

The Reflections of English as a Foreign Language Teachers' on the Use of Virtual Reality in Classroom Practice (International Black Sea University Case)

Bilal Ozkan*

Abstract

The aim of this study is to investigate English as a Foreign Language (EFL) teachers' perceptions about the possible integration of Virtual Reality (VR) tools into English Language Teaching (ELT). The Study highlights the use of VR technology in teaching and learning process and its effect on the quality of lessons by considering Constructivist Approach. The study was held among EFL teachers in Intensive English Language Program at International Black Sea University. The participants of the study were 10 EFL teachers who participated for four weeks in VR workshop sessions, two hours per week. Qualitative and Quantitative approaches were adopted to collect the data considering teachers' perceptions towards using the VR for learning and teaching purposes. After the completion of the workshop sessions, the data were obtained from questionnaires and interviews. The results show that the VR tools in classrooms may have significant positive effects on class motivation. The participants of the study also developed positive attitudes towards VR tools although they did not have any experience of using VR technology before. The results of the study also suggest that applying VR in EFL classes may increase students' autonomy and responsibility for their studies. Furthermore, the study reveals teachers' positive experiences using VR in EFL classes enhances their level of technology usage in class.

Keywords: Educational Technology, EFL, ELT, Virtual Reality, Virtual Environment

Introduction

The use of visual technology in the teaching and learning process has increased the quality of traditional lessons and applied instruction. Videos, photos, graphics and animation- aided materials have undoubtedly improved the quality of teaching that is done by instructors in classrooms and laboratories. In that vein, the use of technology enhances the power of instruction and it develops student learning performance. Moreover, it reduces the allocated time for explanation and application, leaving more time for practice. However, the emergence of the

* MA, International Black Sea University, Georgia
bozkan@ibsu.edu.ge

more practical technology is on brink. This technology is virtual reality (VR). The capabilities and possibilities for VR technology may open doors to new vistas in instruction and learning (Ausburn & Ausburn, 2004, p.33).

The basis of virtual reality is the interactive participation of a controller in real time 3D computer-oriented world. Its interface immerses participants in a 3D synthesized environment generated by one or more computers and allows them to act in real time within that environment by means of one or more control devices and involving one or more of their physical senses (Ausburn & Ausburn, 2008; Brown, 2001). In other words, this is the technology that allows the interaction with the 3D images and animations, which are created on computers, with the help of technological gadgets that give users the feeling of conscious presence in a real environment. Consequently, the quality of reality in this environment improves the reaction to the situations that a user is to encounter in real life.

Theoretical Framework

According to Pinho (2004), VR is characterized by three basic dimensions. The first one is 'immersion' which means that the user has the real sensation of being inside the virtual world of the computer. The devices that make this sensation are digital helmets and a digital cave. The second one is 'interaction' which deals with the user manipulating virtual objects. The devices that make this sensation are digital gloves. The last one is 'involvement' which is explained as exploration of a virtual environment. It is as if the user is taking part in the virtual world and he/she can interfere directly in the result of the application, the user can navigate in the virtual environment in a passive or active way.

Virtual Reality presents us with profound changes in the way that we study, teach and learn languages all over the world due to its huge potential to present an entirely immersive environment. 3D virtual learning environments (3D VLE), a 3D virtual educational technology is used to create an immersive and interactive environment to facilitate or aid learning. Nowadays it is being used in education because of its high motivation and positive learning outcomes on students (Nonis, 2005). The constructivist learning theory is applied in a 3D VLE. In their study, Clarke et al. (2006) had a research about the social constructivist approach using a 3D VLE. Several experiments were conducted and compared against a similar paper-based control group classroom. The examination of the results indicated that on average, the students in a guided social constructivist experimental group (GSC) achieved 16% higher scores on the post-test compared to the students in the control group.

Such VR-based researches have soon prepared the ground for the question of how to use VR for the language teaching and learning purposes. Unfortunately, most publications on the issue just advertise the existing VR platforms and discuss their features, such as Godwin-Jones (2014). VR application in foreign language teaching involves guided field trips and simulated immersion (visualization + listening, teacher guiding comments, answering the questions), it connects students to the outside reality, each other and the teacher,

provides authentic materials and activities, students become more autonomous and take responsibility for their learning.

Lan (2015) held an action research with 132 elementary school students in Taiwan. Among the advantages of VL the following ones were named by the students: no time or space limitation, game-like enjoyable activity, and enhancement of language skills. Pre- and post-tests also revealed improvement in language skills (mean results in vocabulary: 8.94 → 9.13; speaking: 11.87 → 12.70). However, action research is not enough for far-reaching conclusions, for which an experimental study is needed. Wang (2015) held an observational qualitative research dealing with teacher roles in VL, which is definitely interesting, but does not reveal the efficiency of the approach itself.

