BLENDING TECHNOLOGY WITH CONSTRUCTIVISM: IMPLICATIONS FOR AN ELT CLASSROOM

by **Haldun Kaya**

Izmir University of Economics,

Sakarya Caddesi, No:156, 35330 Balçova – İzmir, Turkey

haldun.kaya @ izmirekonomi.edu.tr

Abstract

The constructivist approach in learning a foreign language has been receiving a great deal of attention over the last years due to its tenets, which fully comply with the principles of the effective language learning environment. Taking the foundations of constructivist pedagogy into consideration, the most innovative attempt that English language teachers have made so far is to integrate technology into their classes in order to improve students' communication skills, help them become active learners, and encourage them to reflect on their own learning. Along with a brief literature review on constructivist learning and the use of technology, this article aims to provide the readers with the related practical applications and implications.

1. Introduction

The internet, a wide variety of web-based tools and specially-designed computer programmes have added a new dimension to English language teaching and learning, thereby enriching the alternatives in ELT. As language instructors and learners have been provided with many different resources and applications in addition to the ordinary means used in the traditional pedagogy, such as course books and boards, it is essential to revise the teaching approaches, tools, learning environment, interaction patterns, teacher and students' roles in the pedagogy of the 21st century.

Over the years, there has been much research aimed at defining and exploring more effective language teaching approaches. Traditional approaches to second language pedagogy focus on the teaching of the language structures and forms with little emphasis on processing meaning or active communicative or authentic use of the language (Cummins, 2001). Today, the shift from language 'analysis' to language 'use' allows a greater emphasis on interaction. Communication is no longer regarded as an end in itself, but as a tool for participating in socially meaningful activities.

This article discusses the role of technology in creating a social constructivist environment, before considering a number of practical applications, and highlighting some implications for English language teaching.

2. Constructivist learning environment

Constructivist learning has developed as a compelling approach to teaching. According to Vygotsky, learning occurs through interactions with the environment and the people in it. In constructivism, 'knowledge' is actively constructed by learners as they are trying to make sense of their experiences (Perkins, 1991). The constructivist approach also emphasizes the importance of context in learning (Duffy and Jonassen, 1991), and stresses that the learning of knowledge could only be achieved by engaging in meaningful activities, and that learning is a continuous, life-long process resulting from acting in situations (Brown, 1989).

Brooks and Brooks (1995) demonstrated the differences between the traditional and constructivist approaches as follows:

Table 1. Comparison of traditional and constructivist classrooms.

Traditional Classrooms	**Constructivist Classrooms**
Strict adherence to fixed curriculum is highly valued.	Pursuit of students' questions is highly valued.
Curricular activities rely heavily on textbooks and workbooks.	Curricular activities rely heavily on primary sources of data and manipulative materials.
Students are viewed as "blank slates" on which information is etched by the teacher.	Students are viewed as thinkers with emerging theories about the world.
Teachers generally behave in a didactic manner, disseminating information to students.	Teachers generally behave in an interactive manner, mediating the environment for students.
Assessment of student learning is viewed as separate from teaching and occurs almost entirely through testing.	Assessment of student learning is interwoven with teaching and occurs through teacher observations of students at work and through exhibitions and portfolios.
Students primarily work alone.	Students primarily work in groups.

Marlowe and Page (2005) summarize the foundations of constructivist pedagogy as:

1. constructing knowledge, not receiving it;
2. thinking and analyzing, not accumulating or memorizing;
3. understanding and applying, not repeating back;
4. being active, not passive.

As shown above, constructivism encourages learners to use their higher order thinking skills, thus aligning itself closely with Bloom's taxonomy, which was created to promote higher forms of thinking in education. The hierarchy of the taxonomy can be illustrated as follows:

Figure 1. Bloom's taxonomy (Krathwohl, 2002: 215).

