Research Article

INTERACTIVE WHITEBOARD AS A MEANS TO ENHANCE LEARNERS' ENGAGEMENT IN LANGUAGE LEARNING

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ABSTRACT

The application of Interactive White Boards (IWBs) has been well-recognized in educational contexts, especially in language learning and teaching. The paper aimed to explore the perception of English as Second Language (ESL) learners with IWB activities regarding engagement. In the study, 50 freshmen experienced the implementation of IWB in a semester (14 weeks). Semi-structured questionnaires and focus-group interviews were employed to explore learners' behavioral and emotional engagement. Data were analyzed based on themes in the two categories of engagement. The results showed that positive behaviors gained, including learner participation, concentration, and persistence. Regarding emotional engagement, learners also confirmed the enhancement in their enjoyment and interest.

Keywords: engagement; Interactive White Board; motivation; strategies

1. Introduction

The traditional chalk and blackboard have been the center of the classroom for centuries due to their great qualities. According to Knipping (2005), the chalkboard or blackboard is a place for sharing opinions between teacher and students because all information of the talk and discussion stays available, and the learners can follow the development of the ideas and go through the conceptual process instead of coming up with the final results, which bolsters creative thinking, demonstrating, and sharing. However, with new technological innovations, the chalkboard is becoming a thing of the past and being replaced by modern things in the time of computers.

Although people have applied computers in teaching languages since the 1960s (Warschauer & Healey, 1998), the burning interest in the use of information and communication technologies (ICT) in education in general and teaching and learning of modern foreign languages, in particular, has risen over the last decade due to the increasing explosion of multimedia resources and the Internet. ICT integration has been demonstrated by many schools and governments be able to reconstruct educational activities and improve educational processes (Oz, 2014). Through the use of multimedia resources and the Internet, second language (L2) learners are offered opportunities to promote their knowledge and communication competence by interacting in an online virtual world, and educational institutions are linked to the world around by effecting intercultural contact (Oz, 2014). With the fact of globalization today, there is an increased stimulation of social mobility and intercultural contact (Duran & Cruz, 2011), and technology helps enhance this stimulation by allowingaccess to the latest information (teaching plans, activities, and materials) in many forms to open a new world to learners. In the process of applying strategies and data provided by technology, the key point is interactivity – the involvement of users in the exchange of information with computers, and this is a pattern of IWBs – a relatively recent technology.

Several studies tend to praise the effectiveness of IWBs in facilitating language learning as well as perceptions of teachers and learners towards this new technology. A study by Yanez and Coyle (2010) showed that children found the visual effects helpful to enhance their understanding and all the children expressed their enjoyment in the versatility of the activities IWB brought to them. A significant finding by Xu and Moloney (2011) was the positive attitude and enthusiasm of teachers in adapting and implementing IWB technology in teaching language. Moreover, the learning process of students was motivated, engaged, collaborative, and co-constructed (Xu & Moloney, 2011; Duran & Cruz, 2011; Bidaki & Mobasheri, 2013; Turel & Johnson, 2012; Oz, 2014; Karsenti, 2016).

However, there is limited research in the practical application of the IWBs in the teaching and learning of foreign languages (Xu & Moloney, 2011), and there are very few studies about L2 students' perspectives on IWB technology at the tertiary level, particularly in Vietnam. IWB technology is quite new in Vietnam, and not many educational institutions currently use it for language teaching purposes. Van Lang University is one of few schools equip classrooms with IWBs. This paper aims to explore learner engagement with IWB technology in learning English as a second language at Van Lang University. The purpose of this research was to explore the engagement of learners with activities of IWBs. There are two research questions as follows:

1. How do IWBs enhance learner behavioral engagement?

2. How do IWBs enhance learner emotional engagement?

1.1. Interactive White Board

The IWB technology was first designed for business settings, and since then the interactive whiteboards have found their way to become a permanent mainstay in the language classroom. Being more accurately called electronic or digital whiteboards, IWBs are commonly described as a system made up of a computer connected to a data projector and a board (Oz, 2014). According to Ekhami (2002), Johnson (2002), and Levy (2002), IWBs were identified as facilitating the incorporation and application of a range of multimedia resources in lessons like text, images, video, audio, diagrams, or online websites (Higgins et al., 2007).