The use of VR in language classrooms largely depends on the teachers' familiarity and experience with the VR gadgets (such as Google Cardboard). It is the language teachers who can incorporate VR and VR applications into their teaching since they play significant roles in the process of introducing VR technology into the classroom. It is also the case that this experience with VR technology should be broad and sufficient enough to enable teachers to integrate it to their teaching. Using and applying VR-based language activities in the classroom may be challenging. It is, therefore, necessary to better understand and solve the problems that language teachers are likely to encounter while using VR in the classroom.

Nowadays, VR software is expensive and not sufficiently user-friendly, while language teachers, as humanities specialists often have prejudices and/or challenges in using them, so the application of VR has not found yet such an important role as it has in training medical students, future pilots and engineering students.

According to Woods (1996), perceptions of teachers about their teaching play an important role in their decisions, judgments, and behaviors in the class. What is more, the number of VR-based classroom materials is limited and teachers have the responsibility to adjust possible materials suitably to the classroom use, which presents an extra burden for teachers.

Consequently, there is a need to investigate and increase these perceptions for the purpose of reaching a consensus as to which aspects of VR technology should be considered as an educational tool for language learning and to what extent these considerations should be integrated into the actual classroom atmosphere. Under the light of what has been discussed so far, the researcher believes that English as a foreign language (EFL) teachers' perceptions towards the integration of VR technology into actual classroom teaching must be investigated. An extended analysis of these perceptions is important for two more reasons. The first one is that investigating teacher perceptions towards the integration of VR technology as a language teaching tool gives us a chance to understand how VR gadgets can be exploited by language teachers and learners. The second is that through analyzing teacher perceptions, it may be possible to see what successful or experienced teachers are doing with VR technology in their classrooms that make their courses effective and what other teachers, usually inexperienced or unsuccessful ones, are missing in the implementation of their courses.

Methodology

The idea behind this study which is qualitative in nature is to find out tertiary level EFL teachers' perceptions about the possible integration of VR tools into English Language Teaching (ELT). These perceptions may reveal the true nature of the EFL teachers' stance towards Virtual Reality. It is also expected that the findings will help to see whether the use or the integration of VR tools to an EFL context is possible. As a result of this study, it will also be possible to see whether EFL teachers consider VR as an important classroom tool to be used in EFL classrooms or merely an alternative to Old-school English Teaching materials.

This study sought to answer the following questions:

1. What is the general awareness of EFL teachers of VR-based classroom teaching and their attitude towards it?
2. What features of VR tools do EFL teachers consider as important tools in their teaching?

Research Design

The present case study was carried out to seek ways to integrate Virtual Reality tools into language teaching and learning process. Ten EFL teachers were the participants of this case study and they were given a total of one month training, two hours per week in the form of a workshop. The purpose was, first of all, to create an adult learning experience for the EFL teachers in line with the Kolb's (1984) 'experiential learning cycle' that is based on the premise that adults learn through concrete experience, observation and reflection. Then the trainees were asked to change into teacher roles and seek ways to use their VR experiences with their teaching. During the workshop period the subject teachers experienced VR-based teaching activities that can be used as complementary while teaching.

Participants and Setting

This study was conducted in 2015 with ten EFL teachers, teaching for the Intensive English Program (IEP) in the School of Languages, at International Black Sea University, Georgia. In the selection of samples purposive sampling was used and thus, the participants were selected by the researcher upon the availability and willingness criteria. All the subjects taught were vocabulary, grammar, reading, writing, speaking, and listening. Out of ten teachers in the IEP only nine had participated in seminars or certificate programs in ELT and one of them did not receive any formal education in ELT. All ten teachers were teaching different subjects.

Table 1. Demographic Information of Teacher Participants (Subjects).

		No	%
Sex	Female	7	70
	Male	3	30
Age	23-29	6	60
	30-35	4	40
	36-40	0	0
	40-above	0	0
Experience in Profession	Less than one year	1	10
	1-5 years	6	60
	6-10 years	3	30
	10-above	1	10
Undergraduate Degrees	Teaching EFL	2	20
	English Language and Literature	7	70
	Applied Theatre in English Language	1	10

Training Workshops

The training workshops were held at the School of Languages of International Black Sea University in Georgia, in the spring term of the academic year of 2014-2015. They lasted four weeks with two hours of weekly sessions. Ten EFL teachers, aged between 23 and 40, participated in the workshops. None of the participants had previous experience or knowledge of Virtual Reality. Google Cardboard was introduced as a VR gadget to the participants and shown to them as a means of technology to teach English. The structure of the workshop that was applied is shown in table 2.

