynchronous systems give students time to think over ideas, formulated in a foreign language, check references, go back to previous messages and take the amount of time to prepare a comment. In this way they contribute more successfully to the corporate group results.

On the other hand, the synchronous environment promotes the group synergism. The instantaneous interaction with its opportunity to convey tone and nuance helps develop group cohesion and the sense of being a part of the learning community. Synchronous systems provide quick feedback to ideas, support consensus and decision-making in group

activities. Students complete group-work to improve their social and critical thinking skills. They get access to group knowledge and support through collaborative problem solving.

3. Types of interaction in FLT in blended learning environment

In section 3 different types of the interaction that can be used in a blended learning environment for FLT will be discussed. The concept of the interaction is defined as an essential ingredient in both online and traditional classroom FLT, but in comparison with the classroom one, the interaction in the blended learning environment group working is indirect.

The interaction is a crucial concept in a learning environment and makes the environment interactive. The word interactivity is used in a variety of ways. The meaning – interaction between two or more people – is not the only one. It would be useful if the word ‘interactivity’ were reserved for educational situations in which human responses – either vocal or written – referred to previous human responses. The educational value of any specific interactive session could then be seen in terms of the degree to which each statement is built on previous ones (Daniel, 1996, cited by Klink, 2006).

When one is designing a course that is delivered in a blended learning environment, different types of interactions can be included. In table 1 the different types of interactions are shown:

Table 1. Interaction types in a blended learning environment.

Stanley, 2013	Liang & Bonk, 2009	Gilbert & Moore, 1998	Hanna, Glowacki-Dudka & Conceição-Runlee, 2000
student-to-student student-to-teacher student-to-community student-to-material student-to-technology	learner-content, learner-learner learner-instructor learner-self learner-interface	student-content student-instructor student-student	human interactions non-human interaction

Here we deal with definitions of Gilbert & Moore (1998) and Hanna, Glowacki-Dudka & Conceição-Runlee (2000). Gilbert & Moore consider the student-content interaction which occurs when the student reflects on the content and asks questions on the course material in order to analyze, synthesize, and evaluate it. The student-instructor interaction refers to the interaction in which the student and the instructor have view exchanges in which the instructor seeks to stimulate interest, clarify questions, guide, motivate, and have a dialogue with the student. The student-student interaction refers to the interaction among students. Hanna, Glowacki-Dudka & Conceição-Runlee distinguish human interactions and non-human ones. Human interactions include student-teacher, student-student, student-guest expert or student-community member interactions. Non-human interactions are interactions between student-tools, student-content and student-environment.

In the focus of this research we take up the position that when blended learning courses are designed, types of the interaction must take an important place in reasoning how to structure the courses depending on objectives interrelated with the development of the social competence and communicative foreign language skills.

4. Interaction intensity levels

In section 4 interaction intensity levels and their influence on aspects of pedagogical course design including the students group work will be considered. Group work allows, firstly, to develop the personality of the student as an active subject of learning and cognitive activity; secondly, to engage him in various forms of the social interaction in the process of FLT; thirdly, to promote student knowledge as the action mode in the social world. The group work in the virtual environment provides high learning efficiency, and creates a real social communication.

We have chosen some blended learning instructional and students strategies and activities based on group work which provides the development of the social competence due to the interaction level: discussions, chat, brainstorming, debate teams, team work by keeping blogs, working with glossaries, forums, online discussions in which the teacher and students can post messages to each other, and keep track of individual discussions, instant messaging, conference calls, video conferences, communication with guest experts, student-led discussions, group student presentations, project collaboration forums, participation on threaded discussions, group collaborative

video/web analyses, group games, chat, online collaboration in communities of practice, problem-based learning exercises, action learning projects, research modules, debate teams, self-paced content / Multimedia, guided discussion (email, threaded discussion, forums).

Due to the concept of blended learning the following aspects of the pedagogical course design can be identified: *Content Delivery, Communication and Assessment*.

