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*The Educational Value of the Interactive Whiteboard and its
Effects upon Students' Engagement in an "EFL" Context:
The case of Technology Students at Tlemcen
University*

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DEDICATION

To those who sparked my ambition and joie de vivre: my parents.

To all my family and friends.

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ABSTRACT

This study is an attempt to investigate the use of the Interactive Whiteboard in English as a Foreign Language (EFL) classroom. There have been many positive claims made about the benefits of learning through a pedagogy which makes use of an Interactive Whiteboard (IWB), introducing a flourishing implementation of the IWB in schools.

This study contributes to attention within investigation to the adoption of new technology in language learning. The purpose was then to determine whether the use of an Interactive Whiteboard in classroom instructions and presentations had an effect on students' engagement in the learning process. Specifically, the objective was to know if students' engagement increased while the Interactive Whiteboard was used to deliver instruction and to see how the use of the Interactive Whiteboard can help instruction in classroom. To reach this end, an action research was conducted in the faculty of technology (Tlemcen University) relying on a set of sources and instruments for data collection. Classroom observation, students' questionnaire and teachers' interview were used. The data collected from these instruments were analysed quantitatively and qualitatively.

General Introduction

The integration of technology in the field of education triggers much of enthusiasm, consternation and resistance concerning its adoption and effect on the teaching and learning process. Impressions can come up from excitement at the brainwave of a ‘connected classroom’ to a dread of computerised teachers absolutely replacing the classroom tutor. Furthermore, the use of technology is nowadays conceived as a challenge for the current pedagogical environment. Little progression has forth been made so as to incorporate technology as an essential pedagogical tool.

It has long been approved that the study of pedagogy and didactics is fundamental to catching on the potential role of Information and Communication Technology (ICT) in the teaching/ learning process and the ways in which new technologies are convenient by teachers. For many years however, studies investigating the use of ICT by students in learning, across the curriculum, have obtained merely constrained adoption of new technologies. In spite of demanding insertion of technology into educational systems, educators keep on disconcerting the integration of technology in education more willingly than being at the front position of the promising use of technology. One of many reasons for this resistance from adapting novelty to the educational environment is that some teachers are reluctant to change as they are unwilling to accept innovative technologies for classroom use. This lack of enthusiasm may be credited to teacher fears, but may also come from deep-rooted teachers’ convictions that the backward classical instructional methodologies have known about technology. Today however, technology has paved the way to the information and digital age as it has been speedily extended to the global rank. As such, it is crucial that educators integrate a variety of technologies into their educational tools to engage students and to stay pertinent in a changing world.

Interactive Whiteboard technology is becoming increasingly popular as it emerges to proffer teachers and students opportunities to support the teaching and learning process. Despite lots of asserted benefits of this technology, teachers should try to integrate Interactive Whiteboards with their current teaching pedagogies, while students are anticipated to be prepared for such change. Effective integration can be attained when it is realised how much training is required, how ready teachers and students are to the

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conception of Interactive Whiteboard's use, and what kind of support can be anticipated from administrators. As the literature lacks the practical aspects when probing students' attitudes towards Interactive Whiteboard technology in language learning, this study attempts to provide more hands-on results, involving both qualitative and quantitative data, reflecting on how students and teachers consider this technological tool, and its impact on their teaching and learning outcomes.

This study tries to investigate the impact of Interactive Whiteboard's use on students' engagement to learning in the Algerian EFL context. Before deciding about the integration of any innovative technology, educators attempt to know how much this technology can support their particular teaching and learning process, and need to be clued up about the estimations of those who are using this technology presently. This study allows Algerian educational institutions in the language teaching area to construct reliable decisions on whether to adopt this technology, and to better know what is required to do if they decide to opt for this promising investment.

The objective of this study is threefold: First, to analyse the experience of using the Interactive Whiteboard in Faculty of Technology at Tlemcen University; second, identify the students' perceptions towards the use of such device; then, investigate teachers' views and attitudes towards the use of technology in their teaching practices. Therefore, the researcher will try to address the following research questions:

- ❖ Does the use of the Interactive Whiteboard increase students' engagement in the learning process?
- ❖ How can the use of the Interactive Whiteboard support EFL classroom?

Then, the research hypothesizes that

- ❖ Use of the Interactive Whiteboard in classroom instruction and presentation will increase students' engagement in learning.

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- ❖ Use of the Interactive Whiteboard in the EFL classroom will support students' interaction in EFL classroom.

This piece of research consists of four chapters. The first one considers the definition of the Interactive Whiteboard and highlights its main benefits for the teaching/learning process. It also investigates the Interactive Whiteboard's pedagogical effects on learning and instruction focusing mainly on factors such as students' engagement, interaction, motivation, participation and retention. And then, the chapter analyses the use of Interactive Whiteboard in EFL context, bringing into focus, interaction in oral skills and authentic presentation of language. The second chapter in its first part deals with the objectives and the significance of the research. Then, it tackles the research design and approach. Description of the research method, sampling, instrumentation and procedure used in the study is given in the second part. The main results of this investigation are analysed and discussed in the third chapter. This chapter is based on discussion of the findings drawn from structured classroom observation, students' questionnaire, and teachers' semi-structured interview. The fourth chapter supplies some suggestions based on the collected data. Specific recommendations related to the procedures and training to be provided, in addition to a suitable preparation for further technology integration is proposed.

CHAPTER ONE

INTERACTIVE WHITEBOARD AS A FORCE TO PEDAGOGICAL CHANGE

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1.1 Introduction

It is undoubtedly that technology-enhanced education is becoming progressively a critical factor of teaching and learning languages and other subjects. The notion of Computer Assisted Language Learning (CALL) and the employ of new technology applications (e.g. multimedia, videoconferencing, electronic learning and on-line testing) influence the techniques used to learn and teach languages. Actually, digital technology can be used to facilitate the procedures wherein information can be brought and shared among teachers and learners.

The purpose of this chapter is, therefore, to provide a theoretical account on the integration of IWB technology by highlighting its use as an innovation in today's education. It also gives a consideration to the psycho-pedagogical effect in EFL learning. The chapter then concludes with the integration of IWB in EFL context.

1.2 The Interactive Whiteboard

The Interactive Whiteboard (IWB) is quite brand-new technology, which is becoming increasingly popular in the educational settings. Judge (2007:42) identifies the IWB as being “a large, touch-sensitive [thus interactive] board that when used with a combination of a computer and digital projector facilitates interactive ICT engagement”.

The IWB is a technology medium that launched its use in classrooms in the late 1990's. The first Interactive Whiteboard was made in 1991. They are being extensively employed in UK schools as well as in further and higher education. Though they are less prevalent in further and higher education institutions, IWBs are more likely to be used by teacher training departments. Nonetheless, it is just recently that the IWB becomes a must-have tool in classrooms (Campbell, 2010).

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The prerequisite for educator proficiency in technology insists on developing 21st century students' skills, and studies undertaking the use of IWB have fostered its adoption. Buttner (2011) confirms that educators were the first to recognise the IWB's prospective as a tool for teaching and learning, and displaying data.

1.2.1 Description of the Interactive Whiteboard

IWB technology comprises a computer connected to a data projector and a digital touch-sensitive board, supplied by easy-to-use software, inkless markers to write directly onto the board and a dry eraser. The IWB turns out to be a computer touch-sensitive screen to project user input to the whole classroom (Swan et al, 2008). Teich (2009:1) words that:

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.

In fact, this what makes this technological tool original and attention grabbing.

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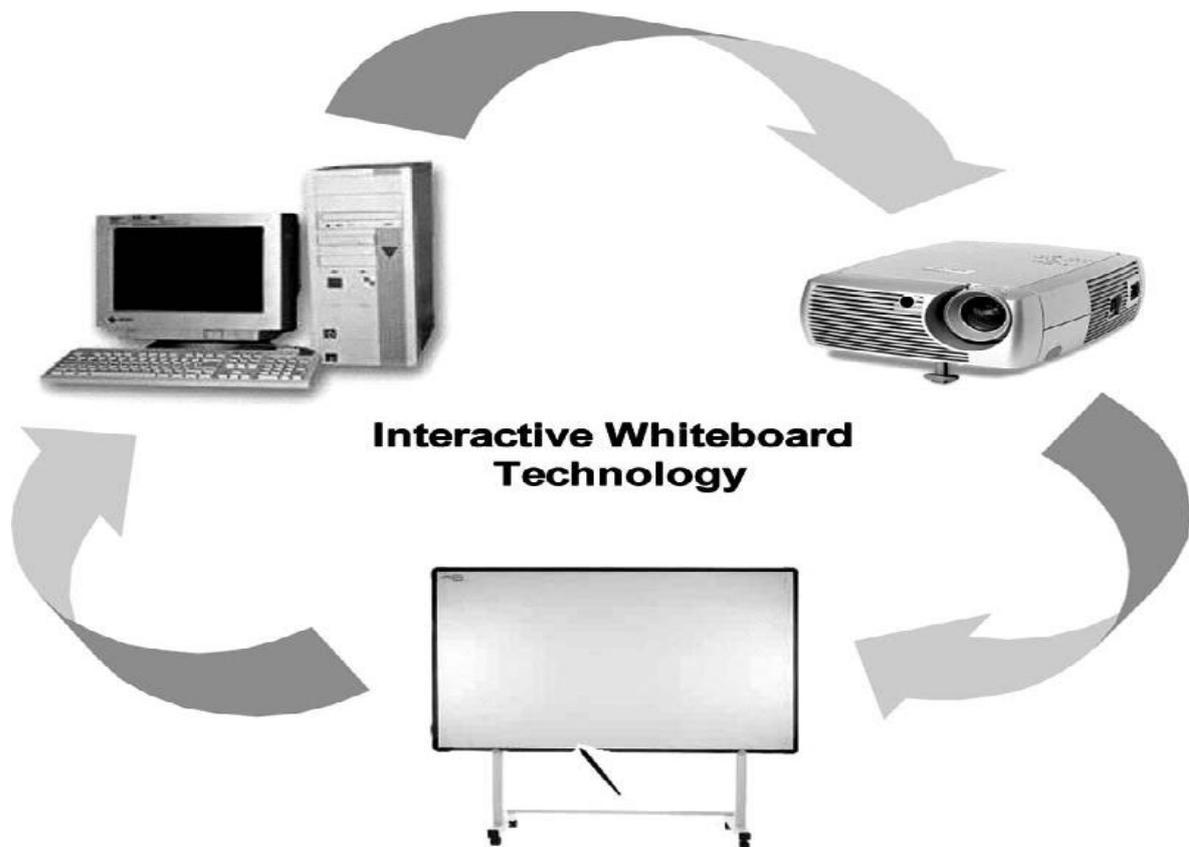


Figure 1.1 Design of the Intearctive Whiteboard (Teich, 2009, p.6).

ActivInspire is specific software provided with the Interactive Whiteboard or downloaded from a device driver called ‘Promethean’, a principle supplier of IWBs and educational software. ActivInspire software must be installed on the connected computer so that the IWB can operate. Performance on the surface of the projected board is related with the computer via USB or a cable or wireless connection ;and interpreted via the placed software while the projected panels can be either of a front or a back display. The difference between an IWB and a traditional whiteboard lies in the option that enables the teacher to use a special pen or his/her finger to manipulate pictures, presentations and texts on the whiteboard itself; Teich (2009:15) reports that “an Interactive Whiteboard is a touch-sensitive projection screen that allows you to control a computer directly, by touching the board rather than using a keyboard or mouse”.

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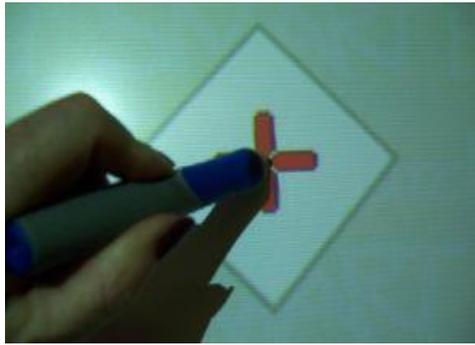


Figure 1.2 The Way of Calibrating the Panel of the Digital Board (Teich, 2009, p.9).

As the user of the IWB points a finger or an appropriate electronic 'pen' at active elements on the board, the action passes on to the computer which is linked to the projector and the IWB “allowing the teacher to conduct class at the board rather than being attached to the computer” (Kennewell, 2006). Users can manipulate software both from the computer and from the panel. The user calibrates the IWB screen using a special pen as a pointer to activate programs, buttons and menus from the digital board itself, just as one could usually do with a mouse (Bacon, 2011). Through the use of the IWB, teachers can provide immediate feedback, create original documents, project students’ documents onto the screen and present them, get access to extra resources from the Internet, and enable students to use them individually (Betcher & Lee, 2009). While the teacher controls the content, the projector projects data from a computer onto the screen of the Interactive Whiteboard. The blend of software with the projector yields greatly more than merely a projected image. An Interactive Whiteboard offers a border to touch, observe, manipulate, explore, interact and collaborate (Allen, 2010). The teacher or/and students can derive applications directly from the board just with the touch of a finger. Notations, diagrams or drawings can also be stored or printed and handed out to group members, and then they are made available for students who did not spot the presentation of lecture. Moreover, lessons can be saved as references for future use and; internet sites can be easily slotted in and accessed during the lecture.

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1.2.2 Use of the Interactive Whiteboard

IWB has a special pedagogical position which makes it an innovative part of ICT equipment. In particular, it has been adopted by teachers who explored its use in their classrooms. Studies on the use of IWB in higher education are auspicious. Investigations have shown that both teachers and students appreciate the use of this technology (Miller et al, 2005) and that students are more engaged and motivated to learn when IWBs are utilised (Higgins et al,2006). Besides, several studies have mentioned that use of the IWB moves instruction from presentation to interaction and students' focal point away from teachers and on top of content, "making Interactive Whiteboard lessons more student centered than traditional ones" (Wolters et al,2005).

1.3 IWB: An Innovation in Today's Education

Computers are regularly used by teachers for management tasks; for instance grades, attendance, lesson planning, and learners state assessment data. Interestingly however, educational technology today is more than just a classroom computer; it also comprises a much wider variety of tools to improve teaching and learning. (Morgan,2008).

Nowadays, computers and computer-applied technologies, such as IWBs, have increasingly launched their use in educational settings, mainly in the language teaching and learning. Higgins et al (2011, p.21) state that "in an increasingly digital world [world of technology], the Interactive Whiteboard has appeared as a technological innovation used widely in teaching, and increasingly in the area of English as a second language (ESL)". Technologically advanced countries such as the UK, the USA, and Australia have greatly invested in such technological instrument. With esteem to IWBs in particular, a nation wide survey in England in 2005 found that almost half (49%) of primary school teachers had utilised IWBs, and in secondary schools, 77% of mathematics teachers, 67% of science teachers and 49% of English language teachers

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reported they had employed IWBs in their teaching practices (Betcher, 2009). This reveals that there is a rising interest in the potential of this widespread technology which is increasingly attracting educators' attention (Hall & Higgins, 2005). Schmid (2007:6) words that "there are three key themes that dominate thinking about the role of IWBs in changing pedagogy". This includes speed of delivery, innovative use of multimedia; and an interactive teaching technique.

Interactive Whiteboards have been used to “enhance students learning and to encourage innovation in teaching” (Xu and Moloney, 2011). Firstly, utilising IWBs has been argued to raise students' motivation and enjoyment (Lee et al, 2003). Secondly, they have been demonstrated to foster greater opportunities for contribution and participation, therefore developing students' individual and social skills (Levy, 2002). Thirdly, they may alter the must for students to take notes, with the ability to save and print what appears on the board (Cooper, 2003). All through the use of IWB, teachers and students can relate with technology in a way that was not possible before (Bacon, 2011).

1.3.1 Reaching out: Learning Styles

Educators constantly attempt to develop strategies and tools that will reach students with unique or varied learning styles (i.e tendencies and techniques used in learning). Many of these learning styles can be approached when lesson presentation and learning activities integrate the use of an Interactive Whiteboard (Somekh, et al 2007).

The touch-sensitive board (IWB) can be used to bring instruction in a diversity of ways that may be classified based on three modalities of learning. The first modality is visual learning (Kennewell, 2005). By using the Interactive Whiteboard, visual learning can vary from the use of text and pictures to the use of animation and video. In the same line of thoughts, Somekh, et al (2007:29) claim:

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The Interactive Whiteboard acts as a multimodal device, giving teachers the potential to use moving images and sound, and when used in this way, it can address the needs of learners who find text difficult as the only mode of communication.

The second modality is auditory learning. IWB activities that involve auditory learning comprise the use of a variety of audios that can be used to focus for example on pronunciation, and intonation. The notion of auditory learning might also encompass listening to sounds, short stories, or music.

Tactile is the third modality of learning. Enabling students to physically interact with the digital panel can support with meeting the needs of tactile learners who "gain from the kinesthetic experience of dragging things about the board with large arm movements" (Kennewell, 2005). Plenty of current software programs facilitate user contact with the Interactive Whiteboard.

The extent to which each of these three modalities is integrated into a lesson may decide the extent to which students are engaged in the learning process and, thus, are stimulated to learn as long as the Interactive Whiteboard is conceived as an exciting and fun bit of technology to integrate. It affects learning by increasing the rate of students' engagement in learning, motivating students and providing enthusiasm for teaching (Bacon, 2011). It has been demonstrated that designing courses around Interactive Whiteboards assists educators streamline their preparation, be more efficient in their ICT integration and increase their experiences overall.

Interactive Whiteboards are effectively used by teachers to reach out diverse learning styles and techniques during the same lesson. They can even adapt "anatomy lessons, grammar activities, and geography into engaging virtual but tactile and interactive understanding which has wonderful effect for differentiated learning" (Winzenried et al, 2010:7).

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Interactive Whiteboards are employed in a diversity of learning environments (Campbell, 2010). With the use of the IWB, teachers can also contribute to the Electronic Learning (E. Learning) through a Virtual Learning Environment (VLE) programs where virtual classes can learn together and share information and technology (Ibid).

1.3.2 Proping up: Effective Learning and Instruction

A number of researches indicates that the use of the IWB can have an influential effect upon students' learning process, leading to higher levels of students' attention (Kent, 2003). Solvie (2001) looks into the connection between the use of an Interactive Whiteboard as a presentation tool for literacy instruction and students' attention to and motivation in the literacy lessons. Her investigation divulged that the use of the IWB was such an avant-garde presentation device which creates students' enthusiasm for learning as confirmed in comments made during the lessons presentation via the IWB.

One of the powerful characteristics of IWBs are their aptitude to enjoy, facilitate and accelerate the process of sharing information using various media formats, either as intended or adventitious parts of a lesson plan. Educators can, for instance, implant multimedia into a particular lesson, use a Web Quest, listen to an audio, and so forth, allowing students to actively show and construct their knowledge through what ever media they want (Teich, 2009).