Based on previous research, the British Educational Communications and Technology Agency (BECTA) presents a precise and adequate summary of what IWB is (BECTA, 2003b, p.1) as follows

An interactive whiteboard is a large, touch-sensitive board which is connected to a digital projector and a computer. The projector displays the image from the computer screen on the board. The computer can then be controlled by touching the board, either directly or with a special pen.

From this definition, Hall and Higgins (2005) concluded that this technology is considered the agglomeration of all pre-existing teaching aids: chalkboard, whiteboard, television video, overhead projector, CD player, and personal computer, but it is integrated with the function of being able to interact with different features of multi-media capabilities. It is argued that what makes IWBs distinct from traditional PowerPoint presentations is that they can reinforce the functionality of the current ICT (computers and projectors) by adding interactivity to these media (Hall & Higgins, 2005; Smith et al. 2005).

The IWB technology has been proved by Coyle et. al. (2010) to be beyond the bounds of traditional boards and to afford L2 teachers opportunities to apply appealing and encouraging teaching methods (as cited in Oz, 2014). IWBs bring about many beneficial results in teaching and learning. According to Turel and Johnson (2012,), teachers have positive perceptions and attitudes about the use of IWBs as regards instructional effects, motivational effects, and usability(p. 390). The significant benefit of IWBs in terms of classroom management is that IWBs allow teachers to easily interact and communicate with students and keep students engaged during a lesson but still allow for teacher-fronted lessons (BECTA, 2003). Hall and Higgins (2005) claimed that being compared with the "boring", "static" blackboards/plain whiteboards (p. 106), IWBs have changed the way teachers deliver the teaching material. IWBs are versatile and flexible in that teachers are allowed to give a multimedia presentation through accessing and utilizing more resources from the Internet or educational software, which can be considered advantageous in increasing students' engagement, motivation, and attention in lessons. Moreover, IWBs are time-saving

facilities that help to save teaching time and overcome the limitations of time pressure in each lesson, and as a result, teachers are relieved and feel less stressed in the teaching process (Bidaki & Mobasheri, 2013).

Many research papers about IWBs and its application were carried out, and the responses in the research (Smith et. al., 2005; Xu & Moloney, 2011; Hockly, 2013; Oz, 2014; Karsenti, 2016) showed that students had positive attitudes and behaviors towards the effects of IWBs on their learning motivation and involvement, attention in class, and academic outcomes. IWBs are suggested in Oz (2014) and Smith et. al. (2005) as favorable educational tools which encourage students' motivation and engagement in learning activities because of "the high level of interaction – students enjoy interacting physically with the board, manipulating text and images" (Becta, 2003, p. 3). Their findings showed that a majority of students demonstrated great enthusiasm and interest for joining a class with IWB technology. Karsenti (2016) also proposed the explanation for students' motivation, in which IWB use provided some interactive situations where students engaged actively in learning. Furthermore, students believed IWBs helped them concentrate more on teaching materials and made the learning process more exciting (Oz, 2014) as the application of a range of multimedia resources in lessons (text, pictures, video, sound, websites, diagrams) attract and keep their attention much better than other classroom resources (Smith et. al., 2005). IWBs, especially with the integration of audio and visual materials, support lessons in terms of making them more enjoyable and motivating through the way of presenting information in the form of colorful and interactive game-like activities (Yanez & Coyle, 2010; Hall & Higgins, 2005). Students in Xu and Moloney's (2011) research also reflected the preference for fun learning and fast grasp of data through visual graphics; therefore, they could \ absorb information from different sources and the feeling of learning more and understanding the lessons better (Oz, 2014). Moreover, the findings in some studies (Smith et. al., 2005; Xu & Moloney, 2011) demonstrated that students expressed the ability to recall information easily and a degree of metacognition in identifying complex notions by applying multimedia. (Schmid (2008a) also reported the finding that students regarded the use of multimedia in the IWB technology-based classroom as facilitating their language learning process (Shi et. al., 2012). However, the impact on students' academic achievement was not clear (Xu & Moloney, 2011), and a small number of students in subjects of math and science emphasized the advantages of IWBs for learning concepts (Karsenti, 2016).

