

Smart boards in language classes

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Abstract: In this paper we review the role of electronic technologies and one of the most recent one of them “Smart Boards” in foreign or second language classrooms. In fact the analysis of the effects of these kinds of boards is what we aims at, in this article. Technologies are changing our world and learning classrooms cannot be separated from this new universe. We should move toward it to be able to alleviate our new obstacles. Although whether we are ready to move across it or not it won't stop. Electronics technologies can be introduced as one of the most fast-developing kinds of technologies. All over the world we can observe its steps and effects in our lives. Smart boards are one of the interactive electronic technologies that attracted the peoples' attention all over the world. They can be useful in conferences sessions, meetings, learning classrooms, Here the concentration is on their applicability in language learning/teaching classrooms. The discussion will be about their efficiencies and deficiencies in language situations.

Keywords: Smart Interactive White Boards, Language Learning, Interactive Learning

1. Introduction

In a lot of researches the significant role of technology in learning was under discussion. Jonassen & Reeves (1996) has stated that “There are two major approaches to using media and technology in schools: students can learn “from” media and technology, and they can learn “with” media and technology”. Learning “from” media and technology is often referred to in terms such as instructional television, computer-based instruction, or integrated learning systems (Hannafin, Hannafin, Hooper, Rieber, & Kini, 1996; Seels, Berry, Fullerton, & Horn, 1996). Learning “with” technology, less widespread than the “from” approach, is referred to in terms such as cognitive tools (Jonassen & Reeves, 1996) and constructivist learning environments (Wilson, 1996).”

A lot of researchers investigated the effect of media & technologies in learning up to now, too. Lewis Perelman (1993) in his book titled *School's Out* declared that: “Because of the pervasive and potent impact of HL (hyper learning) technology, we now are experiencing the turbulent advent of an economic and social transformation more profound than the industrial revolution. The same technology that is transforming work offers new learning systems to solve the problems it creates. In the wake of the

HL revolution, the technology called “school” and the social institution commonly thought of as “education” will be as obsolete and ultimately extinct as the dinosaurs. (p. 50)”

Although there are some other declarations despite of such optimistic expression such as Oppenheimer's (1997): “There is no good evidence that most uses of computers significantly improve teaching and learning, yet school districts are cutting programs – music, art, physical education – that enrich children's lives to make room for this dubious nostrum, and the Clinton Administration has embraced the goal of “computers in every classroom” with credulous and costly enthusiasm..”

In a research the result declared that almost three-quarters of Americans, 73% believe that investing in innovation and advanced technology sciences in education is the key to the country's long-term success (Harris Interactive, 2009).

Based on a lot of researches related to this field, it can be inferred that technology has a powerful effect (negative or positive) in learning situations. As Naismith, et al (2004) identified in a literature review of technology and learning “technologies can have a great impact on learning. Learning will move more and more outside of the classroom and into the learner's environments, both real

and virtual. Learning will involve making rich connections within these environments to both resources and to other people.” So this paper aims at discussing about the effect of one of these kinds of technologies in learning (here in language classes).

2. Literature Review

In this part a summarized review of most important and effective electronic technologies which may be utilized in language classrooms will be presented to prepare a mental readiness for discussion part of smart boards.

The first most fantastic innovation in humans' lives which paved the way of development in today's humans' world is computer. Since the innovation of computers, people have been able to acquire information through the internet, online newspapers, online articles, and even online textbooks (Gertner, 2011). Today, everyone with a personal computer has immediate access to the world's scripts and writing systems (Fischer, 2001). The internet has paved a path for the transmission of ideas and information (Gertner, 2011). Computers changed the learning situations too. The interactive assessments via emails, learning games, chatting with other learners and a lot of other new paths in learning are the computers' presents to the learning world. Through computers, online learning found its place in learning classrooms and they were the real mothers of tablets and smart boards.