The use of manifold media allows a "more diversified, flexible palette for communication" and enables teachers to pick the most suitable medium for a particular objective and subjects (Rose and Meyer, 2006). Such flexibility will not only bloom the process of learning in the classroom setting, but also flourishes in stimulating learners of the digital age (age of technology).Somekh, et al (2007, p. 4) claim that

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“learners are universally enthusiastic about Interactive Whiteboards, because of their clear visibility (‘We can see!’), the easy access they give to ICT through touch, and the added variety they bring to lessons”. Interactive Whiteboards call the attention of the multiple senses of sight, sound and touch; they assist reinforcement and encourage focus in the classroom. The digital boards can be used to incorporate informational resources, for example, images or diagrams brought up in a lesson supplying extra reference material. In so doing, almost students and mainly those with learning and behavioural challenges will benefit a lot (Somekh ,2005).

1.4 IWB: Psycho-Pedagogical Effects in EFL Learning

Since the integration of IWBs in educational settings more than one and a half decades ago, plenty of researches have investigated the IWB’s potential (Schmid, 2008), and impact on learning and instruction (Beauchamp et al, 2008).

The advantages of the IWB can be credited to its particular attributes and the diverse learning style they may support. IWBs are “*primarily large-screen digital convergence facilities*”, which can draw together digital resources such as text, images, audio, video and a broad collection of resources from the web (Betcher & Lee, 2009:8). As a result of these attributes, pertinent studies have mentioned a number of benefits related to the use of this educational technology, considering increased *engagement, motivation, interaction and participation* in class. These psycho-pedagogical attributes may enhance a greater ability to support different learning styles, effective learning, and better competence in learning and *retention*. These are discussed in turn in the following paragraphs.

1.4.1 Students’ Engagement

Learning is an essentially social activity since most people acquire and develop their understandings and knowledge within a social environment throughout a social

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interaction ,thus “making learning an inherently social activity”(Beeland,2002 stated in SMART Technologies Inc.,2006:7). The social learning theory sets its grounds in the perspective of the social learner and aims at constructing knowledge making students’ engagement in the heart of this attempt (Ranjit et al ,2012).Theses learning theories are shown in the following figure:

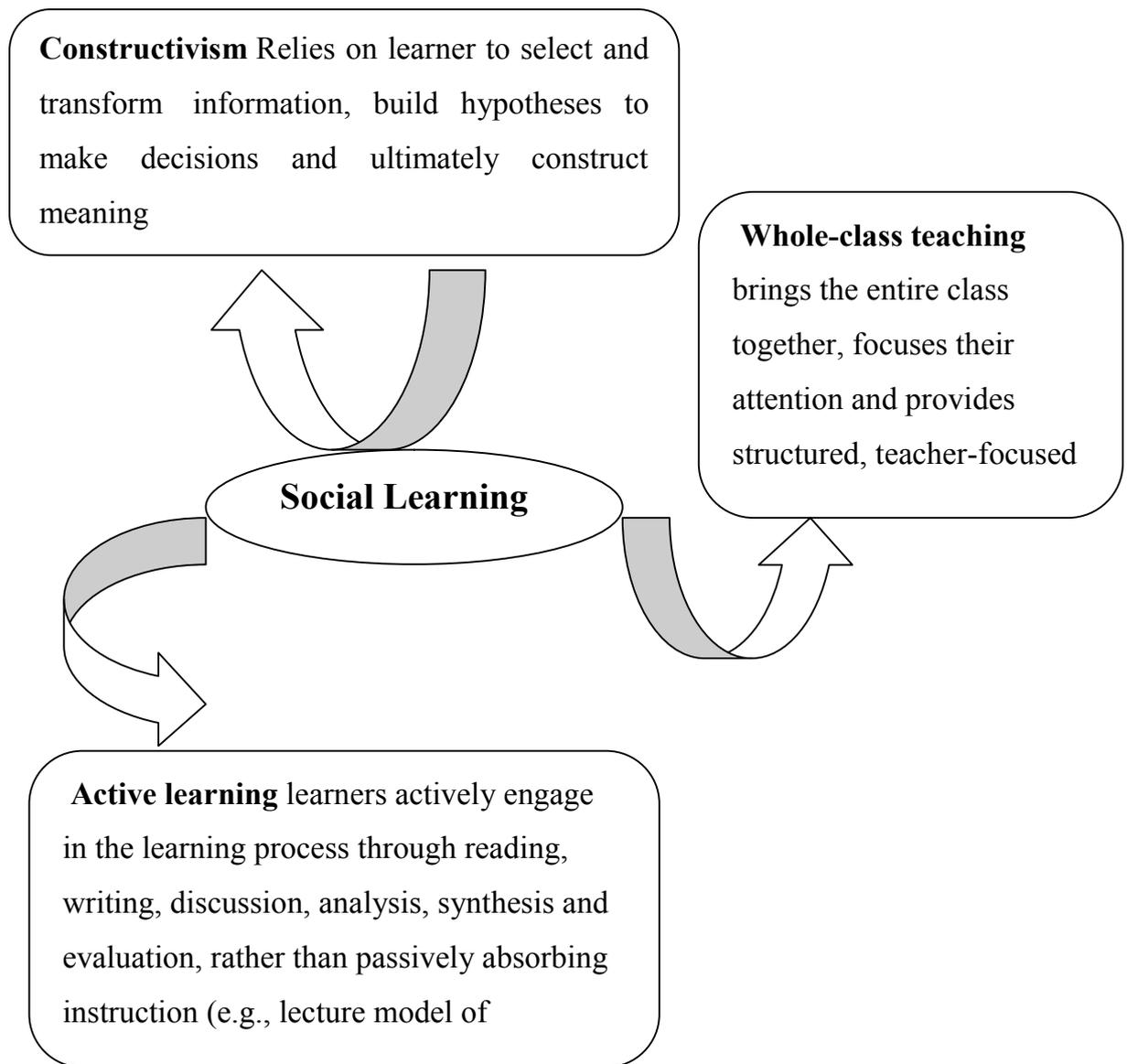


Figure 1. Students’ Engagement in Social Learning

(Source: Adapted from SMART Technologies Inc; 2006)

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Figure 1 above presents a common feature in the three components of social learning; the consideration that students' engagement is pivotal to learning.

One of the most significant facts that affect teaching and learning as well as students' motivation to learn is students' engagement. The social learning theory is based in the standpoint of "students' engagement" for "constructing meaning" in "whole class teaching" (Lee, 2003). The notion of "constructing meaning" is based on students' abilities to build and select knowledge in a learning environment which activates the entire class, captivates students' attention, and gives structured-teacher-students' interaction when students are actively engaged in learning (Buttner, 2011). Kenny, et al (1998: 75) argue that

Students' engagement is increasingly seen as an indicator of successful classroom instruction, and is increasingly valued as an outcome of school improvement activities. Students are engaged when they are attracted to their work, persist in despite challenges and obstacles, and take visible delight in accomplishing their work.

In the attempt to better understand the educational environment wherein students' engagement is valued as a key concept, Gray et al (2007) claimed that the current educational system aimed to instruct everybody the 'basics' of approximately the same content, in the same method, and then assessed the students according to a set of standards as a norm of "quality control" when the main instrument of quality control, is the traditional academic curriculum" wherein disengagement becomes a concern (Wiezenried, 2006).

During the 1990's, while researches on disengagement in classrooms were increasing, students' engagement became helpful factor for captivating student sense of belonging to the classroom atmosphere. This psychological impetus stimulates

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students' interest, and motivation in learning environment where educational technology is implemented. According to Gilbert (2007: 1)

The construct of students' engagement is quite ubiquitously incorporated into district plans with the hopeful intention of enhancing all students' abilities to learn how to learn or to become lifelong learners in a knowledge-based society.

IWB technology captivates students' attention: a fact that can increase their engagement in learning. Parsons and Taylor (2011:3) state that "students' engagement has become both a strategic process for learning and an accountability goal or outcome into itself". As a daily classroom instruction strategy, teachers could use diverse teaching strategies to engage students in their learning, using for example, PowerPoint or multimedia presentations of lessons, and project-based learning (Burden, 2002).

Students' engagement is about increasing positive behaviours, and a sense of belonging in the learning environment (Harris, 2008 & Milton, 2009). The theoretical idea of learning attempted to make knowledge more accessible to students; altering the traditional text-and-talk pedagogies. However, more recently, the increase of students' engagement is integrated into pedagogical plans and classrooms so that to improve students' abilities to learn .

Researchers and teachers adopt students' engagement as a further step to the pedagogical development. Ball (2003) confirms that schools can have a supportive and significant effect on students' engagement, but first, what does it exactly mean students' engagement?

Study conducted by Harris' (2008: 58) reveals that "while there is general agreement that students' engagement produces positive outcomes, defining the concept is problematic as there is disagreement about what counts as student engagement".

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The concept of students' engagement can refer to an academic, cognitive, behavioural, psychological, and social engagement. Academic engagement is most often measured in levels of academic achievement. In this vein, Koenraad (2008: 58) explains that:

Behavioural engagement is student participation in academic, social, and extracurricular activities [wherein relationships and the sense of belonging to the classroom refer to social engagement that is driven by a psychological comfort to a certain situation of learning]. Emotional engagement is considered to exist when students have positive attitudes and reactions towards school, teachers, learning, and peers. Cognitive engagement is thought to be present when students make personal investment into learning in a focused, strategic, and self-regulating way [therefore, academic engagement refers to students' positive learning outcome].

In the light of the social theory of learning, the concept of "social engagement" refers to the sense of belonging to the classroom environment, when students feel emotionally relaxed in a particular learning atmosphere. This feeling will be embedded in students "behavioural engagement" as they are actively contributing in learning where they are cognitively engaged to acquire knowledge in order to succeed in learning (academic engagement). Newmann (1992:3) goes so far as to say that students' engagement occurs while

Students make a psychological investment [engagement] in learning. They try hard to learn what school offers [cognitive engagement]. They take pride not simply in earning the formal indicators of success (grades) [academic engagement], but in understanding the material (environment) and incorporating or internalizing it in their lives [social and behavioural engagement].

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Students' engagement is strongly conceived as a signal of successful classroom instruction, and as an esteemed outcome of education reform (Edwards et al, 2002). Dunleavy and Milton (2009) affirm that the concept of students' academic engagement is newly developed term of "intellectual engagement" to mean "a serious emotional and cognitive investment in learning, using higher order thinking skills (such as analysis and evaluation), to increase understanding, solve complex problems, or construct new knowledge"(p.2). Later on the concept of "academic engagement" was known as "institutional engagement" to mean "how [students] feel about their experiences of learning, and whether the work they do contributes to their learning" (Dunleavy, et al, 2010:2). Parsons and Taylor (2011:49) state that students' engagement is a complex and dynamic construct and that researches attention is drawn "on whether all types of engagement are required for learning to be most effective".

Mohon (2008:32) found out that students were "likely to experience social, academic and intellectual engagement at different times and at varying degrees of intensity in their day to- day lives at school" , which makes challenges to implement strategies so that to increase today's students' engagement. In a similar vein, Harris et al (2008: 75) report that:

Future research should continue to investigate the relationship between behavioural, psychological, and cognitive aspects of engagement and should explore how teacher conceptions are translated into classroom practices. It would also be useful to investigate conceptions held by other educational stakeholders.[.....] future work on student engagement must aim to increase conceptual clarity instead of just adding new ideas to an already crowded construct.

It is significant to mention that the basic notions and objectives behind students' engagement have changed as our conception of learning has evolved. Significantly however, it is crucial to know how to measure students' engagement.

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Parsons and Taylor (2011:3) claim that the measures of students' engagement focus mainly on "behaviours and on quantitative data – such as attendance, standardised test scores". Most of those measures spotlight students' academic achievement (outcomes such as high scores, full attendance, attention and enjoyment in learning). Currently, researchers investigating how teachers would gauge engagement, had some effect on how to 'assess' learning and widen the difference between what teachers regard as engagement in learning and what students conceive engagement in learning. This shift from focusing on students' engagement for learning, to students' engagement for achievement brings about to measurement of "the process" and not only "the content" of learning (Ibid).

The influence of IWBs on students' achievement is another major point in finding out their effects on students' engagement. According to Parsons and Taylor (2011:3) "students' engagement is primarily and historically about increasing achievement, positive behaviours, and a sense of belonging in all students". That is why students' engagement may emerge to be an indicator to students' academic achievement.

1.4.2 Students' Motivation

Motivation is defined as the driving force to embark effectively in learning, and attain individuals' potential and ambition (Allen, 2010). Among various factors which determine the rate of success, motivation promotes a volition to sustain though hampers and obstacles (Gardner et al, 1989).

Solvie (2004) showed that engagement and motivation to learn are "*competence and control, beliefs about the value of education, and a sense of belonging*". As stated by different learning theories, motivation is affected by the environment wherein the learning takes place. A thoughtful attention of such affective filter is vital in assuring an effective learning (Morgan, 2008).

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Even if students may be closely motivated to carry out a task, the causes of their motivation might be different. Some students have an intrinsic (inner) motivation because they are ambitious to learn through self-reflection and involvement in learning activities, benefiting self-esteem. Others are extrinsically motivated by enticements, or educator-determined objectives.

From one side, intrinsic motivation is regarded to be a reflection of people's inner interests and self-determined actions. This means that, being intrinsically motivated; students feel volition, when they are completely engaged in the classroom activities (Breakwel 2004). From the other side, extrinsic motivation is said to be driven by some operationally separated factors such as incentives, rewards or a particular motive (awarding or avoiding punishment).

Interactive whiteboards fit both natures of students because "with the use of IWBs, teachers can develop many creative ways to capture students' attention motivation and imagination" (Reardon, 2002:28).

Miller, et al (2004: 7) claimed that motivation, as an "interest and enjoyment causing action", is deeply affected by "the intrinsic stimulation offered by the IWB. . . the dynamic features . . . and the use of virtual manipulative". Therefore, the use of the IWB supports what researchers coined "intrinsic motivation" as it streamlines students' inner will and interest to learn in an exciting environment.

Besides, extrinsically motivated students are induced by the authentic features of this technological tool which can internally entice their motivation (Morgan , 2008). Thus, they enjoy the experience of exploring the new technological device which makes their learning more interesting (Blanton and Breazeale,2000).

IWB technology can be assimilated to create a motivating classroom environment in which students are involved in learning. Such an environment, where

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educational technology is inventively implemented, perks up the nature of learning and teaching as well (Wishart & Blease, 1999). Classroom learning is also improved throughout the use of visuals which endorse a student's aptitude to systematise and process information (McKendrick & Bowden, 1999). Visuals are beneficial as they challenge students to reflect on their abilities that involve higher order thinking skills (Smith & Blankinship, 2000).

Interactive Whiteboards are compelling enough to challenge student's preferred technologies (e.g, game devices, and accessibility to Internet sites), promoting students' computer skills, supporting their focus on task, uplifting enthusiasm and attention in a multi-sensory and different way and giving extra motivation to attend class as they are "emotionally involved in the learning process"(Johnson, 2004).

The use of IWBs in today's classrooms motivates even teachers to maintain an original and effective structure for teaching. Moreover, it helps them to save time and promote a large display through which students could demonstrate skills (tactile, visual, and auditory abilities). In a similar vein, Partridge, (2011:9) argues that:

The ability to display web sites, audio clips, and movies at the touch of a button also appeals to educators who work with students who are exposed to more visual and audio images.

Indeed, it raises class contribution by interacting with the Interactive Whiteboard and constructing themselves multimedia screens to present their work collaboratively and creatively improving their learning skills (Cogill, 2004).

In their study, Xu and Moloney (2011) cogitate how teachers can improve student motivation, mainly for those who are dissatisfied with traditional ways of learning. The study comes to assert that Interactive whiteboards, provided with Internet resources and presentation software, promote the development in the quality of students' work and enhances teachers' and students's motivation. Therefore,

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incorporating IWB technology into the teaching system can offer motivational outcomes.

Solvie (2001) probes the successful process of implementing IWB to teach reading. Her research reveals that the use of IWB to teach early literacy skills props the process of teaching in helpful and influential ways; and that the IWB engages teachers kinesthetically as they can navigate on the interactive board, surf information on the internet, draw, highlight, underline, and interact effectively with their students and also with the digital board.

An investigation by Gerard and Widener (1999) evaluates the impact of using the IWB and gauges its positive influence in foreign language teaching. The study proves that the IWB presents a ground-breaking and potent support for language acquisition and allows teachers and students to work with technology while fostering communication.

1.4.3 students' Interaction

Interaction has long been considered as a major factor that teachers and learners should consider to achieve effective learning. Interaction was described as “the function of ICT which enables rapid and dynamic feedback and response” (Gerard, 1999: 11). Several studies reveal that learners are capable of employing ICTs to maintain interaction which is said to streamline the learning /teaching process (Kennewell et al, 2000).

One of the main benefits stated with regard to IWBs as a teaching tool is that they are ‘interactive’. Schroeder (2007: 3) states that students are motivated in lessons with an IWB because of ‘the high level of interaction – students enjoy interacting physically with the board, manipulating text and images’ . According to Morgan

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(2008:23), the authentic features of the IWB may support students' interaction through its learning activities which may include:

- 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.
- Showcasing student presentations.

Morgan also states that IWBs present 'more opportunities for interaction and discussion', and provide more interactive lessons.

Teachers can use digital resources to uphold active interaction with the whole class and support a higher level of students' interaction, allowing students to make their learning interactive (Gerard & Widener, 1999).

1.4.3.1 Interactive Learning

Interactive learning, adopted and advocated by different learning theories, requires students to be actively engaged in classroom activities. Morgan (2008:20) argues that interactive learning:

Incorporates a variety of educational strategies, such as use of visuals, reading, writing, discussing, and manipulating concepts. With effective planning, teachers can use the interactive whiteboard to satisfy each of these strategies.

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With a thoughtful planning, teachers can explore the IWB technology which may suit all these strategies. The IWB lessons were found to develop a good level of interactivity in the classroom and “ contained a more whole class teaching and less group work” (Smith et al:454).

The touch-sensitive board supplies two-way interaction between the teacher or student and the medium for practical experience with multimedia resources. Teachers can use digital materials to support dynamic interaction with the whole class to engage students in the learning.

Levy’s study(2002), undertakes the relationship between the use of the Interactive Whiteboard and students’ interaction. She concludes:

High-quality direct teaching [and learning] is oral, interactive and lively . . . It is a two-way process in which [students] are expected to play an active part by answering questions, contributing points to discussions, and explaining and demonstrating their methods to the class (2002: 1).