The same advantages are also associated with the utilization of IWBs in L2 teaching and learning. Educational benefits of using IWB technology in L2 classrooms were described in simplifying the integration of new media in teaching routine language classes (Bidaki & Mobasheri, 2013), creating an enjoyable environment for language learning and stimulating students "towards getting the most out of their learning through enhanced interaction" (Oz, 2014, p. 143), and satisfying students' needs with various learning styles

through the use of multimedia (Gray, 2010). Beeland (2002) indicated that the application of IWBs in L2 classrooms is very effective in boosting the levels of student engagement in teaching and learning activities. Duran and Cruz (2011) also claimed that L2 learners in IWB classrooms are more attentive, engaged, and supportive as they find the lessons more interesting and fun.

Overall, the current literature focuses on the benefits of IWBs in science subjects. There are still some studies in the field of foreign language, but participants in those were children or high-school students. This study was primarily conducted to investigate students' behavioral and emotional engagement in tertiary-level EFL classrooms equipped with IWBs.

1.2 *Learner Engagement*

Based on an intensive review of the studies on teacher identity, Izadinia (2013) indicated that reflective was one of the most popular strategies to explore the formation of teacher identity of teachers in different cultural contexts. Reflection in the pre-service teacher education has to be fostered as it is the springboard for their continuous professional reflection (Lupinski et.al. 2012). Through the lens of self-evaluating practitioners' effort to bring values into actions, professional knowledge is formed and taken to the next level (Elliot, 1989). Reflection could be conducted in different ways such as student teachers' reflection on their portfolios, reflective journals, reflective writing logs, reflective videos, reflective meetings (Izadinia, 2013). Among these types, reflective journals seemed to be popular. Many teacher training programs utilized journals as a powerful tool for systematic reflection and retrospective self-evaluation (Bolin, 1988).

Defining learner engagement precisely is challenging although it has been discovered for a long time. Throughout this paper, the term learner engagement refers to the willingness, longing, and self-discipline in the participation and success in the learning process (Bomia, 1997).

Types of learner engagement

According to Fredricks, Blumenefeld, and Paris (2004), engagement can be divided into three different categories:

1. Behavioral Engagement indicates learner presence, attendance as well as persistence in learning.

2. Emotional Engagement emphasizes students' attitude towards schools and learning.

3. Cognitive Engagement is considered the highest level of learner engagement. Learners are cognitively engaged when they invest in their learning and develop themselves.

This paper aimed to explore the learner perspective towards IWB in terms of behavioral and emotional engagement. The cognitive engagement was not stated and analyzed due to the limitation of time and the complexity of cognitive factors.

2.   Methods and Participants

2.1.   *Participants*

IWBs were implemented at Van Lang University, Campus 3 at the beginning of the year 2019. In this research, the participants were 50 freshmen in an English class at Van Lang University, Vietnam. They experienced the use of IWB over a semester in every English class. Participants aged from 18 to 20 years old and majored in Business, Commerce, and Tourism. This was the only class that the researcher used a class equipped with the IWBs. Therefore, the students in this class were asked to join the research. The instructor used IWB with a variety of activities, particularly for lesson warm-up and review. Activities were varied, including matching games, drag-and-drop items, guessing games, and touching games.

2.2.   *Methods*

A semi-structured questionnaire was used to explore students' engagement towards IWB. At the same time, focus-group interviews were conducted at the end of the semester with the purpose to explore learners' thoughts with IWBs activities.

Data collection and analysis

At the end of the semester, learners were sent a link via Google Form to answer the questionnaire. Participants were asked to volunteer to join this research. Their identities were kept confidential. Five volunteers agreed to join a focus-group interview. Their participation in the research would not affect their academic result in class.