3. Constructivist learning and the use of technology

The integration of virtual learning environments, blogging, media technology, course management systems, useful websites and certain computer programmes into English language teaching help create optimum learning conditions from the constructivist perspective. In this regard, Ghasemi and Hashemi (2011) stated that by using technology language learners can

- access, select and interpret information,
- review and modify their work to improve the quality,
- communicate with others and present information,
- evaluate their work,
- improve efficiency,
- be creative and take risks,
- gain confidence and independence.

Teachers who make use of technology in their classrooms are aware that it provides an opportunity to differentiate instruction and change their classrooms into dynamic learning environments (Pitler and Hubbell, 2007). If applied effectively, technology implementation not only increases student learning, understanding and achievement, but also augments motivation to learn, encourages collaborative learning, and supports the development of critical thinking and problem solving skills (Schacter and Fagnano, 1999). Integrating technology into instruction tends to transform teacher-dominated classrooms into more student-centred ones (Pitler and Hubbell, 2007).

These tendencies support the argument that "constructivist approach is promising at promoting learner' language and communicative skills as well as at fostering their autonomy, social and interactive skills contributing to their development into more confident, pro-active and responsible individuals by supporting incentives on diverse media in language learning and teaching" (Can, 2009: 60).

As for the link between Bloom's taxonomy and use of web 2.0 technologies in education, the following pyramid, The Digital Blooms Pyramid, represents some of the web-based tools in the hierarchy.

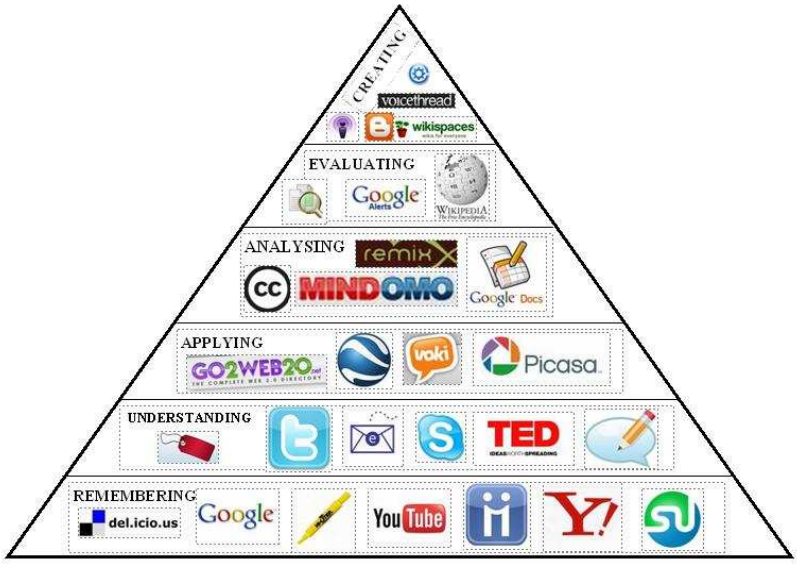

Figure 2. Digital Bloom's Pyramid (http://education-2020.wikispaces.com/21st+Century+Learning)

- Remembering: social bookmarking websites, using search engines and social networking
- Understanding: blog journaling, commenting on websites, subscribing
- Applying: editing a wiki, uploading and sharing photos or documents online
- Analysing: tagging, creating 'mashups', leveraging Google Docs
- Evaluating: moderating forums, structured and reasoned blog responses
- Creating: directing and filming a video or podcast, wiki-ing, programming software

4. Applications

In order to ascertain how the use of technology follows the principles of the constructivist approach and the hierarchy of Bloom's taxonomy, it is logical to examine certain applications.

4.1. *Edmodo* – A Learning Management System

Currently used by over 30 million people, *Edmodo* (https://www.edmodo.com) is a free online learning management system for teachers and students. It is easy to create a group or groups for language learners, which acts as a social learning platform. Only the students that have a group code can join their teacher's virtual class. Running an *Edmodo* class does not require any training or field-specific knowledge.