Focusing on students’ interaction as a two-way process, IWBs support two modes of transmission. On one hand, teachers’ and students’ direct interaction with the digital board provides a synchronous transmission mode . This later enables the teacher to interact directly with applications instead of having physical contact with the computer which is projecting the image onto the panel (Glover et al, 2000). On the other hand, the *asynchronous transmission* mode allows the content to be shared either electronically (email) or as printed documents. In fact, the authentic features of IWB technology encourages teachers to make their teaching interactive.

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1.4.3.2 Interactive Teaching

The notion of the interactive teaching occurs when students and teachers explore and negotiate the content together, with the teachers facilitating learning instead of giving students the readymade answers, process, or outcome (Wiezenried, 2006). The IWB promotes interactive teaching approach “which goes beyond a superficial learning scenario to a stimulating interplay which leads to new formulations and new understanding” (Armstrong, 2005:457).

Research by Hall, et al (2005) and Somekh et al (2005) shows that with the use of technology, teachers gradually shift from ‘traditional’ way of instructing and adapt an interactive teaching. This later brings about the pedagogical change and supports the integration of ICTs in education through the adoption of IWBs as digital tools of instruction and presentation. In the same line of thoughts, Somekh et al (2005:7) explains:

The ability of the technology to adapt to existing pedagogy at this stage in the implementation cycle suggests that judging any distinctive contribution that will be a long-term process dependent on on-going exploration of what the technology can best be used for.

Kennewell et al (2004) affirm that "the IWB used as a tool, in combination with effective teaching strategy, [brings] about significant results”. In this vein of thoughts, Xu and Moloney (2011:10) consider that integrating multimedia throughout the IWB provides interactive instruction and presentation of lessons as it

Allows teachers and students to capture material digitally from a number of sources and then cut and paste them together to create new multimedia materials, contextually relevant to students and their learning needs.

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In today's pedagogies, IWBs are regarded as a helpful and attractive tool assisting interactive whole class teaching. Several researches reveal that the use of IWB increase the level of interest among students; and challenge teachers to think and teach in a new way (Breakwel, 2004). Teachers therefore, stimulate the enthusiasm of their students promoting interaction, encouraging discussion, and making learning easy and enjoyable in the process (Clemens, et al 2001).

A study conducted by Gray et al (2005), mentioned that the IWB propped teachers in supporting students to perform and reprocess the presented information. Visual aspects of colours, underlining and animation were seen to be the most critical aids in capturing interest to language learning in a critical pedagogy. In this regard, Kennewell (2004: 17) argued:

IWBs seem to reinforce traditional pedagogies. The long-awaited 'transforming pedagogy' for ICT clearly requires more than regular use of ICT by teachers; it requires a change in pedagogical knowledge and beliefs.

In addition, the use of the IWB supports the co-construction of knowledge and learning materials. For example, when they surf in the internet, download a document or a video from YouTube, students can prepare collaboratively a presented work. Moreover, the IWB's use promotes co-learning, allowing students to be more collaborative, autonomous, and responsible for their learning (Beachamp & Parkinson, 2005).

The available literature indicates that both teachers and students benefit when employing IWBs during lessons instruction and presentation. The use of an IWB affords students the ability to interact, participate and collaborate in an effective learning environment (Schmid, 2007). It can also include a range of multimedia and various digital resources to improve content; streamline interactive teaching and learning while students interact and participate in the process.

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1.4.4 Students' Participation

Participation in classroom lessons and activities is considered as a crucial factor in a motivating learning process (Higgins et al, 2007). The concept of students' participation may include "students' physical movement in the classroom, cooperation, collaboration and competition" (Xu and Moloney, 2011:20).

The significance of participation is underlined by Ocker et al (1999), who studied the effect of participation in the learning process. The findings revealed that students' participation fosters their dynamic involvement, contribution and exchange of knowledge. Wishart (1999) revealed that the fact of sharing ideas, exchanging and constructing information in a motivating CALL environment gained greater benefits by getting access to a larger network of resources and materials in a given task or instruction.

From the first explorations of the Interactive Whiteboards, educators have realised that the use of IWBs supports students' participation and improves lesson planning. Teachers, who experience the use of IWB, discover that technology is not only a practical teaching process, but it can also exploit an effective participation and provide a comprehensible communication and interaction within a particular education team (Swan et al, 2008).

Bacon, (2011) has recognised IWB suitability of certain application to language education. The use of an IWB sustains communication skills required for effective language learning including the improvement of language skills and memory retention. Effective language learning involves the production of language in social interaction, and student opportunity to participate and collaborate with peers (Jones, 2003).

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Glover, et al (2004) emphasised on students' perspectives, interest, and attitudes toward the use of IWB for lessons presentation and instruction. Their findings pointed out that in certain lessons where the teachers stick on the use of the classical blackboard, students' participation decreased, exhibiting behavioural engagement issues that were not apparent throughout the lesson in which the IWB was being exploited. Following the words of Kent (2003:8)

Interactive whiteboards have allowed teachers to take advantage of the power of ICT within ... the teaching and learning process in ways that are just not possible with the traditional personal computing approach to ICT in schools.

The use of IWB increases participation, when students actively work on the same "interactive lesson activity" and do different tasks at the same time - such as writing, drawing, highlighting and manipulating digital objects on the Interactive Whiteboard screen.

1.4.5 Students' Retention

Students' retention refers to the abilities to recall the information learned in the classroom (Tate, 2002). Different variables can affect students' retention of information. The most of obtainable research on students' performance relies on qualitative observations considering strategies for information retention. A student's ability to retain and evoke information depends on different factors that are mostly related to students' engagement and motivation in active and effective learning environment.

The use of the IWB may be the most significant change in the classroom learning environment. It fosters students' retention as a consequence to their engagement and motivation; therefore, lessons are more likely to be remembered. Moreover, students can concentrate more in the learning process as notes can be

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printed or e-mailed for distribution after class, making sure students have a positive appraisal material to support information retention. The use of IWBs enhances different learning styles; supports retention/recall; develops planning, presentation, and instruction. The attempt of exploring the IWB software features and multimedia resources attempts to improve students' motivation, attention and interaction to enhance their retention (Allen, 2010). According to Higgins et al (2007: 221)

[through the use of IWB], teachers Encourage learners to: see interrelationships in knowledge; connect new knowledge to its roots in old or prior knowledg;and encourage social connectedness (among other things through the use of networked technology) to help achieve this.

Interactive teaching attempts to use of strategies that strengthen students' capacities to recall information (Jones, 2006). Hall, et al (2005) report that students learn and retain much more competently when they are actively engaged in their learning and when they apparently grasp the information that is presented through animations, movable objects, highlighting, colours, audios and videos.

When exploited effectively, Interactive whiteboards can offer amplitude of "rich learning opportunities" for students, stimulating their attention, and interaction. Therefore, "increased interest and enthusiasm of students resulting in greater retention of students in the experimental course sections" (Morgan, 2008:28). This indeed can strengthen students' retention of information.

Interactive Whiteboards take learning completely to a new direction, away from teacher-centered learning to teacher encouraged explorations using sight, sound, and touch effectively. Interactive Whiteboards can enable students to be active, retentive and critical thinkers (Teich, 2009).

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1.4.5.2 IWB in the Light of Globalisation

Interactive Whiteboards successfully enhance the computer skills students need for successful learning in the 21st century; which is the era of globalisation and technology. A study conducted by Stewart (2005) indicates that students with short attention spans can benefit from the use of the IWB. In addition to creating an interesting and motivating learning environment, Interactive Whiteboards have been seen to appeal the learning process. Moreover, “with the use of whiteboards, teachers can develop many creative ways to capture students’ attention and imagination” (Reardon, 2002). On the light of their research findings, Clemens et al (2001:10) report:

The Interactive Whiteboard used as a tool, in combination with an effective teaching strategy, [brings] about dramatic results. ... The teacher shared the enthusiasm of his students and thought of various ways to promote interaction, stimulate discussion, [that facilitate retention] and make learning easy and enjoyable in the process.

In fact, writing over the digital panel and surfing on Internet resources by themselves, can enable students to save track of information constructed in lectures.

Latham (2002) asserts that Interactive Whiteboards “offer significant potential to raise attainment through developed, well-structured interactive teaching and learning”. The appealing nature of the Interactive Whiteboards provides an enjoyable and attention grabbing digital presentation of educational resources. The fact that can strengthen students’ ability to retain information (Glover et al, 2005).

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1.5 Interactive Whiteboard in EFL Context

While a lot of literature reports that the IWBs are breathtaking inventions, there is little available research into their use in EFL contexts. Research by Gerard and Widener (1999) reveal that the use of the IWB streamlines the process of teaching and learning foreign languages in two main ways: It promotes interaction and oral skills and supports the presentation of linguistic levels.

1.5.1 Interaction in Oral Skills

Unlike the classical projection of data showed on a computer screen; a display of data onto an Interactive Whiteboard is very different. Ahmad Al-Saleem (2012) argues that by means of an IWB; the user can easily navigate, browse, and surf from the board with no need to repeatedly go again to the computer and, as a consequence, turn his back to the class. The teacher can reflect and concentrate on his students' learning process instead of being annoyed by a technical breakdown. This is extremely significant when employing Interactive Whiteboards to teach in EFL context.

Pennington (1996) remarked that "the computer can sometimes encourage a form of 'anti-social' behaviour that leads to working in isolation from others". This is a usual disapproval of traditional teaching methods and is particularly pertinent to the foreign language teacher, who is asked to interact almost with the class. Through the use of the projector coupled with the Interactive Whiteboard projected to the whole class, a web document can streamline oral interaction when exchanging, for instance, perspectives, views and thoughts. Moreover, this procedure of the Interactive Whiteboard can be expanding to let the student himself, navigate the board in the place of the teacher. The other students may direct him using the target language. The Interactive Whiteboard joins people together, supports communication and develops students' apprehension of lesson material when they can physically interact with the lesson content by navigating text, and presenting projects on the board (Cox, 2003).

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The value of the IWB is that it improves conversation. Schmid (2007) argues that almost foreign language teachers realise that the Interactive White Board can aid certain kinds of conversations and that all students in the classroom may focus on the same point at the same time; and conversation may then emerge from that. When the teacher is navigating from one item to another, he/she looks at and interacts with the class. The teacher can therefore concentrate on the student's language production. The teacher can also sit and participate with the students, when reading, discussing, interacting with each other (Ahmad Al-Saleem, 2012).

1.5.2 Authentic Presentation of Language

Gerard and Widener (1999) argue that the IWB supports in presenting linguistic elements. The teacher can prepare a lesson in a Notebook file or Word Document, with the benefit of using the features of the Interactive Whiteboard by overwriting, highlighting or circling the items that he/she wants to underline.

The characteristics of the IWB can be explored when delivering authentic resources such as web sites permitting the instructor to make the learning process more engaging. Students can therefore ask questions, learn about, assess, and analyse information throughout a diversity of multimedia sources on the Internet (text, images, sound files, video clips) that is why "the Interactive Whiteboard is a valuable learning tool" (Gerard, 1999).

Allen (2010) and Bacon (2011) proposed in their researches the positive effect of authentic documents in language learning. With the employ of the IWB, the instructor cannot only surf and display a website; he/she can also explain, exemplify, and highlight specific linguistic levels. This authentic exposure to a foreign language can enhance students' abilities of listening, speaking, reading, and writing a foreign

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language. In the shade of their studies, Allen (2010) and Bacon (2011) discovered that the effective use of IWB stimulates students' interest and engagement in learning activities when lessons are more visually attractive because “ students learn best through their leading senses, seeing, hearing and touching” (Walker et al ,2004).

Active classrooms are multisensory and by using the IWB, educators can easily appeal to the three senses (sight, hearing, and touch), allowing students to interact with teaching materials in a way that boosts their individual skills (Bell, 2002). Today's generations of students wait for presentation of information to be authentically and concretely enhanced (Zadelhoff, 2007).For example, it is easier to conceptualise the utterance of specific intonation when the information is enriched by a video. Moreover, students' engagement can be further enhanced by using an Interactive Whiteboard to gain more attention by capturing particular parts of the process for highlighting or zooming specific point. In this vein of thoughts, Beauchamp(& Parkinson (2005:54) claim:

...Clearly the IWB is a lot more exciting than the blackboard and overhead projector, and pupils will be curious to find out about its functions and capabilities. As a result, they may pay more attention than in the past. However, once the teacher has exhausted all the IWB routines, and the 'wow' factor has passed, these pupils may revert to less attentive behaviour.

A study by Gray et al (2005) demonstrates that the IWB provides teachers a variety of facilitated accessible ways of getting focus on grammatical features and that the use of the IWB positively affects students' memorisation and writing skills. It also reported that when language lessons were effectively structured, with well-planned activities manipulated by a touch of a button, teachers promote opportunities to encourage students' engagement. The study concludes that, even if teachers basically need additional preparation time, the IWB supports effective language teaching and in

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giving a diversity of visual, auditory and kinesthetic activities that can potentially affect student academic achievement.

1.6 Conclusion

This piece of research seeks to spotlight the educational value of the Interactive Whiteboards and its effect on students' engagement in the learning. Researches have led to an impression that the IWB is a very inventive and significant support for language learning. First of all, it gives a bridge that permits using the features of computers without interrupting communication. Secondly, it may develop new approaches of learning to captivate students' engagement, motivation, interaction participation, and retention as major factors that promote a successful language teaching and learning.

According to the available review of literature, it is evident that IWB can have a main impact on the learning and teaching process at different educational levels. The IWB might be regarded more as a practical aid to a good pedagogy more willingly than as a whole pedagogy in itself for teaching languages. Basically, it is significant to understand how this positive influence can best be obtained in a particular educational context to achieve engaging, interesting, and interactive lessons that captivate the interest and motivation of the students in pedagogically effective instruction.

Though the limited pertinent investigations claim that student language learning motivation and engagement behaviour may be positively impacted by the employ of the IWB, teachers need to adapt their pedagogy when preparing lessons and delivering instructions althrough the use of this innovative technological tool.

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CHAPTER TWO
RESEARCH PLAN AND DESIGN

CHAPTER 2

RESEARCH PLAN AND DESIGN

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CHAPTER THREE

DATA ANALYSIS AND RESULTS

2.1 Introduction

The second chapter is devoted to the illustration of the nature of the current study and the explanation of its design and the procedures driven along in data collection and analysis.

In this chapter, the reader will gradually follow the design of the present work: research questions up on which this study is designed, hypotheses that were suggested by the researcher, research tools that were followed to gather data and the subject population addressed through each instrument. Finally, this chapter provides illustration of the methods approached in data analysis. In each stage of this work, the research tries to vindicate every choice she made, pointing to the importance of each research tool and data analysis approach.

In a nutshell, this chapter attempts to help the reader to be thoroughly knowledgeable about the research design and then its findings: a fact that may advocate a replication of the research.

2.2 Research Questions and Hypotheses

While researches on disengagement in classrooms were increasing, several estimations were driven to the integration of ICTs in the learning environment. Current applications of information technology in educational contexts assert that new technology-based models of teaching and learning have the potential that can lead to desired outcomes. Nowadays, theories of learning put much emphasis on the significance of actively engaging students in the learning process. Recently, a variety of technologies has been designed to support active learning environment where students feel motivated and involved in the learning process. One such technology is the Interactive Whiteboard (IWB).

The objective of this study is to determine if university students' engagement in the learning process is increased while using the IWB to deliver instruction; and to know how they do perceive the impact of the IWB's use on their engagement. Taking the use of the IWB in classroom learning and instruction as one possible reason for students' engagement, the researcher asked the following research questions:

- ❖ Does the use of the Interactive Whiteboard increase students' engagement in the learning process?
- ❖ How can the use of the Interactive Whiteboard support EFL classroom?

Then, the research hypothesizes that:

- ❖ Use of the Interactive Whiteboard in classroom instruction and presentation will increase students' engagement in learning.
- ❖ Use of the Interactive Whiteboard in the EFL classroom will support students' interaction in EFL classroom.

2.3 Research Design and Approach

Once a researcher has launched a research study, he or she deliberately adopts a methodological and systematic approach to the construction of information by making accurate observations and using systematic, controlled, and methodical approaches (Betcher & Lee, 2009). However, what exactly is an approach?

A research approach is best thought of as a procedure to the process of acquiring knowledge, and it can determine a set of research principles and methods that assist researchers get valid and reliable results from their research studies (Marczyk et al, 2005).

A piece of research is approached differently according to the paradigm worked within. The researcher addresses his/her research problem by selecting an appropriate

research approach .Each research approach has a specific style and related features that should be properly assigned in order to meet the objectives of the research and to collect the accurate data.

Although there are several types of classifying research approaches, they generally fall into one of three broad categories: Primary research, Secondary research and Action research (Marczyk,2005).

Primary research involves collecting data while the researcher got insights into the determined issue. This research focuses on gathering data from informants through the employ of a set of research tools such as: questionnaire, interview, observation, portfolios (collection of students' work), and journals (discussions between the teacher and his/her students).

Secondary research focuses on readings as a source of collecting data. This type of research leads to the literature study and provides the teacher with knowledge about the findings of preceding investigations and the interpretations of the previous data.

Action research is a type of research that takes place in the classroom. It is undertaken by the teacher for the intent of finding out solutions to a certain pedagogical concern or instructional issue.

Specifically, this project is conducted as an action-research in which the researcher addresses the issue of disengagement (lack of motivation) for students towards the English language learning. This research explores the use of a technological tool for classroom instruction ;so as to determine whether the integration of technology in the field of pedgogy will affect students' engagement in learning.

2.3.1 Action Research Methodology

Action research is definitely conducted in a school setting. *“It is a reflective process that allows for inquiry and discussion as components of the research”* (Cohen, 2000:1). This research is a process in which participants investigate their own educational practice methodically and accurately, exploring the techniques of research. Saeidi (2002:38) explains that:

Action research aims to achieve both action and research outcomes within a single study. Therefore, it involves taking action to improve practice and observing and studying the effects of the action taken.

Though there are lots of types of research that may be undertaken, action research particularly refers to a constrained investigation done by a teacher with the intention that the research will change his or her instructions in the future. This research is conducted within the background of the teacher’s environment namely, with the students and at the school wherein the teacher investigates inquiries that address educational matters at hand .

While people who focus more on professionalism state that teachers should be continually investigating and working on their field of expertise, action research is different from the study of more academic questions that stem from the teaching practice. In this regard, Borg (1965: 313) states:

Action research emphasizes the involvement of teachers in problems in their own classrooms and has as its primary goal the in-service training and development of the teacher rather than the acquisition of general knowledge in the field of education.

In the scope of action research, teachers are asking questions, collecting data, reflecting, and agreeing-up on a process of action. When these procedures start to

change the school environment, a different set of conditions emerges with different problems presented, which require a resolution. In fact, many action research projects initially began with a definite problem to solve, whose resolution leads to other subjects of research. While a teacher may carry out a study on his or her own, it is also possible for a number of teachers to collaborate on a problem, so that to address a particular issue.