For a programmer the performance of the program is significant, but for a learner, the important factor is attractiveness. The more attractive a device is, learning will be facilitated more. So the designers of electronic devices decided to create more attractive interactive instruments such as electronic books. In learning, an electronic book can attract the learners' attention and may enhance learning. As Moody (2010) concluded in his research: *“Findings suggest that the use of high quality interactive e-storybooks may support emergent literacy development through the use of scaffolding, thus, supporting vocabulary development, engagement, and comprehension of the story.”*

Regarding language learning skills, for example listening skill, the role of technology, such as language lab, media, is obvious in the process of learning. Meskill (1996) concluded in the paper that “In listening skills development, activities that focus learner attention simultaneously on visuals and accompanying aural input are common. Visuals support comprehension and form-meaning correspondence, both of which contribute to higher levels of learner motivation.” To confirm it, Lo (1983) found that “significant improvement in foreign language skills development can only be achieved when there is extensive support materials (e.g., print and audio) that are closely keyed to what happens on a television screen.” These researches and findings emphasized the role of technology, especially electronic one on learning.

3. Smart Boards

Technology is widely used throughout the school in order to facilitate both teaching and learning (Gerard & Widener, 1999). This article reviews the use of Interactive SMART Board in Foreign or Second language classrooms. SMART Board is an interactive electronic white board which is connected to a computer and to a projector which displays the image seen on the computer screen (1999). We will first discuss about the first smart boards in classroom situations, their outlines and design, and then we will analyze their roles in language learning classes.

3.1. First Smart Boards in Classroom

“Smart Boards were first introduced in 1991. They were connected to LCD panels which worked as a display for the computer screen. This allows the user to control computer applications and provides a much better learning and teaching experience (GTEACH)”. As Jessica Springgay declared in ehowtech site “In 1992, SMART introduced the rear-projection, SMART Board, with an in-wall rear projection SMART Board released in 1997. In 1998, SMART released its information management software and the SMART Notebook. 1999 brought the first SMART Board for plasma displays. In 2001 came the SMART Board software with SMART Recorder, as well as meeting productivity software. The first SMART Board for flat-panel displays debuted in 2003. In 2005, SMART unveiled its wireless slate, a tablet PC that lets users manipulate and select on-screen objects, create and save notes and launch applications, smart boards which allows teachers to track student performance and organize assessment results in its built-in grade book, in 2007. New products in 2008 included the SMART document camera, collaborative learning software”. And the technology will move toward up to the point that we can “envision classrooms and meeting rooms where images, applications and information are at everyone's fingertips. We envision students around the world experiencing the rewards of learning, whether they learn best by seeing, hearing or doing. We envision teams collaborating and developing ideas on SMART Board interactive whiteboards, making decisions quickly and communicating with other teams across distances as if everyone was in the same room (Smarttech.com)”.

3.2. The Design of Smart Boards

Smart Boards are the kinds of boards which can be applied as computers too. In these boards, fingers can be used as mouse in computers. The user can control all the programs through moving his finger. Like other boards, the user can write a note on it. In fact, it is the combination of computer and white board, even superior, for the note written on it can be printed or saved but not in a regular board.

Simply look at a smart board; it is not hard to make a simple home made one by your own PC, as Dr. Michael Bitz (2013) explained it simply to make your own. In his

description, you should only prepare the following list:

- USB Bluetooth for your PC
- Wii remote controller
- Infrared pen
- Downloading smart board software

To use it you should only do the following steps (ehowtech) :

1. Add batteries to your infrared Wii remote.
2. Download the smart board software. Install the software on your computer.
3. Buy a pen for the board.
4. Get a projector and turn it on with the computer screen projected onto a solid surface, like a wall. Turn on the software and the Wii remote. Place it so that it can sense the entire screen but so that it doesn't get obstructed by you as you use the pen. Calibrate the Wii remote to the screen by touching the flashlight to the dots on the corners that will appear on the screen and flashing the infrared light on at these locations.

In a lot of classes, for example in our country Iran, because of the heavy cost of smart boards, these kinds of homemade boards are used. In fact the white board will be connected to the computer and a data projector to change it into a cheap smart one by a smart kit. Some of these smart kits can be utilized as a camera too to save what have occurred in the class for absent students or the learners in other classes all over the country. Some of these smart kits will make your boards as smart as that can be controllable through your fingers.