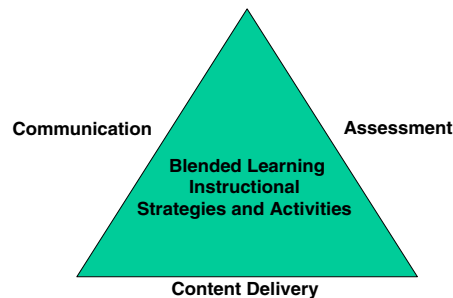


Fig. 1. Aspects of pedagogical blended learning course design

These aspects are the objectives which the teacher would like to achieve during the specified part of the blended learning course and each of them includes three delivery environments: traditional classroom, virtual synchronous and asynchronous. Content Delivery (F2F and online) should relate to course goals and objectives and be presented in a well-planned yet flexible sequence. It could be mini-lectures, demonstrations, video presentations, etc. Communication (F2F and Online) should be engaged and connect both F2F and online contents. Communication includes discussions, group work, chat, question and answer sessions, etc. Assessment (F2F and online) should match course objectives. Assessments can be held in the form of exams, quizzes, projects, papers, reflective journals, one minute papers, portfolios, etc.

Further interaction intensity levels and their correlation with the above mentioned aspects of the pedagogical course design and delivery environments will be described. We distinguish *low, intermediate and high interaction intensity levels*:

1. At the low intensity level participants of the blended learning course do not interact synchronously or asynchronously but they use the content to interact indirectly with each other without any interference into the communication behaviour of other participants under or without teacher guidance. Students choose topics, texts, exercises and activities to practice foreign language skills in the assigned news sites, keep blogs, work with glossaries, make up a searchable bank relating to a group work aim, create wikis, etc. They deal here mostly with the non-human interaction.
2. The intermediate level incorporates elements of social and technological interactions so it includes non-human and human interaction features. Students interact asynchronously, but they react on the interactive manipulations of other participants with the course virtual content and get feedback asynchronously. Emphasis is put on student participation in collaborative activities with peers in both F2F and online interactions. Students are expected to take a more active part by expressing their ideas and communicating with group members. The activities which can be used for effective group work in online-collaboration are forums, online discussions when the teacher and students can post messages to each other, and keep track of individual discussions.
3. A high interaction intensity level involves the immediate communication. The interaction occurs synchronously in the form of instant messaging, conference calls, video conferences, communication with guest experts or asynchronously as student-led discussions, group student presentations, project collaboration forums, participation on threaded discussions, group collaborative video/web analyses etc. To participate effectively in the interaction at this level students must have advanced foreign language level.

The interaction in virtual and real environment at a high interaction level develops facilities for oral and written communicative foreign language skills and creates an authentic foreign language environment, that is very important for students who learn foreign languages in the countries distanced from native-speaking communities. The low intensity and intermediate levels are the stages to achieve a high level of interaction, on the one hand, and, on the other hand, they are the condition for meaningful students participation in the blended learning courses which outcome is the development of communicative skills in FLT.

5. Conclusions

In short, the main conclusions of this research are:

1. The opportunity of thoughtful combination of three delivery environments such as F2F synchronous in the traditional classroom (same time/same place), F2F synchronous as a live virtual classroom (same time/different place) and asynchronous (different time/different place) gives blended learning advantages in comparison with pure traditional or distance learning environment.
2. Group work as a pedagogical form used in FLT has a beneficial effect on the development of the social competence which is one of important competences in the modern world. Due to its technological, didactic and methodological resources the blended learning can facilitate the development of social competence.
3. There are two main types of interaction in FLT in the blended learning environment: human and non-human, which have an influence on the pedagogical design of blended learning courses.
4. The interaction in the virtual environment occurs on different intensity bases which can be divided into three levels (low, intermediate and high). Each level supposes using of specific instructional strategies and students activities of blended learning. Though a high interaction intensity level confers an advanced foreign language level and creates a sense of authentic communication, the previous levels are important for communicative skills in a foreign language too/as well.

Further, to each section of this research articles describing practical pilot blended learning courses in different disciplines at the Tomsk polytechnic university will be suggested.

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