Stanford (2008) lists some activities that can be facilitated in an ELT environment by using such a virtual learning environment:

- Enhance teaching with online supplementary activities, both remedial and extension.
- Provide students with links to websites relevant to the course content.
- Present online learning activities.
- Ask students to reflect on their learning through a blog or a journal.
- Work in teams by using a blog, wiki, voicethread, etc.
- Set up a list of things for students to do before a lesson.

Besides those mentioned above, by using *Edmodo*, an English language teacher can

- share any file with her students (a word or PDF document, PPP, videos, sound files, images or web pages),
- give assignments by setting a due date and give feedback,
- assign a quiz with a time limit - once quizzes have been submitted, along with an item analysis, the teacher can see the scores and answers),
- create an online *Edmodo* library to store all the documents, pictures, audio and video files in different folders for easy sharing with students,
- create polls and see the results,
- allow students to upload a variety of items,
- create an interactive learning environment as anyone registered in an *Edmodo* class can exchange ideas and make comments.

As stated in constructivist learning, *Edmodo* helps learning occur through interactions in meaningful activities. Since there is no time limit like a lesson, this virtual learning environment provides learners with a continuous learning process.

4.2. Blogs

The Cambridge Dictionary defines a blog as a regular record of thoughts, opinions, or experiences made available on the internet for other people to read. McIntosh (2005:2) gives a detailed description as follows:

> Historically, a weblog, or 'blog' for short, is recognised by its regularly updated, time and date stamped posts, running down the computer screen in chronologically reverse order (i.e. the most recent post comes first). Crucially, there is an 'Add Comment' feature so that readers of posts can leave their opinions, questions or thoughts. Finally, there is a writing style element: blogs are written by one individual who gives his or her thoughts in a generally relaxed, 'spoken' style.

Blogs have a wide range of the interaction patterns in education, giving students the opportunity of communicating with each other, as well as the teacher. More importantly, interaction is not limited to the classroom or lesson time. Language learners can receive instant feedback on oral or written work, and also have the opportunity to comment on the work of peers. Students can also visit certain blogs and access the resources they need using RSS and tagging features of blogs. This supports their efforts to become more autonomous and independent.

The following 5 blog websites are the most popular ones among millions of bloggers:

- https://www.blogger.com/
- http://wordpress.com/
- https://edublogs.org/
- https://www.tumblr.com/
- http://www.weebly.com/

4.3. Using *Jing* for giving oral feedback

According to Merriam-Webster, feedback means "the transmission of evaluative or corrective information about an action, event, or process to the original or controlling source". Feedback is a prerequisite for cultivating critical thinking (Tishman & Andrade, 1999) and helps students evaluate, reflect and change their linguistic performance (e.g. Jensen, Kornell & Bjork, 2010). Without feedback, language learners cannot improve because they will not know what they need to work on or to what extent they have accomplished their aims.

Feedback on writing is basically the teacher's corrections on her students' papers. The students are expected to re-write their text by paying attention to the corrections. Williams (2003) states that having students merely copy teacher corrections into rewrites is a passive

action that does not teach them how to recognize or correct errors on their own. As classes are often larger than 20, teachers do not have enough time to deal with every single error in detail. With written feedback, limitations of margin space and coding symbols mean that correction is at best partial, and that it is not possible to fully correct every piece of work.

With the help of technology, it is possible to engage language learners with personalised and in-depth feedback. *Jing* (http://www.techsmith.com/jing.html) is an efficient way to capture whatever is recorded on the screen and provides a useful way to deliver feedback to students. Having downloaded the free screencast programme, a teacher can give her students tailored feedback in her own voice by recording a short video. While narrating, she can also move the cursor and draw their attention to specific parts of the students' work. What makes *Jing* a more appropriate tool from the constructivist perspective is that the recorded video can be shared through email or social media, by uploading the video to http://www.screencast.com. In this way learners construct knowledge while trying to interact with each other and reflecting on their own work in a meaningful learning context.