Data projector will transfer the data received from the computer on the board and the smart kit will make it touchable to change your white board into an interactive one. But what will happen into the smart kits to change your regular white board into a smart one. In fact smart kit functions as an input device for your computer, like your mouse. In other words, your computer runs an application and sends the image to the projector. The projector casts the image into the smart board or smart kit. If there is a smart board, it will act both as the monitor and your input device. But if you have a smart kit and a regular whiteboard, the kit will be your input device and will transfer the image on your board. Smart board or smart kit as your computer input device will enable you to control any application through touching the board.

There are some other kinds of smart boards that called copy boards, they can be used to print the written notes on the board. They can save the notes which may be written by regular markers and they can be erased by a rectangular eraser which can be programmed for example to clear half of the board by the teacher.

To make relation with the computers, we need user interface to enter users' inputs into the computer such as mouse, key boards, game pads and touch pads. Producing touching screens was a good idea. For it could be related to users' needs well and made it possible for them to enjoy utilizing it. These kinds of screens will be produced by different technologies such as Resistive Touch Screen,

Capacitive Sensing, Infrared Grid, etc., although all of them will lead us to the same aims. For example resistive touch screen which comprises several layers (the most important of which are two thin, transparent electrically-resistive layers separated by a thin space) realizes touching the screen through fingers or pens by rapidly switching between its layers and through it the position of a pressure on the screen can be read. In fact a voltage is applied to one layer, and sensed by the other (Wikipedia,2012).

The smart touching boards are very expensive but are more accurate to realize touching the board. If you want to save your money, you may use smart kits. They may work through different technologies too, such as IR (Infrared) , DViT (Digital Vision Touch),DViT is a camera- based technology which identify your finger or your pen by using digital camera and a software. In DViT technology, the pen tools have no electronic components. In fact its technology is in the pen tray. When a pen tool is removed from its slot in the tray, an optical sensor recognizes its absence and that tool will be selected to be utilized on the board. But in IR technology, all of the functions will be selected by the pen itself, so the pen should have electronic circuits to make IR relations.

3.3. Smart Boards & Interactive Language Learning

The Interactive White Board proved to be an exciting and fun bit of technology to integrate (Al-Saleem, 2012). It can engage learners in the process of learning more than regular boards. It affects learning in several ways, including raising the level of students' engagement in a classroom, motivating students and promoting enthusiasm for learning (Bacon, 2011). In a research it was found that "the Interactive White Board supports interaction and conversation in the classroom (Gerard and Widener, 1999). Solvie (2004) concluded in his research that these kinds of white boards engaged his primary students in literacy learning. Ball (2003) mentioned the increased potential for teachers to concentrate on student responses by using Interactive White Board in class. Cunningham in 2003 in a research mentioned the benefits of these boards such as fast-paced and engaging. And in a lot of other researches such as Kent's, Lee's and Boyle's (2003) it was indicated that teaching with Interactive White Boards is "more fun, more engaging, and more exciting.

As Al-Saleem (2012) has stated in his paper "*learning activities with an interactive whiteboard may include the following items:*

- *Manipulating text and images*
- *Making notes in digital ink*
- *Saving notes for later review by using e-mail, the Web or print*
- *Viewing websites as a group*
- *Demonstrating or using software at the front of a room without being tied to a computer*
- *Creating digital lesson activities with templates, images and multimedia*
- *Writing notes over educational video clips*

- *Using presentation tools that are included with the white boarding software to enhance learning materials"*

"Interactive boards can assist teachers to use digital resources while maintaining dynamic interaction with the entire class and provide computer-based learning without isolating students and encourage a higher level of student interaction in both teacher-directed and group-based exchanges (Al-Saleem, 2012)." Al-Saleem believed that the teacher and the student can interact with the Interactive White Board at the front of the class and the rest of the students remain involved.