Action research strives to support researchers to study reality in order to change it (Kemmis et al, 1999). In deed, it also endeavours to support them to change reality in order to study it (Ibid). Though the process of action research is insufficiently explained in terms of systematic series of steps, it is usually considered to entail a process of selfreflective sequences of:

- ❖ Reflecting.
- ❖ Diagnosing.
- ❖ Acting
- ❖ Observing

Kemmis et al (1999) state that each of the steps drawn in the process of self-reflection is best acheived collaboratively by co-participants in the action research process. Some of theorists of action research do not perceive an action research as a necessarily collaborative process.

2.3.2 Central Features of Action Research

Researchers argue that the intent of a study ,and the nature of a piece of research determine the type of the research approach (Cohen et al, 2000). It is mentioned above that, for many people,the idea of the process of self-reflection (reflecting, diagnosing, acting and observing) has become the central trait of action research as an approach. Besides, Kemmis et al (1998) claim that there are four key aspects related to the notion of action research.They are:

1. Action Research is a social process: it intentionally investigates the affiliation between the area of interests that shapes “the sense of identity and agency” (Kemmis et al, 1998). It admits that “no individuation is possible without socialization, and no socialization is possible without individuation” (Habermas, 1992:26). Action research is a process undertaken in the scope of research when people, individually and collectively, attempt “to understand how they are formed and re-formed as individuals, and in relation to one another, in a variety of settings” (Kemmis et al, 1998:24). This may occur for example, when teachers work jointly, or with students, to recover processes of teaching and learning in the classroom.

2. It is participatory: It involves people in assessing their understandings (thoughts, skills and values) and interpretations (to study their action in the social and real situation). It is a *collaborative* process where everyone in a group aims to investigate the ways their knowledge influences their understandings, and to reflect critically on how their current knowledge shapes their action. It is also *practical* in the sense that people can perform action research ‘on’ themselves, separately or cooperatively. It is *not* research done ‘on’ others”. (Kemmis et al, 1999).

3. It is critical: It aims to help people improve, and free themselves from the restraints implanted in the social media through which they effectively interact and critically reflect on their styles of life, their modes of work, and the social relationships. It is a process in which people basically set out to challenge and to reform illogical and barren ways of interpreting and evaluating their world(Ibid).

4. It is recursive (reflexive, dialectical): It tries to help people “to investigate reality in order to change it and to change reality in order to investigate it” (Kemmis, 1999:24). Moreover, it is also practical because it is a process of learning by doing and learning with others in order to adapt the ways they interact in a social world.

2.3.3 Types of Action Research

Part of the perplexity is encountered with regard to the term “action research” as there are varied types of action research depending upon the participants engaged. A plan of research can engage a single teacher examining an issue in his or her classroom, a group of teachers focusing on a shared problem, or a team of teachers and collaborators working on a school issue (Cohen, 2000).

1. Individual teacher research generally spotlights one issue in the classroom. The teacher may be looking for solutions to problems of classroom management, teaching strategies, employ of materials, or students’ learning. However, the problem in this type of research is that the teacher’s conclusions can be addressed on individual bases. One of the disadvantages of individual research is that the research may not share his or her investigation with others, unless he or she decides to display findings at a faculty convention, submit presentation at a conference, or present written material to an academic journal or newsletter. It is likely for many teachers to address simultaneously the same problem with out knowing about the work of others (Cohen, 2000).

2. Collaborative action research may involve two teachers or a group of teachers and others interested in working on a classroom or department problem. This problem may include one classroom or a general issue shared by several classrooms. These teachers may have supports of individuals outside of the school, for example a school or community partner (Ibid).

3. School-wide research brings into focus a set of shared issues. For instance, a school may need to deal with its managerial and decision-making structures. Team of investigators from the school contributes collaboratively to determine the question, collect and analyze the data, and adopt a plan of action. Team work and individual involvements are very potent, and it may be that problem addressed by the team endeavours to improve and expand a process. When these barriers are surmounted,

there will be a sense of development and achievement in the results that arise from this school-wide effort (Cohen, 2000).

4. District-wide research is far more complicated and needs more resources, but the rewards can be appreciable. Issues can be community-based, performance-based, or procedures for decision-making. A district may decide to work on an issue “common to several schools or one of organizational management” (Cohen, 2000:5). To gather data from all participants, a researcher calls for a commitment from the team work to do their best and to decide upon the assignments’ deadlines. On the positive side, real school improvement and change essentially rely on a shared knowledge through inquiry. The real team effort can give strength to the process and construct an environment of authentic stakeholders.

Researchers argue that the value of action research lies in the change that arises in daily practice instead of the generalisation to a wider population. Currently, it is often perceived as an instrument for professional development, “bringing a greater focus on the teacher than before”. Indeed, it becomes a support to school improvement, as it strives for a new involvement in educational change.

2.3.4 Research’s Steps in Action Research

This study undertakes an individual teacher action research ;as it addresses the impact of using the Interactive Whiteboard up on university students’ engagement. According to Atweh (1989), this research approach should bring into focus the following steps:

- ❖ Diagnosing
- ❖ Planning a change
- ❖ Acting and observing the courses and outcomes of the change
- ❖ Reflecting on a situation
- ❖ Revising the plan

- ❖ Acting and observing the courses and outcomes of the plan
- ❖ Reflecting on this plan and its outcomes, and then
- ❖ Re-planning, and so on.

This is illustrated in the following figure:

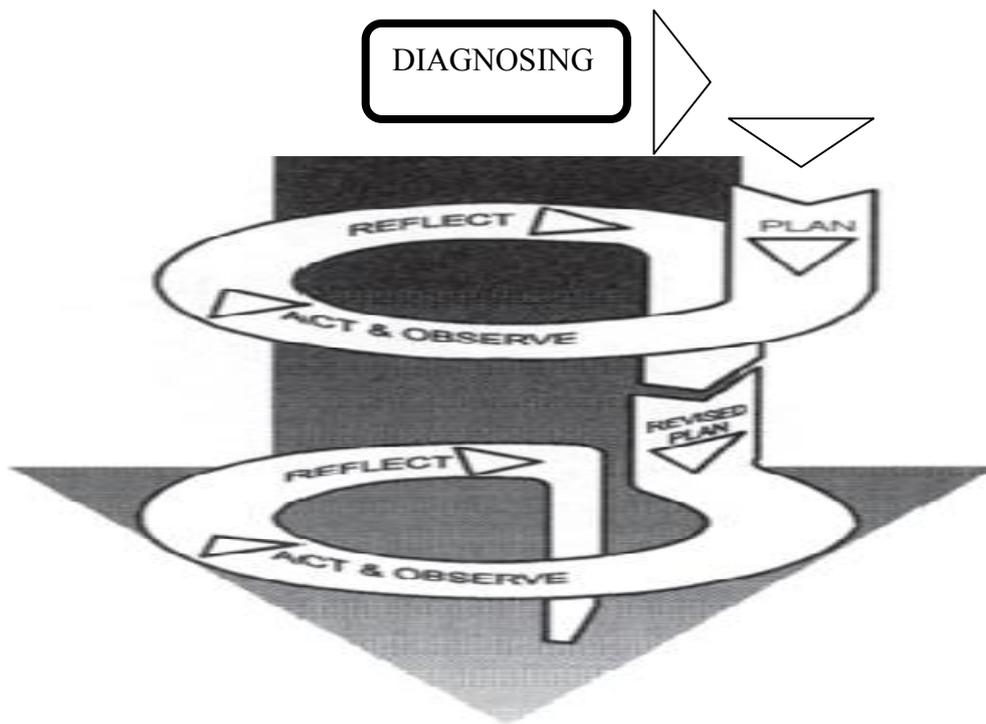


Figure 2.1 The Self-Reflective Spiral in Action Research (adapted from Atweh, 1989, p.22)

The present research work is based on Atweh's model(1989), relying in the above mentioned steps:

Diagnosing: In this phase, the researcher has determined the issue being studied through the use of classroom observations. Observations allowed the researcher make an initial diagnosis of the state of a group of students' engagement in learning within an English language classroom. Through out observations, the state of students' engagement in learning was diagnosed as being somehow dissatisfied.

Planning the change: In this second phase, the researcher acted on increasing students' engagement through the use of a technological tool of classroom instruction and presentation. This tool is the Interactive Whiteboard (IWB). For the sake of testing the impact of the IWB's use on students' engagement and motivation in the learning one group of students has learned English language with the use of the IWB which was being installed in their classroom. However, the second group of students being observed has learned English language without the use of the IWB. The researcher has conducted such comparison between the groups of students for two main reasons: First, in order to evaluate the state of students' engagement in two different conditions. Second, in order to avoid bias effect, preventing the study from drawing subjective judgements.

Observing: In this stage, the researcher has observed the effects of the IWB's use on students' engagement in learning. The researcher has tried to gauge the state of students' engagement of both groups being observed. In addition, she tried to identify the attitudes of students who experienced the use of the IWB and to focus on their perceptions towards the change that is occurred in the classroom setting.

Reflecting: At this level, the researcher has assessed and described the effects of this research on students' engagement. This has been undergone through research instruments adopted in the study. The above stated steps are drawn in the following figure:

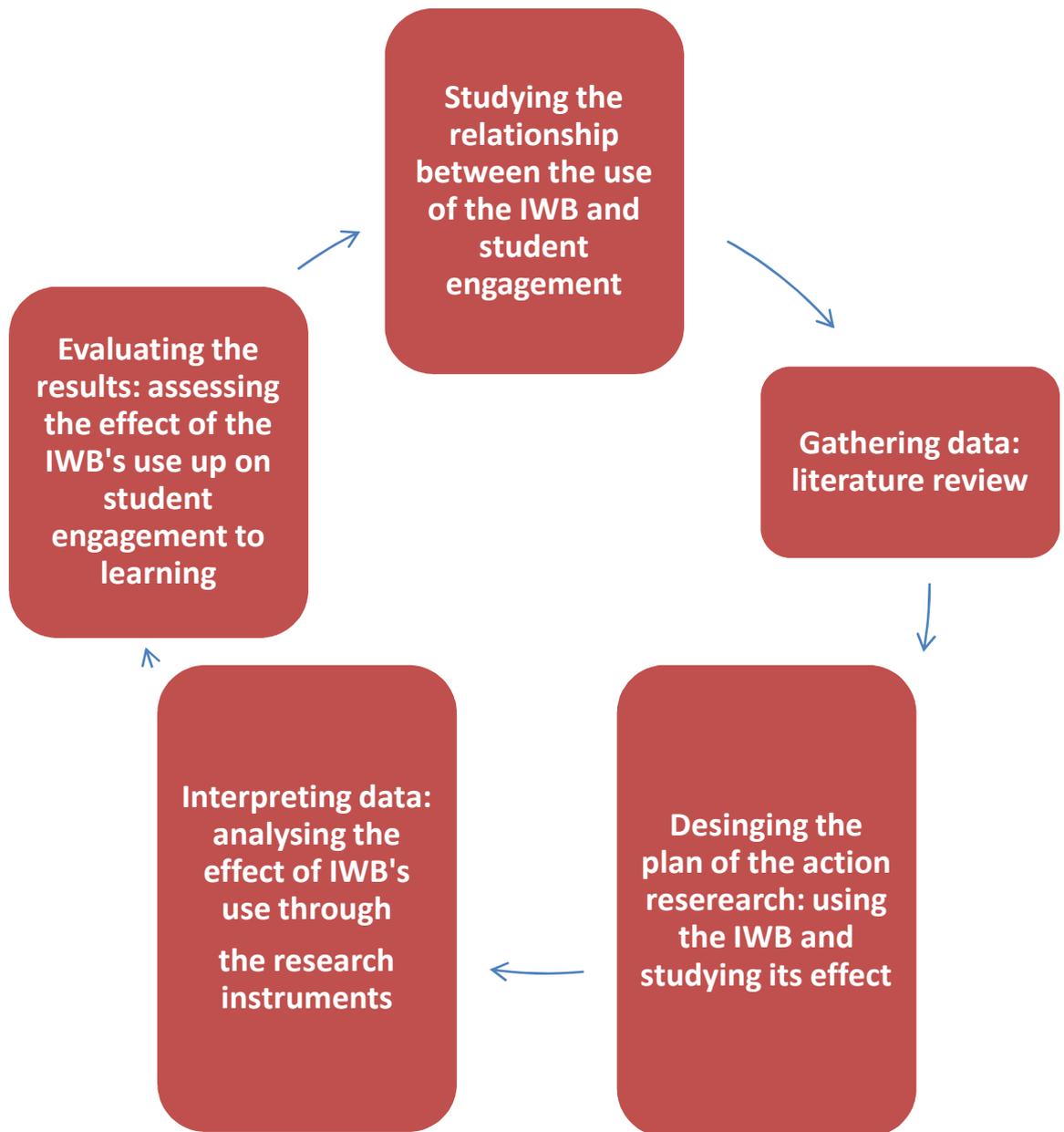


Figure 2.2 Action Research Cycle

This action research attempts to spotlight students' engagement in the learning and how it can be affected by the use of the IWB in classroom instruction and presentation. Research instruments of data collection try to determine if the use of the IWB does really increase students' engagement.

2.4 Background of the Study

This study has been conducted during practicum sessions of English language course, designed for 3rd year technology students majoring in Network and System of Telecommunication (NST), in the faculty of *Technology*, department of Electrical Engineering and Electronics at Tlemcen University. The module of English language is designed for technology students in diverse specialities and different levels. During their first and second year, subjects of this research were majoring in "Technical Science" which was a common stream. Then in the third year, it was sub-divided into different branches among them, Network System of Telecommunication. English language lectures considered in the pedagogical curriculum of the faculty of technology used are kinds of ESP courses.

In the scope of this research, the course of English language attempts to provide general understandings about Information Communication Technology (ICT). In fact, the objective behind teaching this module for technology students is to help them develop a background about technologies of information and communication which is quite significant mainly in their field of speciality.

2.5 The Purpose of the Action Research

In order to conduct an action research, the researcher needs to operate as a minimum one precise aspect or factor of the study to analyse the effects of this alteration on an other aspect. The impact of this change is appraised and gauged before and after the action research. Saeidi (2002: 10) stated that in this approach

Ideas can be tested in a controlled way and it is an ideal approach to investigate casual relationships [.....] In this approach the project design, sample selection and measurement of dependent variables are crucial to the success of the research.

This study investigates the effects of the IWB's use on university students' engagement in learning .In fact, it examines the effect of one independent variable on one dependent variable.

On one hand,the independent variable is called “independent” because it is independent of the outcome being measured. More specifically, the independent variable is what causes or influences the outcome. On the other hand, “the dependent variable is called “dependent” because it is influenced by the independent variable”. (Marczyk et all, 2005:46). Marczyk et all explained that the independent variable can be considered as the “cause” and the dependent variable as the “effect”.

In this study the researcher examines the impacts of IWB's use on students' engagement and motivation in learning. Students' engagement is the dependent variable because it is influenced by (i.e., is dependent on) the independent variable (i.e., the use of the IWB).

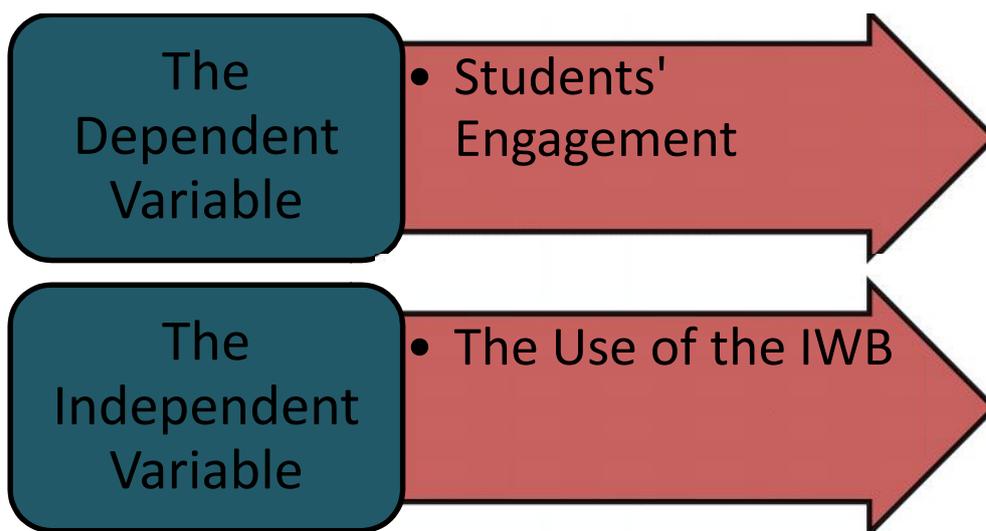


Figure 2.3 Design of the Research Variables

In this research, students' engagement as the dependent variable is measured through out a set of research instruments that allow the researcher to underline students' engagement behaviour (at- task behaviour) which refers to students' motivation, attention, interest, participation and interaction in the classroom. In this regard, it is important to mention that students' disengagement (off-task behaviour) refers to student reluctance to use the IWB, resistance to explore its features, absences, lack of interest, motivation, and interaction.

Marczyk et all (2005: 48) claimed that “the difficult part is determining how to **vary** the independent variable and **measure** the dependent variable”. In this research, the investigator is interested in examining the effects of using the IWB on the level of students' engagement in learning. Although it is easy to identify students' engagement as the dependent variable and the use of the IWB as the independent variable, it is somehow difficult to find out ways “to vary the independent variable ” (Ibid).

In order to vary the independent variable (the use of the IWB), it is important to determine its nature which can vary in kind and in amount. Marczyk et all (2005: 49) explained that “*qualitative variables are variables that vary in kind, while quantitative variables are those that vary in amount*”.

In this research study, the use of the IWB can vary in terms of its impact on students' engagement, and this impact is measured to be either effective or not effective. So, the use of the IWB as the independent variable varies qualitatively because

Rating something as “attractive” or “not attractive,” “helpful” or “not helpful,” or “consistent” or “not consistent” are examples of qualitative variables. (Marczyk et al, 2005:49).

For instance, if the thing being rated is either “attractive” or “not attractive,” and there is no indication of the degree (or amount) of attractiveness, it will be a *qualitative variables*. By contrast, accounting the number of times that something

happened or the number of times that someone involved in a particular behaviour are cases of *quantitative variables*. These variables are regarded as quantitative because they give information about the amount of the thing being measured.

2.6 Data Collection Design

The collection of data is a significant step in determining what action should be taken. Multiple well springs of information are used to better understand the scope of occurrences in the classroom or school.

This action research endeavours at getting insights into students' attitudes towards the use of IWB as a technological tool of instruction and presentation in EFL context. Therefore, the researcher has used different research instruments for collecting data.

2.6.1 Instruments

In order for the researcher to collect varied data, a compilation of choices is available (questionnaires, self rating, interviews, observations, case studies...).