4.4. *Padlet* – an online board

Padlet (https://padlet.com) is a virtual wall that allows both teachers and students to express their thoughts on a common topic easily. It works like an online sheet of paper where people can put any content (e.g. images, videos, documents, text) anywhere on the page, together with anyone, from any device. *Padlet* increases the cooperation and collaboration among students, and they can access their electronic boards anywhere and anytime. After a teacher has created her wall, there are 3 ways she can share it:

- getting an RSS feed to follow it,
- getting an embed code to display it in a blog or webpage,
- using one of the online tools (Twitter, Facebook, Google Reader, Diigo, etc.).

4.4. Socrative

Socrative (http://www.socrative.com/) is a simple, dynamic online student response system that can help teachers spark conversation and learning through user-created polls, games, and quizzes. Teachers can display the class's responses to multiple-choice, true/false, or short-answer questions. In addition to polling students on a single question, teachers can also create longer quizzes, which the software grades. Students can see instantly whether their answer is correct, or they can provide an explanation in response to incorrect answers.

By using the 'quick question' function, it is easy to gather authentic examples of student work for discussion. The teacher can gauge understanding throughout the day or week with quick quizzes and polls. It is possible to use *Socrative* during peer presentations in order to gather peer questions, and then, turn these questions into a quiz to check how successful the communication among the students has been. Thus, students can learn when there is no teacher sitting right in front of them. On the basis of constructivism, this encourages students to be autonomous learners.

4.5. Using digital media to practise speaking and listening

Today, with the advent of the internet, computers and smart phones, getting news and receiving information through videos have become a part of our daily routine. Video has emerged as today's pen and paper, being the major medium of communication. It is not surprising that digital media have produced an impact on education, particularly on ELT. Both teachers and students can create their own videos using different multimedia tools such as cameras, smart phones, laptops, and animation software.

Videos can be useful, especially to spark learners' curiosity and generate interest, as they appeal to the needs of both auditory and visual learners. The successful preparation of a video leads to a feeling of satisfaction, which in turn boosts self-confidence and motivation. Digital media encourages language learners to practise their speaking skills in the target language outside the classroom. As for the connection with constructivism, students could be asked not only to record themselves giving an oral talk or presentation, but also to record a mock interview (e.g. Student A: Brad Pitt, Student B: Larry King), discussion (e.g. on the topic of nuclear power plants) and short play (e.g. fairy tales) as well. The communicative and meaningful interaction among language learners is enhanced by focusing on the use of the language, not the usage. This way, as Marlowe and Page (2005) state, while learning a language, students become active, apply the learned rules and lexis, and construct knowledge by interacting with their peers. The recorded videos reflecting students' performance and progress also guide the teacher and students to pinpoint the areas for improvement and then make plans accordingly.

In 2013, the students at the Preparatory Programme of the Izmir University of Economics took part in a blog activity (http://ast05.blogspot.com.tr/). Due to privacy concerns, only four of the student performances are available. They prepared and performed their presentations, recordings of which were posted on the class blog, each with 5 questions for other students to answer. This way, the students

- were all motivated to participate in the blogging activity.
- had the chance to practise their speaking skills outside the classroom.
- listened to each other for a specific purpose, to find the answers to the comprehension questions.
- had the opportunity to listen to each other at any time.
- were able to comment on their peers' performance.
- received feedback from their peers and their teacher.
- could measure their improvement in their speaking skills at the end of the academic year.

5. Conclusion

It is not appropriate to regard technological devices and tools as a panacea for all the problems teachers and learners face, and it is important not to overlook the value of traditional teaching devices and instruments. It should be underlined that technology is just one means of assisting a teacher. As Kajder (2003: 9) wrote, "focus has to be placed on learning with the technology rather than learning from or about the technology".

English language teachers should be cognizant of the fact that learning is a process where individuals contribute the most and that the most effective learning often occurs when teacher involvement is at an optimum level, i.e. when it is at the minimum level necessary. Without this condition, learning cannot be considered to have been carried out entirely successfully. In the process of learning a foreign language, one needs to take risks, communicate with others, engage in higher order thinking skills and present written or oral output as evidence of learning. This approach accords with several concepts frequently lauded in the current ELT environment, such as 'learning-centred', 'reflective practice', 'learning by doing', and especially 'constructivist approach'.