Table 2. The Workshop Sessions and the Content in a Weekly Basis.

Duration	Stage	Content
Week 1	Introduction	Virtual Reality and Constructivist Learning Theory
Week 2	Exploitation	Use of VR in Teaching and Learning

Week 3	Exploitation	Working on Existing VR materials
Week 4	Discussion and Transformation	Discussion of the benefits of using VR-based materials through Google Cardboard in Language Classrooms

The first workshop session revealed that the teachers were very curious about immersive Virtual Reality technology and they wanted to learn more about it. The teachers were excited when they first wore the head mounted display (HMD) that was showing a digital story. This and other surprising findings may prove that it can be used as a teaching tool even from the point of view of positive motivation. During the exploitation sessions, practical problems that all teachers may encounter while teaching were picked up and further elaborated with the examples. It was expected to give the teachers hands-on practical experience with VR. During the transformation stage, the participant teachers were asked how to implement VR experience into their actual classrooms.

Data Collection Instruments

In the course of this study, two different instruments were applied to collect data in this qualitative research. The first one was a 12-item questionnaire, (adapted from Rahimi, Golshan, & Mohebi, 2014). The participants were supposed to answer the questions based on a five-point Likert scale: 1= Strongly Disagree, 2= Partially Disagree, 3= No Idea, 4= Partially Agree, and 5= Strongly Agree. After doing the questionnaire, one discussion session was held and an interview composed of open-ended questions was conducted with the participants. The interview with all participants took approximately an hour and a half altogether after the workshop sessions and all the participants were interviewed one by one approximately for 10 minutes each. The answers were rather short, so the process of transcription was not long. In order to ensure the reliability of the interviews same or similar questions were restated during the course of each interview.

Limitations of the Study

This research study has certain limitations: the sample was limited to EFL teachers from a single institution in Georgia. All participants were working in the same institution International Black Sea University. Thus, it cannot be used for wide generalization.

Findings

This study was held to investigate tertiary level EFL teachers' reflections towards the use of VR in EFL classrooms. In the interview, their individual opinions about VR, and how they viewed this technology as a language teaching

tool were discussed. Almost all teachers (nine out of ten), mentioned that the application of VR would add fun to the language teaching process and is attractive. The majority (eight out of ten) agreed that VR application can reduce anxiety and lead to deeper learning and (seven out of ten) would increase language practice time. However, on other issues the opinions split about half to half. Six out of ten teachers thought that VL would be good homework, make their job easier and that its application in language classrooms is realistic. Six out of ten teachers thought that the application of VL would distract students from language learning. Five out of ten teachers expected some classroom management problems arising in connection with VR application. The teachers' viewpoints are summarized in table 3.

Table 3. Teachers' Personal Attitudes towards VR

Points of View	No. of Teachers
1. VR would add fun to the teaching process.	9 out of 10
2. VR is attractive and would motivate the learners.	9 out of 10
3. If we have access to VR, it would make our job much easier.	6 out of 10
4. VR could be an ideal tool for assigning homework. VR would be the homework which is not demanding and not boring; hence the learners would do it.	6 out of 10
5. VR application would increase the exposure hours of the learners to the language.	7 out of 10
6. VR is a realistic approach to learning.	6 out of 10
7. VR can reduce learners' anxiety.	8 out of 10
8. VR would lead to deeper learning.	8 out of 10
9. VR exposes learners to natural language.	6 out of 10
10. VR is the best source of function practice.	5 out of 10
11. VR may distract students' attention out of language learning	6 out of 10
12. VR may cause some classroom management problems	5 out of 10

In the interview, the participants were asked about their experiences with VR technology in general. Nearly all the participants stated that generally they found the VR tools useful. They were also asked in what ways it may be effective. They all stated that they will try to find different possible use areas in language teaching.

The interview questions were conducted with 5 volunteer teachers to obtain their opinions about the VR learning tool. Some of the responses to the interview questions were as follows:

1. What are your impressions and general thoughts about the use of VR tools in language education?

Extract 1

"It triggers the learning and also increases motivation to learn. It is fun and authentic. The students are involved in activities, and they practice more than usually. They become more autonomous, and take the responsibility for their learning."

Extract 2

"If I describe it in percentage I can say that it may be 70 or 80% useful. It is fun, I enjoyed using the Virtual Reality 100%, although it did cause some disciplinary problems in the class. On the other hand, as students wanted to proceed, they tried to control their emotions and behavior."

2. How will VR help you and your students in the learning process?

Extract 3

"In my opinion, this will be an effective instructional tool since it allows easy understanding by visualization. It will also increase attention and involvement levels of students during class times."