Most researchers have as a minimum one systematic method they feel most comfortable using, which frequently becomes their preferred or only approach to research. This might be why several investigations followed only a single research methodology (participant observation, interviewing, or questioning measures). Moreover, many investigators consider their research method as a theoretical procedure (Denzin, 1997). Consequently, "they fail to recognize that methods impose certain perspectives on reality" (Bush, 2004:4).

The validity of the collected data and the accuracy of the study's findings require a thoughtful consideration of the instruments used to collect data. In this regard, Saeidi (2002:4) asserts that:

The important feature of triangulation is not the simple combination of different kinds of data but the attempt to relate them so as to counteract the threats to validity identified in each. [It] actually represents varieties of data, investigators, theories, and methods .

Seriously considering the issue of triangulation, the researcher used three research instruments to determine the effect of IWB's use on students' engagement: classroom observation, questionnaire and interview.

2.6.1.1 Classroom Observation

Classroom observation has always been regarded as a main data collection instrument in qualitative research. It allows the researcher to collect data about a situation with various contextual variables while the researcher is actually present in the classroom. This what makes “observational data [...] attractive as they afford the researcher the opportunity to gather ‘live’ data from ‘live’ situations” (Cohen et al ,2000:305). It is a method whereby an investigator observes and notices actions or situations. Observation “refers to the process of making careful and accurate measurements” (Marczyk et al, 2005). The purpose of observation is to stay inconspicuous so that researcher's action remains natural while observing participants' authentic behaviour. Saeidi,2002:56) explains that classroom observation

provides researchers with an opportunity to collect data on a wide range of behaviours and interactions, and is particularly useful for discovering whether individuals or groups do what they say they do, or behave in the way they say they do.

Observation methods are influential tools for getting insight into situations. Observations are extremely helpful for collecting data when studying behaviours in their “natural setting” and providing an opportunity to study situations the respondents may be unaware of .Classroom observations provide the researcher with the

opportunity to gather data about what is actually going on in real settings. Classroom observation offers extremely objective data and facilitates the process of data analysis.

The extent of being involved in the study differs from full participation as a participant observer as the observer becomes part of the study, to full separation as a non participant observer when she just observes to record data.

- ❖ In non-participant observation, the researcher only observes the subjects without being involved in the study.
- ❖ In participant observation the researcher is part of the group studied and contributes in the natural setting observing their authentic behaviour. Participant observation can be either overt or covert.
- ❖ In overt participant observation , the subjects being studied are made conscious of the existence of the researcher in the classroom and are perfectly anticipated to adapt their behaviour and to show their knowledgeable consent to be the subjects of the study.
- ❖ In covert participant observation, the investigator conducts his/her research covertly without informing subjects that they are observed. It could be a beneficial for the reliability of the research, since subjects would behave naturally as they are not made aware of the researcher's presence.

In this work, the researcher was completely involved in the study as the participant observer who participated in the settings, observing subjects' behaviour during the lectures. Indeed, she was the teacher and the researcher at the same time. Consequently, classroom observations were overt. The role of the researcher in classroom observation is more likely to provide reliable data about students' behaviours and reactions towards the use of the IWB in the natural setting.

In this study, classroom observation is more likely to afford valid information about participants' own voices and perceptions and provides a depth to context-based account of situations in real-life contexts. Data collection has been constructed through lesson observation conducted by the teacher through the use of video recording.

In the present research, the design of classroom observation grid was based on five variables that are : students' attendance, motivation, interaction, participation and retention. Here is a model of the final draft of the grid used in taking remarks during classroom observation:

Variables	Evaluation			Comments
	Low	Moderate	High	
Students' attendance				
Students' motivation				
Students' interaction				
Students' participation				
Students' retention				

Table 2. 1 Draft of classroom observation grid

2.6.1.2 Students' Questionnaire

Questionnaires are at the top of major the instruments used in quantitative research. They are meant to gather data by asking standardised questions to a particular designed sample of population. Questionnaires as means of collecting descriptive information, are intended to detect certain attitudes or perceptions in the population in addition to searching analytical understanding of a given situation. They permit for anonymity of replies and allow respondents to have time to reflect on situations and state experienced changes and reactions. According to Cohen et al (2000:245)

The questionnaire is a widely used and useful instrument for collecting survey information, providing structured, often numerical data, being able to be administered without the presence of the researcher and often being comparatively straightforward to analyse.

Questionnaires can be useful and valuable. Their flexibility enables the researcher to collect data on almost any topic, concerning large or small subject group. They enable the informants to fill it out carefully.

The value of the questionnaire data can be improved if the information is checked through the use of other methods (such as observation or interview).

However, questionnaires are not without their drawbacks: some times, the questions are not understandable for some subjects. Unlike the interview, the researcher can not interact with the respondents in questionnaires: a fact that block the flow of the questions. To assure a good running of the administration of the questionnaire, it is preferable for the researcher to be present during the admistration, because the pressure of the investigator's presence is the only means to make certain that the target subjects themselves answer the questions.

According to Richards(2001), lots of important points should be taken into consideration while designing a questionnaire:

Preliminary Questions:

- ❖ The necessity of adopting other research tools before the questionnaire, to generate an idea about the accurate design of the questionnaire.
- ❖ The sample population: is it representative to the whole population?
- ❖ How to pilot the study?
- ❖ How to administer the questionnaire?
- ❖ Type of Information Required:
- ❖ The usefulness of every single question in the questionnaire and the data it gives.
- ❖ Informants' ability to answer the questions (taking into consideration their age, level...)

- ❖ Bias effect in the question: subjectivity.

Items Forming the Questionnaire:

- ❖ Open Questions: answering questions freely without providing choices.
- ❖ Closed Questions: having the choice between the answers provided.
- ❖ Scale: giving a value in a scale(e.g. between ‘strongly agree’ and ‘strongly disagree’.
- ❖ Ranking: items are ranked according to some values(e.g. from 1 to 7).

Concerning the form of the questionnaire, investigators should bear in mind that questionnaires are either based on structured items (closed-ended questions) wherein the informants are to choose from a set of number of answers, or unstructured items(open-ended questions) which enables the informants to freely give their answers. Nevertheless, the former kind of questions is easier to analyse, where as open-ended questions may provide unpredicted data. This what enables the questionnaire to supply both qualitative and quantitative data: a fact that urges the researcher to reflect carefully on the nature of the data he/she requires by the end of its collection procedure.

In the present study, the researcher designed a questionnaire based on closed – ended questions, which enables the respondents to answer questions in a simple and easy way. As to the design of the instrument, the questionnaire consisted of 22 questions each one was followed by five alternatives labelled from ‘Strongly Disagree’ (1) to ‘Strongly Agree’ (5) (Likert Scale Questionnaire). It is worthy to mention that a likert scale is a technique of ascribing quantitative value to qualitative data to make it agreeable to statistical analyses and numerical values that are computed at the end of the assessment of the questionnaire.

Questions were divided into five rubrics, regarding the use of the IWB in the following contexts:

- ❖ The first rubric of questions included the first four items which brought into focus the relationship between IWB's use and student engagement to learning.
- ❖ The second part of questions comprised items (from 5 to 9) spotlighting students' affective factors related to their engagement to the learning process.
- ❖ The third piece of questions contained items (from 10 to 14) underlining the impact of the IWB's use on developing students' language skills.
- ❖ The fourth section of questions constituted items (from 15 to 19) highlighting the impact of the IWB's use on learning and instruction.
- ❖ The last range of questions (from 20 to 22) was worded negatively putting emphasis on the possible limitations and negative perceptions towards the use of the IWB.

2.6.1.3 Teachers' Interview

The third research tool of data collection used in this study is the interview which may be defined as an exchange of views and a perception between two or more individuals being mutually interested in the same subject (Cohen et al, 2000). The employ of the interview spotlights the importance of human interaction for data construction, and underlines the social aspects of research information. In this sense, Kvale (1996:11) states that:

The use of the interview in research marks a move away from seeing human subjects as simply manipulable and data as somehow external to individuals, and towards regarding knowledge as generated between humans, often through conversations.

Kvale adds “the interview is not exclusively either subjective or objective; it is intersubjective(1996:66).Interviews allow participants (interviewers or interviewees) to converse and interchange their own understandings and perceptions. Therefore, “the interview is not simply concerned with collecting data about life: it is part of life itself, its human embeddedness is inescapable” (Cohen et al, 2000) .

Concerning the forms of an interview, on one side, investigators can adopt *open (unstructured)* interviews which do not stand on prepared questions, while it enables the respondents to freely express themselves and therefore providing in-depth information. On the other side, *structured* interviews stand on specific prepared questions without elaboration; and this thoroughly provides consistent information. There is a third type of interviews, the *semi-structured (semi-open)*, which is designed by a precise core questions which might relatively be elaborated (Seliger and Shohamy, 1989).

To be moderate in her approach when planning the interview, the researcher opted for a semi-structured interview. On one hand, this approach restricts the standard of the required data through the core questions; and on the other hand, it allows for further elaboration and clarification through follow-up questions.

In the present study, the main questions of this semi-structured interview were designed to tackle five important points about the integration of technology, which are:

- ❖ The use of technological tools in classroom instruction.
- ❖ The use of IWB technology.
- ❖ Choice between IWB and traditional classroom instruction.s
- ❖ Challenges of integrating IWB technology in classroom instruction.
- ❖ Negative side of IWB technology.

In this way, the final draft of the interview was:

Starting from the fact that the integration of IWB technology is still in its initial phase, technology teachers were asked first :

- ❖ Do they use technological tools in classroom instruction?
- ❖ Have they ever heard about the Interactive Whiteboard?
- ❖ After this, what to say about the use of IWB technology in classroom learning and instruction.
- ❖ What can IWB technology add to a traditional classroom instruction?

- ❖ Then, what do they prefer a classroom with or without an Interactive Whiteboard technology?
- ❖ Finally, the last two questions focused on the probable limitations and negative attitudes concerning the use of the IWB:
- ❖ What are the challenges of integrating IWB technology in classroom instruction?
- ❖ What they like least about the pedagogical integration of technology in general?

2.6.2 Subjects

The subject population addressed in this research differs from one data collection tool to another, as an endeavour from the researcher to have all feasible helpful opinions regarding the issue in question.

a. The Questionnaire Population:

The population to be approached through the questionnaire is 3rd year technology students enrolled in the department of Electrical Engineering and Electronics, at Tlemcen University, during the academic year 2012-2013. It is worth mentioning that the sample population of the questionnaire is a group of 32 students. They represent the *experimental group* who *experienced* the use of the IWB in the English language classroom.

b. The Classroom Observation Population:

The population which is going to be the subject of observation is made of the experimental group of 32 students. However, this instrument is concerned also with the second group of 29 students (*the control group*) who received instruction *without* the use of IWB technology in the English language classroom.

In this research, the teacher acts as a participant observer of the two groups of students who will receive the same instructions according to the same teacher's

preparations and lessons plan. The single difference between the two groups under observation is the use of the IWB technology in EFL classroom.

c. The Interview Population:

Since the perspectives and the attitudes of teachers are regarded as a crucial source of data, teachers' interview meant to give more depth and some extra aspects of teachers' perceptions of IWB use. In this investigation, five teachers from the faculty of technology have been requested to answer the questions of the interview.

The informants involved in the interview are five subject specialists teachers. Their teaching experience in the Faculty of technology varies from three to twenty-five years, specialised in different domains: electronics, electrotechnics, mathematics, and telecommunication. The fifth informant is an English language teacher whose teaching experience exceeds ten years.

2.6.3 Piloting the study

After designing the research instruments to be used in collecting data, the next stage was to address the subject population related with each instrument in this triangular approach. Nevertheless, it was of paramount importance to test these research instruments with some subjects before making the proper study.

...it is very important that the [questionnaire and] the interview questions are piloted with a small sample of subjects before being used. This gives the researcher the opportunity to find out if the questions are yielding the kind of data required and eliminate any questions which may be ambiguous and confusing to the interviewee.

Nunan (1992, p.151)

Keeping all this in mind, mainly with questionnaire and interview design, the researcher tested beforehand the students' questionnaire and teachers' interview so that to extract any kind of misinterpretation or bias.

Concerning the questionnaire approached to 32 technology students (the experimental group), it was piloted with four students to make sure that they would understand the questions in the same way planned by the researcher and to verify the the clearness of the formulation of questions to the subjects and its suitability to their levels. In fact, the four students made a set of remarks about the wording of some questions that needed some modifications; the fact that urged the researcher to reformulate these questions. Finally, it is significant to mention that the four students who contributed in the pilot study were not subjects of the present research. As to the teachers' interview, it allows the researcher to have a closer look at the current situation. During the interview , the researcher was taking notes while the interviewee teachers were answering the questions.

2.6.3.2 The Study Proper

The researcher started classroom observation for English language practicum sessions programmed for two groups of technology students as early as they started in October 2012, so that to collect maximum information. Classroom observation necessitate a total attention from the researcher on what was happening in the setting.

The investigator was constantly making observation, during and after the class. The researcher stopped observing the English language sessions in February 2013, since she felt that no new data was to be gathered after this period of observation.

As a second instrument, the researcher addressed the 3rd year technology students(the experimental group) through a questionnaire meant to determine their attitudes and perceptions about the use of the IWB technology in English language

classroom. The administration of the questionnaire was at the start of the first term exam, and it was the last time that the researcher met the respondents.

Finally, after the two first procedures, it was time to interview teachers at the faculty of technology. After designing the interview, the researcher was to prepare the dictaphone to record data. Having the interview plan in hands, the interviewer asked the questions and the teachers answered. During the interview, the interviewer was recording data on the dictaphone and taking down some remarks that could not be recorded such as body gestures like hands movements and facial expressions. After ending up the interview, the researcher made the orthographic transcription of the collected data.

2.6.4 Data Analysis

The main question which arises while approaching data analysis, is what are qualitative data and what are quantitative data, what about their analysis, and what is the difference between the two?

2.6.4.1 Qualitative Analysis

In his endeavour to find the difference between qualitative and quantitative approaches, Dabbs (1982: 32) points out that the notion of *quality* is essential to the nature of things. On the other hand, *quantity* is elementally an amount of something. Bush (2004:3) words that “quality refers to the what, how, when, and where of a thing, its essence and ambience”. Qualitative research thus, refers to the meanings, definitions, features, and interpretations of things.

Marczyk et al (2005:17) state that “qualitative research involves studies that do not attempt to quantify their results through statistical summary or analysis”. Qualitative research provides answers to questions by analysing various social settings

and examining the real-life situation of individuals who occupy these settings. Accordingly, qualitative techniques permit researchers to share the perceptions, understandings and attitudes of others.

Finally, this part devoted to the description of qualitative method of data analysis, can be summarised in some significant points, which investigators should bear in mind when adopting such types of analysis:

- ❖ Qualitative research typically includes interviews and observations without numerical measurement.
- ❖ It is usually explored as foundation of the research hypotheses that will be tested in quantitative research.
- ❖ Qualitative research seeks to study facts in a natural context.
- ❖ Analysis of qualitative data is not to be undertaken as a final stage. Analysis should start while the first information is gathered. Data analysis should start alongside data collection.
- ❖ It requires the investigator's deep involvement, when the bias effect should be checked.
- ❖ Finally, no one can say that there is only a unique way to analyse qualitative data: there are variety of ways to analyse data qualitatively.

2.6.4.2 Quantitative Analysis

Quantitative research is commonly favoured by fundamental sciences such as mathematics and physics, referring to all what is quantified and gauged so that to provide accurate and testable data. Marczyk et al (2005:17) stated that:

Quantitative research involves studies that make use of statistical analyses to obtain their findings. Key features include formal and systematic measurement and the use of statistics.

Quantitative data analysis refers to data given in statistical form, involving relatively large samples. Such kind of numerical data is collected by the use of questionnaires and interviews where closed questions are used.

Quantitative research is appropriate to describe or explicate a phenomenon, as there are plenty of statistical methods which enable to make scores on a set of variable(e.g; students' score in written expression) from the scores of other variables connected to the same phenomenon(number of students in group)

Quantitative research is also appropriate in studies that attempt to test a number of hypotheses: for example, to test “ if learners' achievement in mathematics is related to the level of intelligence”.

Concerning the use of these two types of data analysis in educational research, what is suitable? Qualitative approach, quantitative approach, or a mixture between the two approaches?

Opting for single method of gathering and analysing information will probably not provide a full description of the situation under investigation. Furthermore,“using more than one type of analysis is believed to provide more reliable research findings since the latter are not compressed into a single dimension of measurement” (Hamzaoui,2006:130). The use of different research instruments in collecting information; and a mixture of approaches in analysing data; may supply critical insights and present a more realistic view of the studied situation (Bacha, 2004).

In this study, the researcher believes that a mixture of qualitative and quantitative data will strengthen the accuracy of the present research ; then,cohesiveness between

various types of information will validate the correctness of its results, and provide the credibility of the study.