Like in other fields, smart boards may be useful in language classes too. Al-Saleem (2012) declared " An Interactive White Board supports the teaching process of foreign languages in three main ways: interaction and conversation in the classroom; presentation of new cultural and linguistic elements; and oral skills." As we examine in classroom situations, the learners' actions and activities in the classroom can be affected by smart boards. In language classes using different media, listening or watching films while concentrating on its elements, highlighting more notable places, When teachers are controlling the class simultaneously can be helpful to promote language learning. Even we can make a quasi-real environment for learning languages especially for FL learners to facilitate learning by these interactive boards. Besides the smart boards may add the factor of engagement and attractiveness to the class. The learners can interact with the board, the teacher, other learners in the class and even another class in another place while listening, speaking reading, writing or even playing a learning game in a language learning process. And adding the factor of fast teaching pace to these benefits, the teachers and learners may be sure to promote teaching/learning process more than before.

3.4. *Efficiencies & Deficiencies*

The benefit of the Interactive White Board is promoting conversation. In fact the awkward situation of having to stand up, go to the board, and write the new word on the board does not occur (Al-saleem, 2012). During teaching the teacher can reinforce the items by underlining, highlighting, circling or marking in other ways to attract the learners' attention to their significance. Besides it can be printed or saved for further usage. Using attractive materials such as films, games, music or other media while teaching at the same time may be helpful in the class. The teacher can control the class, highlighting the significant items, monitoring learners while learning simultaneously. It may save time in contrast with regular boards. Pictures and text can be shown without delay by a simple touch of a finger or a pen.

The learners and teachers will interact with the class while teaching, so teaching/learning situation won't be boring. By using this kind of board, online learning can be different too. Al-Saleem (2012) confirmed it with this statement "With Interactive White Board the instructor can

not only simply project a website; he/she can also overwrite it to emphasize specific linguistic and cultural elements. The Interactive White Board also facilitates navigation of the site because it is finger driven on the board. This, too, facilitates classroom activities". For oral skills the Interactive White Board brings people together and encourages communication (Abraham, 1991). Al-saleem (2012) summarized the merits of smart boards in this way: "it provides a bridge that allows using the features of computers without breaking communication – it even supports it". SMART Board may be helpful in the correction of the papers by the whole class. This gives everyone in the class the opportunity to improve their language skills and give them an eye for the language (Gerard, & Widener, 1991).

If we aim at discussing about the problems of utilizing smart boards in learning situations, it can be said that the problems are not specified to language classes. In fact some obstacles may be occurred during using Interactive Boards for lack of enough knowledge or attention in choosing the appropriate one and in utilizing them in the classroom by the manager, the teacher and the learners. Selecting some cheap and low accurate smart boards to save money may waste time and confused learners and teachers. For example in Iran, using smart kits instead of smart boards for being cheaper than the latter ones with less accuracy in touch sensitivity made some problems in the class. It just waste the teachers' time. In other words no promotion occurred even some of the benefits of previous regular boards omitted in these cheap ones. Because of the cost it may cause in the classroom, in some classes the learners may not be allowed to use the board or the students' pen to interact with it. In fact the merit of interaction and attractiveness may be reduced for the learners, besides the benefit of regular boards for using the learners energy in learning while writing an item on the white board for example, will be omitted too. So based on the heavy financial load on schools' shoulders, it has no notable efficiency in learning situations even some benefits of old situations may be removed. Although lack of some teachers' knowledge in teaching by the smart boards may confuse them and made the teachers to go back to utilizing regular white boards.

4. Conclusion

In this paper we aim at reviewing the use of smart boards in classrooms (especially language classes) and discussing about the merits and demerits that utilizing them may cause in learning situations. We believe that the SMART Boards are innovative and powerful support for language learning if they will be selected and used properly in learning situation. It is true that Smart Boards use the features of computers without breaking communication and make an interactive environment in the classroom but if it is used just as a monitor in the classroom just to say that the school is a smart one but the learners and teachers won't be able to

utilize it as it should be it can't guarantee reaching the benefits of using interactive Boards in classrooms.

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