Data from the semi-structured questionnaire was compared, highlighted, and grouped into two major themes: behavioral and emotional engagement. The focus-group interview was recorded and transcribed. The researcher highlighted significant data from the focus group interview and compared them with data from semi-structured interviews.

3.   Result and Discussion

3.1.   **Behavioral Engagement**

With behavioral engagement, the results were grouped into three common themes: learner participation, concentration, and contribution. IWBs were confirmed to be helpful to attract learners' attention and raise the level of participation.

Participation

Participation is one of the most important indicators of behavioral engagement. It could be seen that learners reported a higher level of participation when they interacted with others using IWBs. Approximately 75 % of the respondents (38/50) confirmed their participation during IWBs activities. As there were multiple game templates, learners could play different games. "In class, I and my team try our best to circle the words first and get the candies from the teacher. There are also sounds and animation which make us remember the lesson in a more vivid way" (Feedback 2)

Attention/Concentration

Through the texts analyzed, it could be seen that students appreciated IWBs to increase their attention and concentration. More than half of respondents (36/50) valued the sounds, images, the touch-and-move effects, which reduces their distraction during the learning time.

In the interview, all the five volunteers agreed that the visual and audio effects are essential in keeping their attention and time-on-task. As games were designed with movement, interviewees felt "more awake" and "more energetic". However, with a large-sized class, learners who were waiting for their turns sometimes were often "tired when looking at the screen with people moving" (student 3), and "I do not know which group is winning as the students cover most parts of the screen" (student 1).

Persistence

Although the evidence of persistence in learning was still limited among participants, it was still worth noting. Two respondents in google form confirmed that "Those innovative activities make me keep my motivation and effort through a whole semester." (Feedback 11) and "I know my teacher was trying very hard to make the lesson interesting, so I try harder than before" (Feedback 32).

In terms of behavioral engagement, the result is quite positive. Participation is relatively high and there is strong evidence of learner effort and contribution. However, there remained a few challenges to behavioral engagement. Classroom management was extremely important as there appeared more movements in classroom activities.

3.2. Emotional Engagement

Besides enhancing learners' good behaviors, gamification is asserted to help assist students to engage emotionally. In detail, for emotional engagement, two main factors are taken into account:learner confidence and learner interest/excitement.

Enjoyment/Interest

Another benefit of IWBs was to promote an exciting and fun atmosphere. The opinions with "fun" "happy" "comfortable", "learning by playing" were mentioned with a high frequency in the focus-group interview. Strong evidence of learner interest and excitement was also found in the open-ended questionnaire. Most of the students got excited for some reasons. "It is a great fun to touch-and-play, just like a smartphone" (Feedback 4). "We shout a lot when coming first in the game" (Feedback 2). "It is hilarious when I try to drag the items and move them but others try to drag, too" (Feedback 7).

New learning experiences

All learners were freshmen, so their enjoyment mostly came from the new learning experience. Freshness was also mentioned as "it is different from high-school environment" (Feedback 13), "never been experienced such activities" (Feedback 4).

On the other hand, the level of excitement goes down if technical issues happen. "We try to touch the screen but it works very slowly sometimes. That makes us feel bored" (Focus Interview- Student 3). In discussing the feelings, learners become more excited when they are introduced to new activities and the games are competitive.

Sense of comfort

A large number of participants highlighted the sense of comfort with IWBs activities. A majority of respondents confirmed "feeling comfortable in class". The explanation for this feeling came from the support of teams and the instructor. As learners played with their teams, they reduced their anxiety and develop a sense of connectedness.

Despite a decrease in anxiety, a few learners have difficulty with IWBs games. "Quick activities with movement is not my thing. I enjoy watching people but I am too anxious to join the game" (Feedback 42). Although activities with IWBs were favoured, they still caused worry or nervousness for some learners.