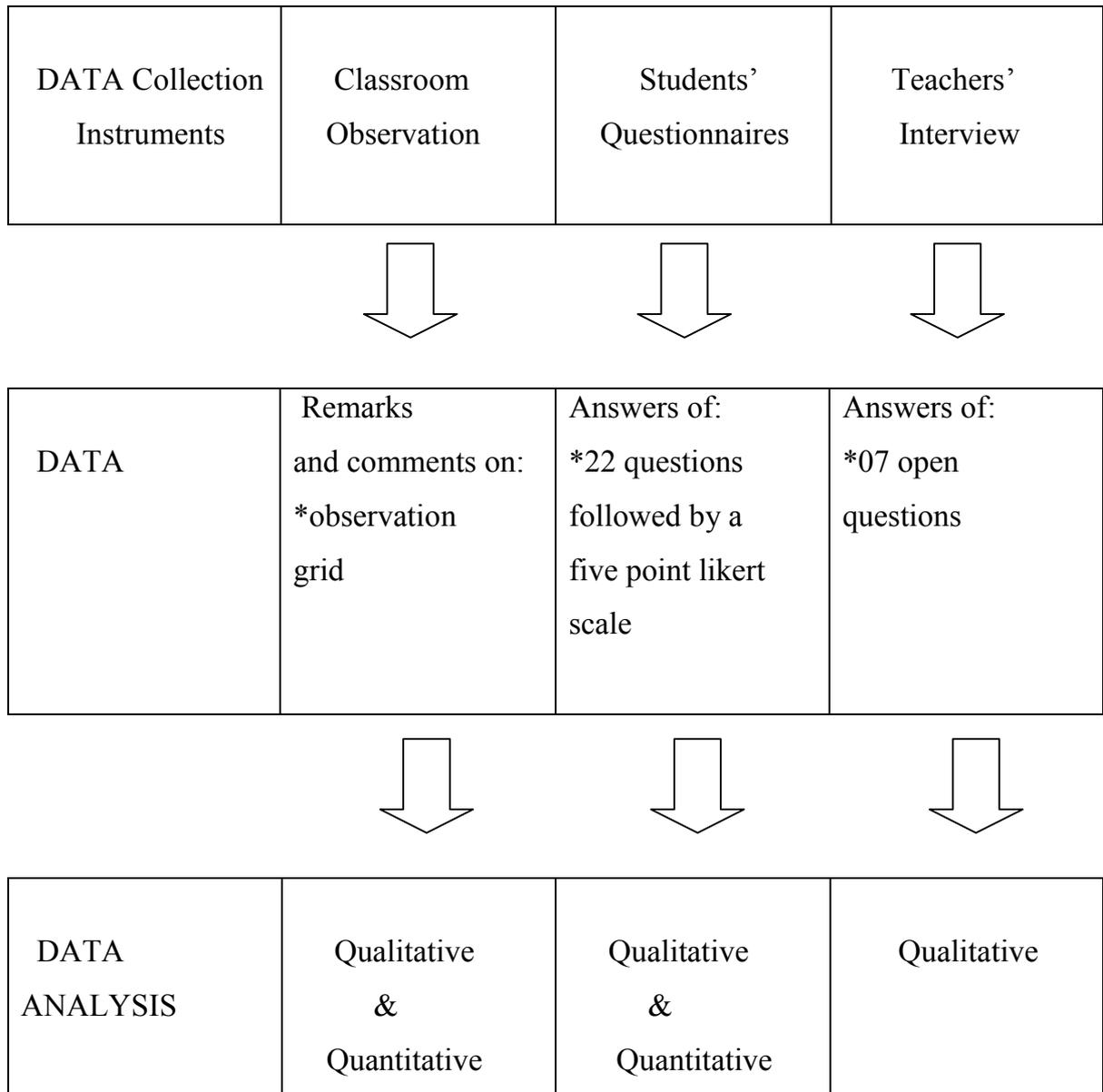


Figure 2.4 Research Design.

2.7 Conclusion

This work is conducted as an action research, in which the researcher attempts to investigate the use of IWB's in EFL classroom and its effect up on students' engagement in learning.

This study was aimed to involve two groups of technology students enrolled in 3rd year (2012/2013 academic year). One group of students experienced the use of the IWB in English language classroom(i.e the experimental group). The second group of students received instruction in EFL classroom without the use of the IWB technology(i.e the control group). Both groups were subject to observation, the fact that enabled the researcher to observe students' engagement in different settings. The experimental group completed students' questionnaire, which intended to reveal their perceptions and attitudes towards the use of such technological tool in learning and instruction. in addition, five teachers ,from the faculty of technology,were also involved in the study through an interview.

The researcher adopted a triangular approach to gather data , using three research instruments(classroom observation, questionnaire and interview) so that to collect almost useful opinions(personal, reflective and professional). Concerning data analysis, it was a combination of qualitative and quantitative approaches which often provide helpful results. Both approaches were addressed when analysing the results obtained from classroom observation, and questionnaire, while the interview was analysed qualitatively.

CHAPTER 3

DATA ANALYSIS AND RESULTS

3.1 Introduction

3.2 Analysis of Classroom Observation

3.2.1 Description of Classroom Session

3.2.2 Reliability of the Instrument

3.2.3 Validity of the Instrument

3.2.4 The Results

3.2.5 Discussion of the Results

3.3 Analysis of the Students' Questionnaire

3.3.1 The Results

3.3.2 Discussion of the Results

3.4 Analysis of the Interview Data

3.4.1 The Results

3.3.4.2 Discussion of the Results

3.5 Discussion of the Main Results

3.6 Conclusion

3.1 Introduction

After designing the research and its procedure, the following step was data collection, the process that will help the researcher to answer her research questions. Therefore this chapter is devoted to data collection and analysis.

The nature of the variable under investigation(technology students) shoved the researcher to follow a triangulation approach in providing evidence to answer the research questions. In the beginning, the researcher observed two groups of 3rd year Technology students during practicum sessions of English language classroom held at the level of the faculty of Technology,for the sake of discovering the effect of Interactive Whiteboard's use on students' engagement in an EFL classroom. This first instrument was complemented by a questionnaire addressed to the same population. The questionnaire offered the students the opportunity to reveal their opinions about the use of IWB. Actually, this second instrument allowed to unveil information that could be missed during the classroom observation. Then, to provide the study with a professional view on teachers' perceptions, we attempted to approach some teachers views through an interview.

Finally, the results of the three research instruments were gathered and discussed to stand on the attempt of implementing IWB technology in EFL classroom and its effect on students' engagement in the learning..

3.2 Analysis of Classroom Observation

Classroom observation is a suitable way to construct a clear idea about the use of the IWB in EFL classroom, and therefore to determine its effect on students' engagement and its role in an EFL context; and these are issues mentioned before in the research questions. Then, the results attained from this research instruments will be compared with their complements: the questionnaire and the interview.

3.2.1 Description of Classroom Session

The students who were subject to observation, were two groups of 3rd year technology students. They were majoring in the field of the *Network System of Telecommunication*. The two groups of students were observed during the first semester (October 2012- February 2013). The first group represented *the control group*, who learned English language with no Interactive Whiteboard being used in the classroom, and the second group represented *the experimental group* who learned English language with an Interactive Whiteboard being used in the classroom.

For the sake of testing the effects of the IWB's use on the level of students' engagement in the learning process, the experimental group experienced the use of the IWB that was explored to give instructions, navigate pertinent educational websites, illustrate particular videos, pictures, songs and project students' research works presentations.

The researcher observed 10 sessions, focusing on students' engagement in learning which was measured according to the rubrics drawn in classroom observation grid. (See appendix A).

3.2.2 Reliability of the Instrument

Although the classroom observation was planned by a prescribed grid of observation(see section 2.6.1.1), the observer felt that she may inadvertently be biased and thus, imposed her impressions on the observed facts. In this research, the investigator was completely involved in the study. She was the teacher and the observer at the same time. During the teaching performance, the investigator was taking down notes and remarks about students' attitudes and behaviours in the classroom.

3.2.3 Validity of the Instrument

Bearing in mind the necessity of procedure's validity, the researcher attempted to verify whether the observation research instrument was properly designed to measure the qualitative variable of IWB 's use in EFL classroom. However, it seems quite difficult to accurately measure such a qualitative variable. For this to be achieved, the investigator, on the basic of the available source of researches, tried to focus on some facts that are mostly related to the idea of students' engagement such as their attendance ,motivation, interaction, and participation.

3.2.4 The Results

As chattered in the design of this research instrument, the adopted classroom observation grid contained a number of items (See section 2.6.1.1).In this way, the results attained are organised in the same order.

Item one: Attendance

After finishing ten sessions of classroom observation, the researcher realised that attendance rate was higher in the experimental group than in the control group.Such finding showed that students who explored the use of the IWB in English language classroom appeared to be more interested as they were eager to attend the class. This could be quantified in the following table:

	Number of students who attended the class	Number of students who missed the class
The experimental group	27/32	05/32
The control group	24/32	22/32

Table 3.1 Attendance Rate for Both Sections

It is obvious from this table, that students in the experimental group feel motivated to learn and therefore they seemed involved and engaged in the learning process.

Item Two: Motivation

Classroom observation showed clearly that motivation rate was higher in the experimental group than in the control group. This finding is significant as it addresses the first research hypothesis which considers that the use of the IWB will increase students' engagement and motivation in the process of learning. In the experimental group, students showed great enthusiasm and comfort with the use of IWB. They realised that the focus was on the IWB itself so, they felt relaxed and motivated to explore IWB's features.

Classroom observation highlighted a positive connection between students' motivation and the nature of lessons students had with the Interactive Whiteboard, stressing the vital role the teacher has in employing technology to help and promote students' motivation in the learning process.

Item Three: Interaction

It is not an easy task to gauge the affective variables related to teacher/students relationship. Yet, what was clearly revealed during the observation sessions is the

interaction between the students and the teacher. Classroom observation showed that in both groups(the experimental and the controm group) there was a good interaction between students and teacher. This was divulged through their communication with each other which appeared to be clear and interactive.

Item Four:Participation

What could be obviously noticed in classroom observation, is students' participation. Classroom observation revealed that students in the experimental group exhibited a better participation in the learning than did students in the control group.

	Number of students who participated in the class	Nunber of students who did not participate in the class
The experimental group	25/32	07/32
The control group	19/32	13/32

Table 3.2: Assessment of Both Groups' Participation

Item Five: Retention

Students' retention refers to the capacities to retain and evoke information learned in the classroom(see point 1.5.2). Classroom observation noted that students were more likely to exhibit their attention to the course, showing a good level of retention of lessons content mainly vocabulary.For exemple, IWB based lessons and activities showed that students in the experimental group retrieved vocabulary more easily than did students in the control group. Classroom observation divulged that students in the experimental group got better scores in some activities of grammar and vocabulary.It has been also observed that visuals clues (videos, and pictures for

instance) captivated students' attention which might be particularly helpful for students' ability to recall and retain information.

3.2.5 Discussion of the Results

Being a natural setting of the research, classroom observation has enabled the researcher to collect testable amount of data concerning the effects of the Interactive Whiteboard's use on students' engagement in the learning. The aim was to identify students' attitudes and behaviour towards the IWB's use in English language class.

Classroom observation allowed the researcher to conclude that factors related to students' engagement behaviour are clearly determined in the grids of classroom observation which showed that students(in the experimental group) in general have appreciated the use of the IWB in classroom instruction and presentation. Such finding revealed in students' engagement behaviour which included their attendance, participation, motivation and interaction in the class. It has been observed that attendance rate was higher in the experimental sections than in the control sections. This reflected the fact that students in the experimental group were motivated to learn in a classroom where the IWB was explored in learning and instruction. Data collected from classroom observation also revealed that students in the experimental group showed a better participation in the IWB's based lessons and activities through which they felt more involved in the learning process which seemed to be more interesting and motivating. Therefore, students in the experimental group were motivated and interested in the learning; the process which allowed them to explore an innovative technology used in the current pedagogy. Classroom observation noted that there was not a big difference in the level of student interaction in the experimental group compared to student interaction in the control group, may be because both groups received the same instruction and discussion.

Classroom observation concluded that students' attention to the class and retention of information(mainly vocabulary) was much more better in the experimental

group. Moreover, it showed that the use of IWB stimulated students' motivation to communicate in English language.

3.3 Analysis of the Students' Questionnaire

The main endeavour behind this questionnaire is to gather data to answer the research questions(If the use of the IWB deos increase students' engagement and how it can support EFL classroom),and to test the proposed hypotheses(See the questionnaire administered to the students in Appendix B).The choice of the questionnaire as the second research instrumt relied on the fact that it is a reflective instrument of data collection; highlighting the population's inner standpoints. This is why, it is considered to be a good counterpart to classroom observation which supplied data from an outsider view.

As stated earlier, the population concerned with this research instrument is the experimental group of 32 students. The survey questionnaire was administered by the English language teacher at the start of the first term exam period.Filling the questionnaire took between 15 and 20 minutes.Students were assured that their responses would be anonymous and confidential and would in no way affect their grades in the exam. The percentage of questionnaires completed and returned was 90% overall response rate.

3.3.1 The Results

As the questionnaire entailed different parts and various details, the investigator considered it would be preferable to deal with each rubric alone, to make the results of the questionnaire clearer and the discussion simpler.

Rubric 1: Statements from 1 to 04

The Relationship Between IWB's Use and Engagement in the Learning

After reading the answers regarding this first rubric of the questionnaire, the researcher collected all the results in table 3.3 bellow. The first remarkable feature is that the majority of the respondents expressed a positive attitude towards the use of IWB in the EFL classroom. Interestingly, 71.87% of students' answers was "strongly agree" that they enjoy and have fun when learning with the IWB; while 81.25% of students showed that they concentrate better when using the IWB.

The first rubric of questions focuses on the relationship between IWB's use and students' engagement to learning. It reveals that the use of the IWB in English language classroom positively affects students' engagement.

		Strongly agree	agree	neutral	Some what disagree	Strongly disagree
I enjoy learning when the teacher uses an Interactive Whiteboard.	AF	23/32	06/32	03/32	00/32	00/32
	RF	71.87%	18.75%	9.37%	00%	00%
I have fun when the Interactive Whiteboard is used in the English language class	AF	26/32	03/32	03/32	00/32	00/32
	RF	81.25%	9.37%	9.37%	00%	00%
I concentrate better in class when an Interactive Whiteboard is used to deliver instruction.	AF	24/32	06/32	00/32	02/32	00/32
	RF	75%	18.75%	00%	6.25%	00%
I believe that it is important for me to learn how to use the Interactive Whiteboard	AF	23/32	07/32	00/32	00/32	02/32
	RF	71.87%	21.87%	00%	00%	06.25%

Tables 3.3: Assessment of Students' Attitudes Towards the Use of the IWB.

*AF : Absolute Frequency(out of 32) ; RF : Relative Frequency(%).

Rubric 2: Statements from 5 to 9

Students' Engagement in Learning

		Strongly agree	agree	neutral	Some what disagree	Strongly disagree
The Interactive Whiteboard stimulates my motivation.	AF	23/32	06/32	03/32	00/32	00/32
	RF	71.87%	18.75%	09.37%	00%	00%
The Interactive Whiteboard increases my engagement, and interest in English language learning.	AF	24/32	05/32	00/32	03/32	00/32
	RF	75%	15.62%	00%	09.37%	00%
Interactive Whiteboard encourages more active participation.	AF	23/32	05/32	04/32	0/32	00/32
	RF	71.87%	15.62%	12.5%	00%	00%
The multimedia and multi modal feature of Interactive Whiteboard helps me to retain more information.	AF	00/32	16/32	04/32	12/32	00/32
	RF	00%	50%	12.5%	37.5%	00%

Table 3.4: Assessment of Students' Engagement when Learning with the IWB.

*AF : Absolute Frequency(out of 32) ; RF : Relative Frequency(%).

Table 3.4 illustrates the results obtained from the students' answers about their engagement behaviour in the EFL classroom.

As to "students' motivation", the outstanding result was that 23 out of 32 students (in the experimental group) revealed that they "strongly agree" that the use of the IWB stimulates their motivation. This number represented that 71.87% of students' answers. The percentages of the respondents having "agree" and "neutral" was relatively different (18.75% and 09.37) respectively.

Concerning research findings related to students' engagement and interest in English language learning, 75% of the students' answers was "strongly agree", while the following lower percentages (15.62% and 09.37% represented the ones who answered "agree" and "some what disagree" that the use of the IWB increased their interest and engagement.

As to the third question related to students' participation, the two areas were considered, between "strongly agree" and "agree" with the percentage of 71.87% and 15.62% respectively, whilst the last as "neutral" (12.5%).

Regarding the last question in this rubric, 50% of the students responded that they "agree" that the multimedia and the multi model feature of the IWB help them retain more information. The following largest percentage (37.5%) represented the ones who "some what disagree" that the use of the IWB increase their retention. Then, 12.5% of students' answers was "neural".

Rubric Three : Statements from 10 to 14

Supporting Interaction in EFL Classroom

The effect of the Interactive Whiteboard's use in EFL classroom was deliberately analysed in this part as it brought into focus the second question addressed in this study which revolves around the use of the Interactive Whiteboard in English language classroom .

The third rubric of this questionnaire underlined the effects of Interactive Whiteboards' use and what the IWB does best in supporting students' interaction. Concerning research findings related to students' interaction, it is important to mention that the number of students who responded "strongly agree" was 23, which represented 71.87%. Likewise there was not a great difference between the percentage of the respondents having "agree" and "neutral" about the use of the IWB' and their interaction (18.75% and 09.37% respectively).

As to the research findings related to the use of the IWB and students visual skills, 59.37% of the students' answers divulged that they "strongly agree" that the use of the IWB help them explore their visual skills; while there was not a great difference between the percentages of the respondents estimating "agree" and "neutral" (25% and 15.62% respectively). This finding also proved that the use of IWB supports and stimulates visual learners through the use of videos, pictures and colours.

As far as the effect of the IWB's use on students' tactile skills, 62.5% of students' answers showed that they "strongly agree" that the employ of the IWB in EFL classroom stimulates their interest to touch and explore the features of the digital board. On the other hand, 15.62% of students' answers were "strongly disagree" and 21.87% were "neutral".

Next to the fact that, 37.5% of the answers about the use of the IWB and students' listening skills were "agree", there was a great gap between the ones with the

answer “strongly disagree” and the others answering “neutral” since the former represented 50% of the total answers, the later, 12.5%.

The students’ answers about the use of IWB features (mainly videos and audios) and its effect on developing an English correct accent, were divided between three columns “agree”, “neutral” and “some what disagree” by the percentages of 34.37%, 40.62% and 25% respectively.

This is while their answers concerning their communication skill were more discriminated by 40.62% for “agree” 37.5% for “strongly agree” and 21.82% for “strongly disagree”.

		Strongly agree	agree	neutral	Some what disagree	Strongly disagree
Interactive Whiteboard helps me interact with peers and teachers.	AF	23/32	06/32	03/32	00/32	00/32
	RF	71.87%	18.75%	09.37%	00%	00%
Interactive Whiteboard helps explore my visual skills.	AF	19/32	08/32	05/32	00/32	00/32
	RF	59.37%	25%	15.62%	00%	00%
Interactive Whiteboard helps explore my tactile skills.	AF	20/32	00/32	07/32	00/32	05/32
	RF	62.5%	00%	21.87%	00%	15.62%
The multimedia provided with the interactive whiteboard improves my listening.	AF	00/32	12/32	04/32	00/32	16/32
	RF	00%	37.5%	12.5%	00%	50%
Use of videos and audios helps me develop correct accent.	AF	00/32	11/32	13/32	00/32	08/32
	RF	00%	34.37%	40.62%	00%	25%
Interactive Whiteboard helps me communicate in English language more fluently.	AF	12/32	13/32	00/32	00/32	7/32
	RF	37.5%	40.62%	00%	00%	21.87%

Table 3.5: Assessment of Students' Interaction when Learning with the IWB.

AF : Absolute Frequency(out of 32) ; RF : Relative Frequency(%).

Rubric4 :Statements from 15 to 19

Impact on Learning and Instruction

As to the effectiveness of the IWB's use in English language classroom, what attracted the researcher's attention was that the answer "agree" was the highest with 40.62%; followed by a percentage of 31.25% of the answers in "strongly agree".

Concerning the effect of the IWB's use on the learning, nearly half of the answers (46.87%), poured the column "agree" while the following largest percentage (28.12) represented the ones who showed that they "strongly agree" that the use of the IWB makes content and learning more interesting and exciting.