Extract 4

"The more visualization is used, the more long-term knowledge is generated by learners."

3. Would you use VR as an instructional tool and recommend it to your colleagues in the future?

Extract 4

"I will certainly search for the possible uses of VR in my classes."

Extract 5

"I will recommend it because it promotes a new learning style of the 21st century students."

Therefore, before the training workshops were conducted, the EFL teachers' awareness of the possibilities of virtual reality tools were limited and they had had no such experience. The results of this case study show quite clearly that teacher awareness level towards the use of virtual reality in classroom setting increased significantly. Based on the interview results, all respondents revealed a positive impression about VR and expressed a willingness to use it as an educational tool in their teaching. Enhancing motivation, facilitating the understanding

of concepts, and creating meaningful learning were the mostly mentioned advantages of virtual reality, but its drawbacks were mentioned.

Conclusion and Recommendations

In this case study, the data were obtained through questionnaire and interview. The first research question was asked to know about what was the awareness of and the attitude to VR-based English teaching. According to questionnaire results, the teachers possess very positive and promising attitudes toward VR, and they are willing to incorporate it into their classroom practices. As before the training the teachers were almost not aware about the VR, it can be concluded that is necessary to popularize it among language teachers in order to establish them firmly in foreign language teaching. VR has the potential to connect students with the world and each other in ways that has never before realized. In classrooms, groups of students may take guided field trips to remote sites, interface with other cultures, or travel in time. And the instructor would be there as well, acting as the avatar-on-the-side, guiding the conversation, pointing out important concepts and features, and posing the questions.

Responses to the second research question revealed that virtual reality is a useful tool to be used in the classrooms. It is:

- ✓ Visual
- ✓ Motivating
- ✓ Fun
- ✓ Authentic
- ✓ Anxiety-removing
- ✓ Interactive
- ✓ Autonomous

Consequently, this study highlighted that a virtual reality training program has a great potential for successful integration into their teaching.

If teachers gain knowledge on theoretical bases of the application of VR in language classes, and are armed with the activities, they become enthusiastic about using it. The researcher hopes that more language teachers will be familiarized with the potential benefits of virtual reality tools that are likely to bring more freedom and flexibility into the classroom practices. And it is significant to remind that this research also reveals the possible side effects of using VR in classroom practice because of there is no consensus about the possibility of VR-based problems.

References

- Ausburn, L. J. & Ausburn, F. B. (2004). Desktop virtual reality: A powerful new technology for teaching and research in industrial teacher education. *Journal of Industrial Teacher Education*, 41, 4, p.1-16.
- Ausburn, L. J., & Ausburn, F. B. (2008). Effects of desktop virtual reality on learner performance and confidence in environment mastery: Opening a line of enquiry. *Journal of Industrial Teacher Education*, 45, 1, p. 54-87.
- Brown, R. D. (2001). *Welcome to the world of virtual reality*. Retrieved February 18, 2017, from <http://www.crd.rca.ac.uk/staff/richard/vr.html>
- Clarke, J., Dede, C., Ketelhut, D. J., & Nelson, B. (2006). A design-based research strategy to promote scalability for educational innovations. *Educational Technology*, 46, 3, p. 27–36.
- Godwin-Jones, B. (2004). Emerging technologies. Language in action: From Web-quests to virtual realities. *Language Learning & Technology*, 8, 3, p. 9-14.
- Kolb, D. A. (1984). *Experiential learning: Experience as the source of learning and development*. Englewood Cliffs, NJ: Prentice-Hall.
- Lan, Y.-J. (2015). Contextual EFL learning in a 3D virtual environment. *Language Learning and Technology*, 19, 2, p. 16–31.
- Nonis, D. (2005). 3D virtual learning environments (3D VLE). Singapore: Ministry of Education. Retrieved February 15, 2008 from <https://pdfs.semanticscholar.org/004b/97814dff696b1d624aaf6c8dbc9607a4672.pdf>
- Pinho, M.S. (2004). *Realidade Virtual*. Rio de Janeiro: PUC.
- Rahimi, A., Golshan, N., & Mohebi, H. (2014). Virtual reality as a learning environment in Iranian EFL context: Personal, technical and pedagogical. *Global Journal of Information Technology*, 4(1), p. 13-20.
- Wang, A. Facilitating participation: teacher roles in a multiuser virtual learning environment. *Language Learning and Technology*, 19, 2, p. 156-176.
- Woods, D. (1996). *Teacher Cognition in Language Teaching: Beliefs, decision-making and classroom practice*. Cambridge: Cambridge University Press.