In the focus-group interviews, 3 out of 5 participants also showed a strong connection with their mates through the activities. However, one participant was discouraged when their members were not concentrated in the activities and hooked on their phones.

3.3. *Discussion and Limitations*

IWB has been widely used in pedagogies for various reasons, particularly to enhance learner motivation and engagement. However, the research regarding IWBs in higher education in Vietnam has been limited. Therefore, this study hoped to explore the attitude of ESL undergraduate students towards IWB.

It was found that learners highly appreciated the effects and features of IWB in ESL classrooms. The result was aligned with Becta (2003) as learners in this research also enjoyed the physical interaction rather than just images and texts. The finding also showed the consensus of learners in praising game-like activities (Hall & Higgins, 2005; Yanez & Coyle, 2010).

Furthermore, this study contributes to the literature by discovering in detail the parts of engagement, which is rarely studied in the literature. The reported increasedinvolvement and attention was also in line with previous studies (Smith et. al., 2005; Xu & Moloney, 2011; Hockly, 2013; Oz, 2014; Karsenti, 2016). One significant result in this research was learner persistence, not just limited to attendance and concentration. Additionally, IWBs was found to reduce language anxiety and bring more sense of comfort to the English classroom. Regarding methods, most studies of IWBs used questionnaires and in-depth interviews. This research employed focus-group interviews to receive a wider range of information.

4.   Conclusion

The focus of this research is to understand the influence of IWB on learner engagement in higher education. According to the result, IWB was confirmed to benefit learners,

behaviorally as well as emotionally. Respondents from the questionnaire and interviews indicated an increase in participation, concentration, and persistence as well as interest, motivation, and sense of comfort. Additionally, IWB is demonstrated to support collaborative learning and create an exciting atmosphere. The learner's anxiety was reduced during the intervention of IWBs. In this study, there remained some struggling with group work and high-speed games. Therefore, instructors should take into consideration these issues to make the most of the advantages of IWB. Learners still struggled with technical issues and the design of activities. Learners thought that they had more time to get familiar with a new technology tool in learning and hope to experience diverse activities.

Finally, this qualitative research took place in a private university, and the number of participants was limited, the result should not be generalized to other contexts. Qualitative data can give rich information about the respondents, is also challenging as regards researcher's bias in the process of collecting and analyzing data. This is small-scale qualitative research; therefore, it affects the reliability and validity of the study. Further studies would be done to confirm the advantages of IWB. Quantitative research could be employed with a larger sample size to support the result from qualitative.

❖ ***Conflict of Interest:*** *Authors have no conflict of interest to declare.*

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SỬ DỤNG BẢNG TƯƠNG TÁC NHƯ LÀ MỘT PHƯƠNG THỨC TĂNG CƯỜNG GẮN KẾT HỌC TẬP TRONG MÔN NGOẠI NGỮ

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TÓM TẮT

Ứng dụng của bảng tương tác, Interactive White Board (IWB) đã được công nhận rộng rãi trong các bối cảnh giáo dục khác nhau, đặc biệt là trong việc học và dạy ngôn ngữ. Bài báo trình bày một nghiên cứu nhỏ khám phá nhận thức của người học ngoại ngữ như là ngôn ngữ thứ 2, (English As a Second Language Learners) ESL với các hoạt động liên quan tới bảng tương tác – IWB. Trong nghiên cứu, 50 sinh viên năm nhất đã trải nghiệm việc triển khai IWB trong một học kì (14 tuần). Bảng câu hỏi bán cấu trúc và phỏng vấn nhóm tập trung đã được sử dụng để khám phá các hành vi và cảm xúc của người học. Dữ liệu được phân tích theo các chủ đề chính (main theme) trong hai đề mục kết nối. Kết quả cho thấy, về đề mục kết nối hành vi, có những hành vi tích cực đạt được, bao gồm sự tham gia của người học, sự tập trung và tính kiên trì. Về sự gắn kết tình cảm, người học cũng khẳng định sự thích thú và hứng thú của họ được nâng cao.

Keywords: kết nối; bảng tương tác; động lực; phương pháp