Again, for the presentation of a wider variety of information, more than the half of the answers(56.25%) was decanted in the column "agree", while the following largest percentage (25%) represented the ones who revealed that they "strongly agree".

As to the effect of using the IWB on students' results, it could not be denied that the majority of informants had "some what disagree" that the use of the IWB makes their results better(50%);however, there were others numbers that could not be neglected as well:28.12% answered "agree" and 21.87% of the answers was "neutral". In this way the results were some how balanced to a high extent.

Again, in spotlighting the connection between engagement behaviour and successful learning, the answers were nearly equally divided between "agree" (37.5%), "strongly agree" (34.37%) and "neutral" (28.12%).

		Strongly agree	agree	neutral	Some what disagree	Strongly disagree
Interactive Whiteboard can be effective for learning English language.	AF	10/32	13/32	00/32	09/32	00/32
	RF	31.25%	40.62%	00%	28.12%	00%
Interactive Whiteboard makes Content and learning more interesting and exciting	AF	08/32	15/32	09/32	00/32	00/32
	RF	25%	46.87%	28.12%	00%	00%
Interactive Whiteboard allows the presentation of a wider variety of information.	AF	08/32	18/32	00/32	00/32	06/32
	RF	25%	56.25%	00%	00%	18.75 %
Use of Intearctive Whiteboard makes my results better.	AF	00/32	09/32	07/32	16/32	00/32
	RF	00%	28.12%	21.87%	50%	00%
My engagement in the learning process facilitates my learning success.	AF	11/32	12/32	09/32	00/32	00/32
	RF	34.37%	37.5%	28.12%	00%	00%

Table 3.6: Assessment of the Impact of IWB' use on Learning and Instruction

*AF : Absolute Frequency(out of 32) ; RF : Relative Frequency(%).

Rubric 5: Statement from 20 to 22

Possible Limitations and Negative Perceptions

Concerning the choice of the ‘traditional’ learning with textbooks and ordinary blackboard, the striking result was that the majority of the respondents (56.25%) estimated that they “strongly disagree”; while the other answers poured in the column “agree” and “neutral” with the percentages of 18.75% and 25% respectively.

Again, in statement number 21, students were asked if the employ of the IWB can be boring. The outstanding result was that nearly the half of the answers(43.75)were “strongly disagree”; while the other answers were “agree” and “neutral” (21.87% and 34.37% respectively).

As to the last question in which respondents were asked if the use of the IWB makes them nervous;50% of the answers were “strongly disagree”, followed by a percentage of 18.75% for answers in “agree” and 31.25% for answers in “neutral”.

		Strongly agree	agree	neutral	Some what disagree	Strongly disagree
I would prefer 'traditional' learning with textbooks and ordinary blackboard.	AF	10/32	13/32	00/32	09/32	00/32
	RF	31.25%	40.62%	00%	28.12 %	00%
Interactive Whiteboard can be boring sometimes.	AF	08/32	15/32	09/32	00/32	00/32
	RF	25%	46.875%	28.12%	00%	00 %
Using an Interactive Whiteboard makes me nervous.	AF	08/32	18/32	00/32	00/32	06/32
	RF	25%	56.25 %	00%	00%	8.75 %

Table 3.7: Assessment of Students' Negative Perceptions about the Use of the IWB.

*AF : Absolute Frequency(out of 32) ; RF : Relative Frequency(%).

3.3.2 Discussion of the Results

It is true that the classroom observation(the first research instrument) and the questionnaire were meant to measure the same variable (the use of the IWB in EFL classroom); nonetheless, the questionnaire went into details which many of them could not be observed in the classroom. Therefore, students questionnaire revealed many other facts about the implementation of the IWB, and enabled the researcher to quantify the results.

Concerning students' engagement, classroom observation and also the questionnaire revealed that students (in the experimental group) who explored the use of the IWB showed greater motivation and enthusiasm to use this technological tool in classroom instruction and learning .

As to the use of the IWB in EFL context, students' answers ; regarding the third rubric of the questionnaire; revealed that the employ of the IWB technology in English language classroom supported students' interaction in the classroom and stimulated also their visual, tactile and listening aptitudes. Furthermore, informants answers showed that the authentic features of the IWB(such as videos and audios) improved their communication in the English language classroom. This appeared also in informants' answers regarding the IWB's impact on learning and instruction. Students showed that that the use of the IWB made content and learning more interesting and exciting. This can be interpreted by the fact that students were interested by the nature of the IWB and its authentic features.

Then, it could not be denied that just the fact of "calibrating" the digital board , to make it interactive , can attract students' attention. In addition, the fact of being able to touch-activate applications on the IWB's panel and moving objects on the digital screen might foster students' interest and motivation to learning. Interactive Whiteboard might be called an authentic material. Its original and tactile nature encourages students to touch and interact with the digital panel.

An important number of students' answers revealed that the use of IWB facilitates their learning success. However students seemed to be conscious that the fact of implementing a technological tool in classroom could attract their attention and increase their engagement to learn, but it does not necessarily make their learning outcomes better. This systematically means that students know that the use of the IWB meant to rise their motivation and attention to learn which could be a crucial factor that support them to achieve positive learning outcomes.

3.4 Analysis of the Interview Data

After dealing with the two research instruments(classroom observation and students' questionnaire), the researcher opted for the third one, the teachers' interview, designed for five teachers at the faculty of technology.

Because the perspectives of teachers are considered as an extremely significant source of data, teachers' interview meant to provide more depth and some extra aspects of teachers' perceptions of IWB use. The following section will deal with the analysis of the data collected from teachers' interview consisting of 7 questions.

3.4.1 The Results

Question 1. Use of Technological Tools in Classroom Instruction .

Three out of five interviewed teachers claimed the employ of technology in their classroom instructions does not exceed the fact of using a lap top and data projector. The two other teachers stated that they do prefer traditional way of teaching (i.e. the use of chalk and the black board).One teacher commented that the use of the IWB can be much more effective, but it can also be more difficult to adapt it in classroom instruction. Another teacher mentioned that the fact of unusing IWB technology may entail some technical issues such as a computer's break down for exemple. He added that teachers need to master the manipulation of technological tools in order to use them properly in their classroom instructions.

Teachers' responses revealed that they are reluctant to use technology first, because it requires extra effort to adapt a different model of lessons, and second, because they are not well trained to use it and consequently they avoid having troubles with its technical matters.

In fact, this reveals that the absence of technology in the current educational systems can be interpreted by the fact that educators keep on avoiding the integration of technology in education instead of benefiting from the flourishing use of technology. One of many reasons for this resistance from adapting innovation to the educational environment is that some technophobic teachers are unwilling to change as they are reluctant to accept the use of technology for classroom instructions. This lack of enthusiasm may be attributed to teacher fears, but may also derive from deep-rooted teacher convictions that the traditional classical instructional methodologies are more suitable and accessible than the current technological devices.

Question 2. The the Interactive Whiteboard Technology.

Four teachers replied they have not heard about the Interactive Whiteboard. The fifth teacher responded that he had an idea about this digital board. The teacher stated that he has already seen it on TV; and that he does not think it is used in our educational context.

The aim behind asking such a question is to know to what extent teachers are knowledgeable about actual technologies of education. Their answers showed that they were not interested with the use of technology and consequently their background knowledge about it was not that extensive.

During the interview, teachers have been explained what an Interactive Whiteboard means and they seemed interested to know about how to use it in classroom instructions and presentations.

Question 3. The IWB and Effective Instruction

Three teachers replied positively to this question. The two teachers who did not believe that they can teach better with IWB's use commented that they were brought

up learning only from books and are getting used to teach without the use of technological tools.

The three teachers who responded positively indicated that they felt they can teach better through the use of IWB. They confirmed that the visual aspects of technological tools (such as the IWB) can help them to explain lessons more effectively. They also reported that with the use of such technology (IWB), the lessons can be much more interesting and exciting. For example, one teacher claimed that today's learners are more interested and motivated to learn with a new technological device.

Question 4. IWB or Traditional Classroom Instruction

All but two of the teachers interviewed answered that the use of the Interactive Whiteboard can provide a motivating and an interesting classroom atmosphere. Most of the remarks commended on the visual and interactive nature of the IWB. One teacher responded that the use of a technological tool can support classroom instruction. Another teacher commented, it can attract students' attention and motivation to learn and stimulate even teachers' enthusiasm to adapt effective model of lessons design.

Teachers' answers affirmed that they realise the effect of promising use of technology. This point is very significant because it sets a glowing dawn of the digital age in which technologies of education will be at the first priority of educational policy makers.

Question 5. Whith or Against an Interactive Whiteboard Technolog

All teachers claimed that they would prefer a classroom with an Interactive Whiteboard, except one. The one teacher who stated that he liked a classroom

whithout IWB responded that he preferred the traditional classroom where he used to have traditional borads that are easy to worke with .

Teachers who responded affirmatively indicated that they prefer classroom with Intearctive Whiteboard. They mentioned that the use of such technological tool in the teaching/learning process can add an element of surprise which may increase both teachers and students' motivation and interest. One teacher explained that several experiences about technology integration show that it has the potential to make the learning process, fun, interesting and also effective. Another teacher added that the use of a technological tool in classroom instruction and presentation can attract students' attention. A teacher of English language at the department of Electrical Engeneering and Electronic stated that the use of audios and songs, can develop students listening skills and correct pronunciation.

In general, most of the interviwees agreed that IWB's use particularly in the EFL classroom is more likely to create more effective and interesting learning environment.

Questions 6and 7. Challenges of Integrating IWB Technology in Classroom Instruction & Negatives of IWB Technology

In order to be more objective and to avoid bias effect, the two questions sought to extract teachers' negative attitudes about the use of the IWB and to its potential limitations and drawbacks. In terms of negative comments, teachers noted a diversity of things related to the above questions.

Teachers' responses regarding the last two questions indicated five challenges and obstacles that highlighted (1) lack of IWBs at schools; (2) deficiency of experience and skills in IWB integration; (3) shortage of time needed for preparation and use of IWB; (4) inadequate support and encouragement; and (5) lack of training programs.

The least significant challenges mentioned by teachers were lack of interest in integrating technology, and doubt about the advantages of IWB in the teaching/

learning process. This finding illustrated that teachers who have never used the IWB considered it as a potent tool in teaching and learning of English, and are interested in using it in other modules; but, they should be equipped with access to such technology. Schools should seriously make the needed planning to provide more advanced technology. Furthermore, teachers should be supplied with sufficient training to use particular tools.

During the interview, four teachers argued that time restraints were the most common obstruction they found when using technology in their classes. They agreed that intending to use IWB necessitated much more time and effort than doing traditional teaching. For example, a teacher claimed that the lack of time may hinder the use of technology in teaching .

The researcher experienced that designing lessons on IWB required much of time. Sometimes it took hours looking for a suitable video clip or trying to create a good presentation.

This conclusion leads us to another essential challenge that affected the integration of IWB, which is lack of knowledge, experience, and skills to use IWB effectively in the teaching process. Four teachers also mentioned the significance of providing them with training programs to help them integrate IWB or other technology effectively. It should be mentioned that the five interviewee teachers indicated that it was the first time they heard about IWB implementation in the faculty of technology.

3.3.4.2 Discussion of the Results

In sum, the interview revealed that:

- ❖ The interviewee teachers did not perceive lack of appreciation for IWB use, lack of interest, and doubt about the positives of IWB as the main issues to discourage them from integrating IWB in their classes.

- ❖ Teachers are amenable to use IWB if they have access to appropriate technological tools and resources, and if they are given sufficient time, preparation, and training that may improve the quality of learning and instruction.
- ❖ The interviewee teachers reported that in spite of the difficulty of devoting extra time to preparing technology based lessons, the upside is greater student interest, motivation, and focus, support for different learning styles and materials that are more effectively adjusted to students with varying abilities, planning a better lesson, presenting the learning material more easily, and an impression that teachers are more up-to-date.
- ❖ Instruction using technology in general is more professional and allows for better exposure to a wide variety of resources and assures more updated instruction.

3.5 Interpretation of the Main Results

In the beginning of this research, it was suggested as a first hypothesis that the use of the Interactive Whiteboard in classroom instruction and presentation will increase students' engagement in learning. After analysing data collected through the research instruments, the present research revealed that the implementation of this technological tool in English language classroom does really motivate and engage students in learning: a fact which confirms the first hypothesis put forward by the researcher.

In the second hypothesis, the researcher suggested that the use of the Interactive Whiteboard in EFL classroom will support students' interaction in EFL classroom. After the procedures of data collection and analysis, the findings in this research revealed that this hypothesis is true to a high extent:

- ❖ Technology students have widely enjoyed the use of the Interactive Whiteboard's technology in the English language classroom.

- ❖ The use of the Interactive Whiteboard's technology in classroom learning and instruction increases students' engagement and motivation. It is of paramount importance to mention that this psycho-pedagogical variable can greatly improve students' academic achievement.
- ❖ Students' interaction in the classroom was highly supported by the use of the IWB. Students interacted with each other and also with the digital board which attracted their attention and captivated their interest.
- ❖ The interviewee teachers are conscious of the crucial importance of the Interactive Whiteboard's use in the teaching/learning process, and evince a positive attitude vis-à-vis the integration of Interactive Whiteboard in the current pedagogy.
- ❖ The lack of experience and skills in the IWB integration, and shortage of training programs are the main issue preventing teachers from adopting IWB technology in their teaching practices.
- ❖ The integration of the IWB technology requires a thoughtful consideration from the part of decision makers. The implementation of technological tools will not yield positive outcomes without a good pedagogy of instruction.

3.6 Conclusion

The present study was developed as a reflection on the use of IWB's technology in the EFL classroom: whether the use of IWB increases students' engagement in learning and supports interaction in the classroom. Keeping these questions and suggested hypotheses in mind, the researcher attempts to compare between the results of the three research tools, and to determine exactly what are the outcomes of integrating IWB's technology in the EFL classroom.

In a nutshell, one can say that the implementation of the IWB's technology was just a little attempt to attract students' interest, motivation and engagement to learning. As it is mentioned above, this endeavour requires a thoughtful consideration of the main conditions and conceptions that could make of this attempt, a step towards the change to effective learning and instruction.

CHAPTER FOUR

CHANGE AND INNOVATION

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Change and Innovation

4.1 Introduction

Teachers can provide insightful experience of the use of IWB by scrutinizing and measuring its potential on their classroom instruction. Hence, this study attempts to spot some light on the use and impact of IWB as a device employed in the teaching and learning of the English language.

The integration of the IWB in today's educational settings and contexts entails some challenges. Just implementing a technological device does not inevitably attain the wanted results in term of improving teaching and learning outcomes. It is crucial to mention that there are issues related to teachers using IWB which must be tackled as a basic step for effective technology integration.

4.2 Integrating IWB Technology in the Current Pedagogy

The available research literature reports that the success or failure of pedagogical integration of IWB device relies mainly on the teachers' insights of technology, and their readiness to introduce it in their teaching (Johnson, 2007 ;Ishtaiwa, 2010). While they take more time to prepare lessons, teachers find the use of IWB quite easy and interesting. Ishtaiwa et al(2011:2) reports that:

Utilising IWB effectively requires an investment of time, appropriate technical and pedagogical training, independent exploration by teachers, feeling confident in using IWB, understanding the technical issues, reliable infrastructure and network connections, as well as a requirement for teachers to create a range of multimedia teaching materials and understanding that this process can be quite time consuming.

Basically, it is significant to consider that attempts to integrating technology effectively should take into consideration teachers' rank of experience. Therefore "teachers need to have the opportunity to [...] explore potential applications in the

context of their own teaching practice” (Cohen, 2000). However, this requires educators being competent and assertive with ICT tools and the related pedagogy. Hence, “teacher educators will need to be much more than expert users of *ICT*” they rather need to be ‘specialist educators who can make students secure in the range of pedagogical uses” (Lewin et al, 2008: 17).

Different studies highlight a positive connection between students’ successful learning and the quantity of experience their teachers had with Interactive Whiteboards, stressing the vital role teachers while using technology to help and promote their digital students’ learning outcomes (Somekhet al, 2007).

The value of Interactive Whiteboards lies in the fact that they are one of the first resources of information technology which are "owned" by the teacher who tries to share it with his students; making it at the heart of teaching. In fact, the integration of technology in education excites both teachers and students and seeks to improve both teaching and learning process. Following the words of Somekh et al (2007:4)

consistent finding across all data that the lengths of time [students] have been taught with an interactive whiteboard is the major factor that leads to attainment gains. This appears to be the result of the Interactive Whiteboard becoming embedded in teachers’ pedagogy: that is, when teachers have had sustained experience of using an Interactive Whiteboard, they are able to change their teaching practices to make best use of its facilities.

The findings of Somekh et al study(2007) offers a mostly positive attitude toward the integration of the Intearctive Whiteboard to improve the quality of the teaching and the learning process. On the other hand, it is evident that the technology as such can not make wonders and that the expected worth can only be acheived thanks to the proficiency of the teacher and students’ comfort with technology. A considerable body of literature brings into focusthe idea that today’s students are born in the digital age and that a thoughtful integration of technology in the field of

education can yield positive effects in terms of students' enthusiasm, motivation, and learning outcomes. The figure below illustrates the process of integrating technology in the current pedagogy and its effects on the teaching learning process.

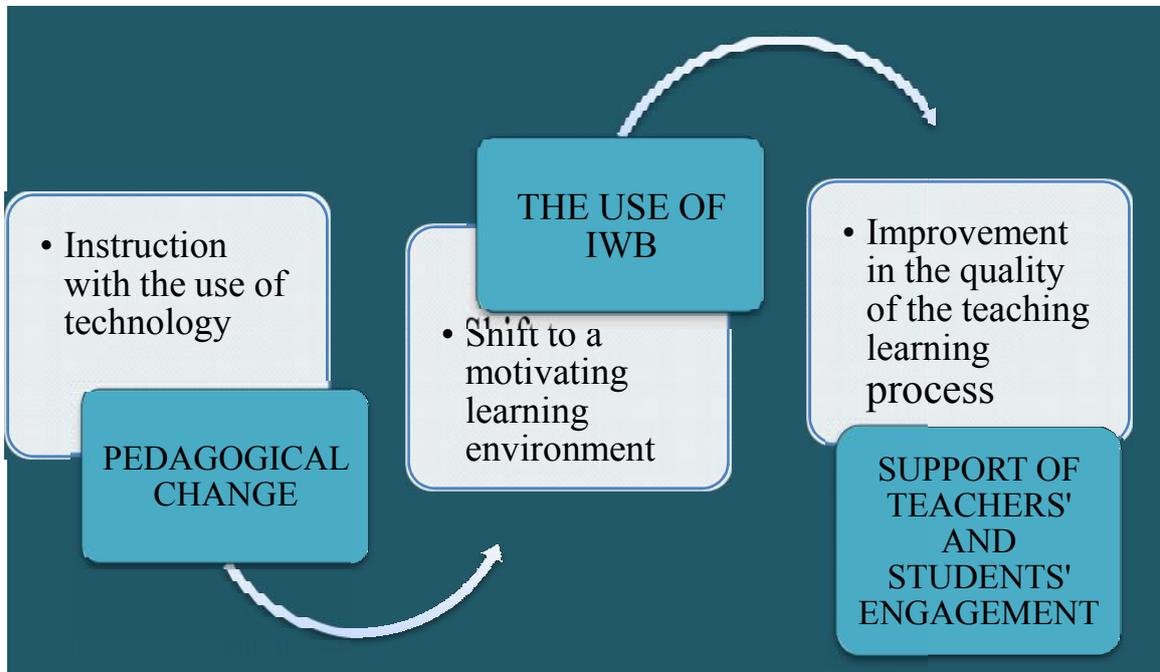


Figure 4.1 IWB's Effect on the Teaching Learning Process.