The technology-based applications and tools as outlined above take the precepts of constructivist pedagogy in the centre and help language learners use their cognitive skills specified in Bloom's taxonomy as learners

- are active, rather than passive recipients,
- explore new web-based tools and applications,
- set the pace of their learning (read documents, listen or watch videos at their own convenience),

- collaborate (with their peers outside the classroom, by using *Edmodo*, blogs, wikis),
- interact (with their peers and teacher by using *Edmodo*, blogs, video-emails, etc.),
- produce (a video, blog, forum, wiki, etc.),
- reflect (on their performance, productions),
- comment (on their peers' performance and productions).

Language learning is an act of creativity, imagination, exploration and collaboration. As long as technology enhances this act, it will have an impact on students' achievements.

References

Brooks, M., & Brooks, J. (1995). *In Search for Understanding: The Case for Constructivist Classrooms.* Alexandria, VA: Association for Supervision and Curriculum Development.

Brown J. S., Collins, A., & Duguid, P. (1989). Situated cognition and the culture of learning. *Education Researcher*, 18, 32-42.

Can, T. (2009). Learning and teaching languages online: a constructivist approach. *Novitas-ROYAL*, 3(1), 60-74.

Cummins, J. (2001). *Negotiating Identities: Education for Empowerment in a diverse society*. Los Angeles: California Association for Bilingual Education

Duffy, T.M., & Jonassen, D.H. (1991). Constructivism: New implications for instructional technology? *Educational Technology*, 31(5), 7-11.

Ghasemi, B. & Hashemi, M. (2011). ICT: Newwave in English language learning/teaching. *Procedia Social and Behavioral Sciences*, 15, 3098–3102

Jensen, M. H., Kornell, N., and Bjork, R. A. (2010). The costs and benefits of providing feedback during learning. *Psychonomic Bulletin & Review*, 17(6), 797-801.

Kajder, S. B. (2003). *The Tech-Savvy English Classroom*. Portland, ME: Stenhouse.

Krathwohl, D. R. (2002). A revision of Bloom's Taxonomy: an overview. *Theory into Practice*, 41(4), 212-218.

Marlowe, B. A. & Page, M. L. (2005). *Creating and Sustaining the Constructivist Classroom* (2nd ed.). Thousand Oaks, CA: Corwin Press.

McIntosh, E. (2005). From learning logs to learning blogs. Scottish Centre for Information on Language Teaching and Research. Retrieved January 26, 2015, from http://www.scilt.org.uk/Portals/24/Library/slr/issues/13/SLR13_McIntosh.pdf.

Perkins, D.N. (1991). What constructivism demands of the learner? *Educational Technology*, 39(9), 9-21.

Pitler, H. & Hubbell, E. (2007). *McREL Using Technology with Classroom Instruction that Works*. Alexandria, Virginia: ASCD Publication Association for Supervision and Curriculum Development.

Schacter, J. & Fagnano. C. (1999). Does computer technology improve student learning and achievement? How, when, and under what conditions? *Journal of Educational Computing Research*, 20(4), 329–43.

Stanford, J. (2008, January). In the Mood for MOODLE. *English Teaching Professional* 54, 58-60. Retrieved on January 26, 2015, from http://viktor.mefos.hr/moodle/file.php/1/dokumenti/Moodle_Stanford_article.pdf.

Tishman, S., & Andrade, A. (1999). Thinking dispositions: A review of current theories, practices, and issues. Retrieved January 26, 2015, from http://learnweb.harvard.edu/alps/thinking/docs/Dispositions.pdf.

Williams, J. G. (2003). Providing feedback on ESL students' written assignments. *The Internet TESL Journal*, 9(10). Retrieved January 26, 2015, from http://iteslj.org/Techniques/Williams-Feedback.html.