4.3 Interactive Whiteboard: A Digital Tool for Digital Natives

Owing to high-pace internet connections, and available computers, technology has changed today's generation. Language teaching professionals realise that today students reflect, act and react differently than those from former generations mainly because "these students (today's generation) were born into a world of information technology [also called the digital age]" (Ranjit, 2012:2). McKay research (2006) describes them as Net Gen, Generation Y or digital natives.

Prensky (2001:1) reports that "our students have changed radically. Today's students are no longer the people our educational system was designed to teach". Prensky affirms that the most pivotal characteristic of today's students is their comfort with technology which makes those digital natives qualitatively different

from the so called digital immigrants who were not born in a world with the Internet, video games and cell phones. Lee et al (2003) add that those learners seek out instant information and comprehension from digital tools and they are fluent in digital media as an effect of an upbringing technology. Thus, they can even act as mentors for their teachers when they tend to assimilate new technologies into their classrooms (Prensky, 2001). But, what should we know about technology?

4.3.1 Low Tech, High Tech and New Tech

The debate about technology in educational environments is usually muddled up by blurred definitions. The New Oxford American Dictionary identifies technology as “the application of scientific knowledge for practical purposes.” Ranjit (2012) argues that, technology has been employed in education many years ago. In 1999, Kent and McNergney studied the historical evolution of technology, “low technology” and “high technology”. They claim that “traditional classrooms” adopt low technology that is often conceived as flexible, and easily adapted to teacher transformations. Low technology involves the use of “textbooks, maps, overhead projectors, and the chalkboard” (Ranjit, 2012:30). On the other hand, “contemporary classrooms” adopt high technology. This later comprises the use of film, video, and microprocessor technology as the personal computer or Interactive Whiteboard. This technology is often considered as complex and difficult to be modified. There are two categories of high technology. All technology which does not use the personal computer is defined as traditional high technology. All technology which uses the computer (such as the Interactive Whiteboard) is classified as new high technology (Ibid).

To effectively engage their students in the learning process, teachers need to adapt technologies that foster students’ motivation, interest, interaction, and engagement in the light of their learning process (Prensky, 2001). In the same line of thought, Ramaley & Zia (2008: 815) claim:

Significant changes in teaching and learning are possible, particularly when interactive technologies are involved. These changes promise to better engage the Net Generation and the adult learner.

However, the only major problem “*is that our Digital Immigrant instructors, [those of the pre-digital age], are struggling to teach a population that [of the digital age]*” (Prensky, 2001: 2). A technology that can support in bridging this gap is the Interactive Whiteboard. However, it is essential for teachers to know how the Interactive Whiteboard can be implemented in classroom instructions and how it can promote the teaching/learning process; as it is summarised in the figures 4.2:

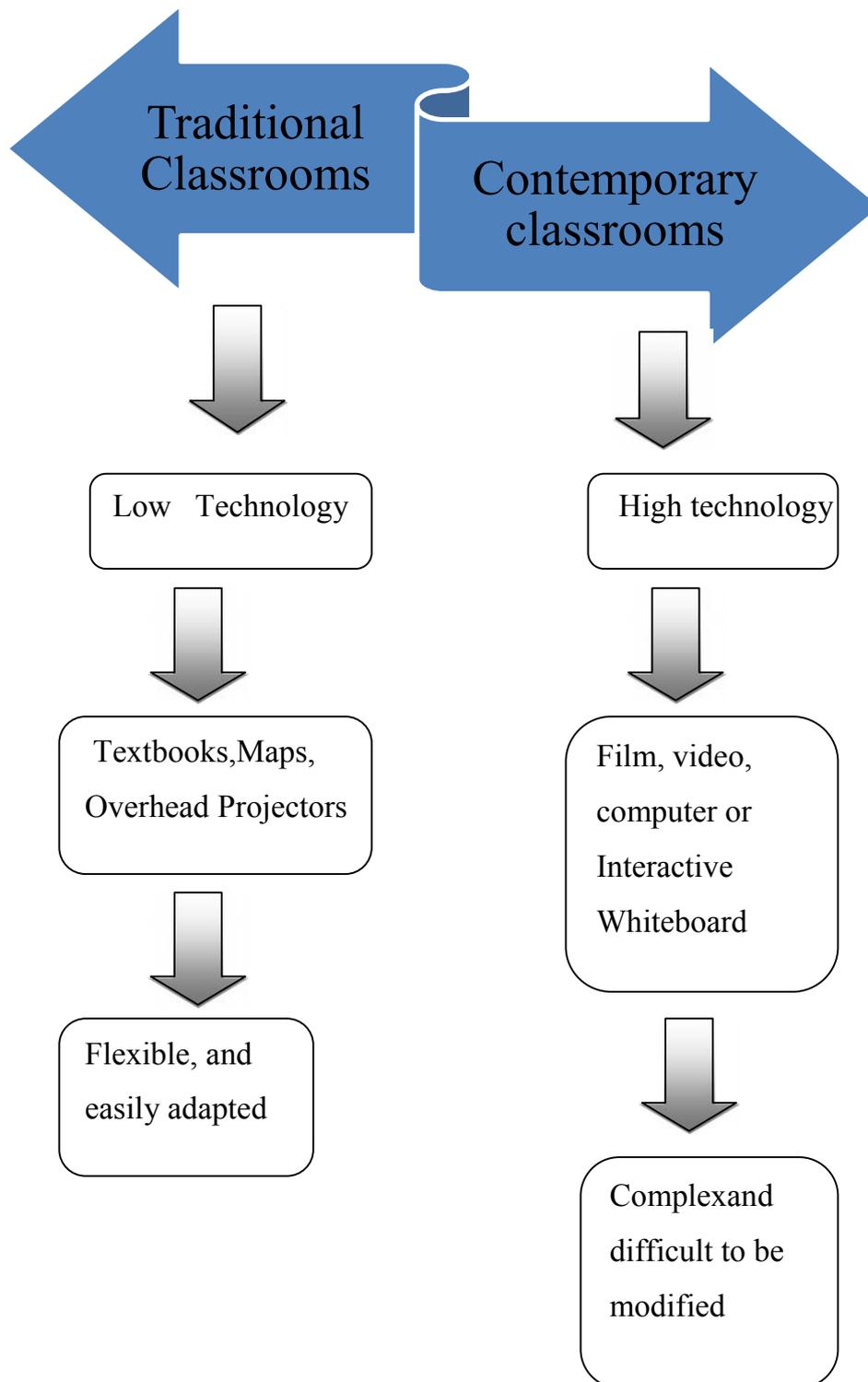


Figure 4.2 Types of Classrooms in the Today's Pedagogy.

4.3.2 High Technology: Interactive Whiteboard in Practice

IWBs are not only appropriate for presentation and interaction, but they can also supply access to all sorts of media and Internet. Having an Interactive Whiteboard in classrooms goes in line with major stimulations of digital natives, for whom technology is an integral parts of their lives. Prensky (2001) asserts that “stimulations of the real world engage and motivate Gen Y because they are visual and involve learning by doing”. Net Gen quenches its thirst for immediate replies and tendencies for stimulating, media-rich environments while using “the large, colourful displays touch control and sound capabilities that most boards provide” (Allen,2010:10). Students today, get access on the web and connect, share, and explore what they consider new and interesting. According to Brown (2002: 6)

Learning becomes situated in action; it becomes as much social as cognitive, it is concrete rather than abstract, and it becomes intertwined with judgment and exploration.

In the light of the affective pedagogical parameters and as a pulse of satisfaction and pleasure, the IWB enables digital learners to immediately find, construct, share, systematise and play with information in inventive and exciting styles (Betcher et al, 2009).

The use of IWB fosters students’ information and learning skills to collect, construct, process, and relate information (Ikan,2011) .In this perspective, it is crucial to question whether learning with IWB can bring about the development of students’ skills.

Somekh et al (2006) showed that varied features of learning with an IWB can affect the development of these skills. For example, the use of an IWB in an EFL context is argued to assist with developing autonomous learning, when increasing a “sense of self competence” when encouraging students to interact with the Interactive Whiteboard. Today’s generation seeks for opportunities to explore. and gets solutions

and answers by themselves instead of swallowing information from others. In this vein of thought, Windham (2005: 5-8) affirms:

Just as we want to learn about the Web by clicking our own path through cyberspace, we want to learn about our subjects through exploration. It's not enough to accept the professor's word. We want to be challenged to reach our own conclusions and find our own results. The need to explore is implicit in our desire to learn.

Further investigation by Teich (2009) found that skillful teachers construct knowledge jointly with students in an active context ;throughout the lesson as they generate ideas and engage in critical thinking although the development of communication skills. Learning via the IWB is a new methodology that permits teachers to introduce different perspectives from students' environment into the classroom, while developing authentic and more pertinent relations with their students (Somekh et al, 2006); as shown in the figure 4.3:

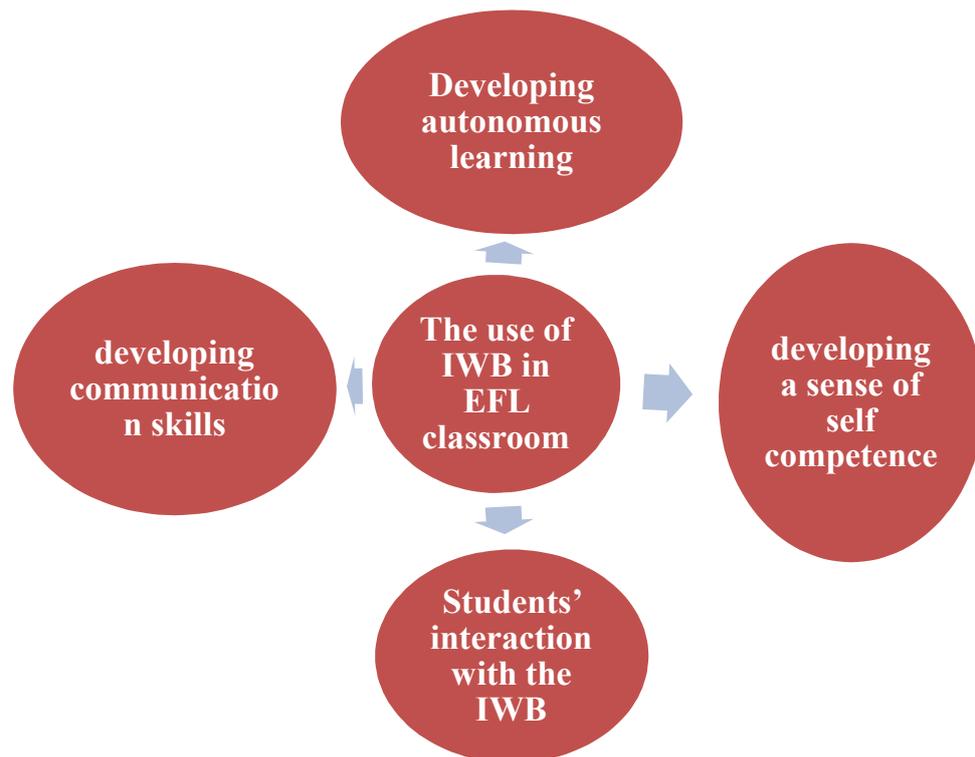


Figure 4.3 The Use of IWB in EFL Classroom

The Interactive Whiteboard is seen as an opportunity to support students' engagement and increase their motivation to learn. Teachers are anticipated to adopt this technology in their curriculum. Some teachers welcome this new technology, but others resist. In fact, this technology is merely a tool, which, if used accurately, can captivate teachers' and students' attention and engagement. When wrongly employed, this same technology can be boring and frustrating.

Purposefully, the present study attempts to provide general recommendations to this matter. These recommendations would probably support and contribute in making students and teachers implementing this educational technology and collaborate in creating effective teaching learning process.

4.4 Recommendations

The findings of the present study revealed that students' engagement increased when learning with the IWB and that their interaction and communication in English language enhanced when studying with the IWB; while the use of the IWB did not seem to improve students' learning outcomes. Furthermore, teachers reported that the incorporation of technology into instruction caused some difficulties and challenges, such as a sense of over-burdening amongst educators. Based on the findings of this research, some recommendations may be addressed in order to realise better IWB integration in English language teaching and learning:

- Educational institutions could provide teachers with the opportunity to adapt diverse technology projects, share information and cooperate with each other on new technology applications and uses.
- Integrating technology with pedagogy to assure that today's teachers are equipped with the adequate, reliable materials.
- For IWBs to have an important effect on the teaching and learning of foreign languages, teachers have to attain the *enhanced interactive* phase of instruction.
- Institutions and departments investing in IWBs must take the training needs of their staff into consideration, and provide sufficient resources to allow them to be trained.
- Educators will certainly attempt to create their own materials; nevertheless staff needs to work collaboratively so as to achieve the desired results.
- For constructiong materials educators should take into consideration the restraints of assignments and the aptitude to work efficiently and competently. They should strive to construct materials to improve interactivity, mainly using the IWB as a tool of enhancing discussion,

clarifying procedures, building or plans and after that testing these by various applications.

- Making resources obtainable to students out of class, by sending e-mails, is still in its early phase, but might be a suitable way onward.
- Encouraging the integration of IWB in educational settings necessitates accessibility to technology resources and constant support.
- Approaching the challenges that hamper IWB's integration will promote English language teaching and learning.
- It is imperative to train teachers to use the technology for new pedagogical purposes.
- It can be supportive to found a database of lessons and instructional materials that incorporate various technological elements so that to alleviate the burden on teachers in constructing interactive lessons.
- Integrating SMART classrooms (classrooms where IWB technology is implemented) into the school (at least 50% of the classrooms) may aid create continuity in the new methods of instruction and learning for most of the students.
- From a research perspective, it is essential to persist investigating different uses of smart classrooms in general, and IWBs in particular, in order to elucidate how teachers' usage of the boards improves and, how they reflect pedagogical development.

Training programs for teachers are required to support their IWB integration in their instructions. Approaching the challenges that hamper IWB's integration will promote successful training and therefore fruitful implementation of IWB technology.

4.5 Interactive Whiteboard : Training for Teachers

One of the main prevalent issues encountered in the light of IWB's adoption is the need for adequate training so as to explore IWBs to their complete potential. Teachers' lack of experience in setting up tools and in operating features on the interactive board, leading to instruction issues, was disquiet for both researchers and users of this technological device. A study by Glover & Miller (2001, p. 261) found that:

Initial training by companies and suppliers with their 'slick presentation and high-quality prepared materials were successful in 'firing' teachers with initial enthusiasm.

The continuing value of such training, however, is more questionable, as one teacher interviewed by Walker (2003b, p. 2) reported 'if you don't catch them at the start, provide support and show them how to use learning material, their enthusiasm quickly wanes.' Some researchers have emphasized that even when a teacher aims to explore IWBs as a "transformative pedagogic tool" (Burden 2002), lack of practical and systematic training can hinder and foil such aims (Greiffenhagen, 2000).

Although Interactive Whiteboards are valued as the technology that will take teaching to the next stage, the quality of the lessons is simply as good as the standards applied in teaching. While it seems hard to retrain teachers and prop up assistants to be updated with the new technology, it can be very easy in reality. This can be simply done whether the staff attend given courses or download the training materials online to assure they have full knowledge on the implementations of the Interactive Whiteboards. This enables teachers and students to have access to the latest and high quality of learning materials. The IWB technology attempts to modernise the classroom improving the students' performance while making it easier and more incentive for the teacher. Levy (2002) noticed that teachers who were already confident ICT users seem inclined to become excited 'early adopters', able to try out and develop their own IWB use relying on initial training. To reach

this instructional phase most competently, main concern should be given to enhancing efficient training. There are significant benefits in training a group of educators in the same department all together. Instructing number of teachers working collaboratively in one department, with the same make of IWB, is more likely to make major improvement than a number of teachers exploring different IWBs in different departments. Training programs for teachers are also required to support their IWB integration in their instructions.

The most essential thing for the teacher is to learn the main basics of the technology and the related tools. This can be achieved exploring two approaches. The first approach involves downloading training resources. There is a broad range of resources available for new users of this technology. After acquiring this knowledge, the teacher can pass it on to the students who will find it useful for the rest of their education career. This approach comprises individual tracking which will assist teachers and students learn at their own steps (Ikan et al, 2011).

Teachers with less self-assurance and experience with ICT, however, are less able to be confident, favouring instead more maintained and personal guidance on a 'need-to-know' basis (Granger et al, 2002), or as part of more structured ongoing support and investigations (Glover & Miller 2001).

Support is also needed when technical issues arise instantly prior to and during lessons. There might be networking problems with slow log-on facility, or a slow or non-existent response from electronic pens, not responsive or difficult to move images, and bad quality of signal between the slates and the electronic board (Levy, 2002).

4. 5.1 Impetus for Interactive Teaching

The findings of different studies reveal that some educators primarily use the new tools but still explore them in a traditional mode of employment. These findings show that instruction using the IWB stimulates a full-class interaction. Thus, for example, Hall and Higgins (2005) found that the employ of the IWB basically involved whole-class games and Internet research. Morgan (2008) reported that use of the IWB is rather sophisticated. For example; it includes doing some manipulation on objects on the Interactive Whiteboard only in response to students' appeal.

Besides, it seems that teachers are at the phase of acquiring technical skills of the IWB and exploiting its features so as to improve current pedagogy. It is evident also; from students' questionnaire used in this study that in the lessons learned via the IWB, students are more attentive and interested in the learning process than in a traditional lesson. Furthermore, researchers and innovation leaders point out that some teachers are on their way to the second phase and are trying to improve and intensify their pedagogical training. It is crucial to note that several studies argue that innovative instructional methods that support greater interaction between students and teachers can only come to accomplishment if teachers will get in-service training and support. Accordingly, teachers are anticipated to go through change and pedagogical development that investigate the concealed potential of the IWB to enrich learning and instruction process, as it is illustrated in the figure 4.4:

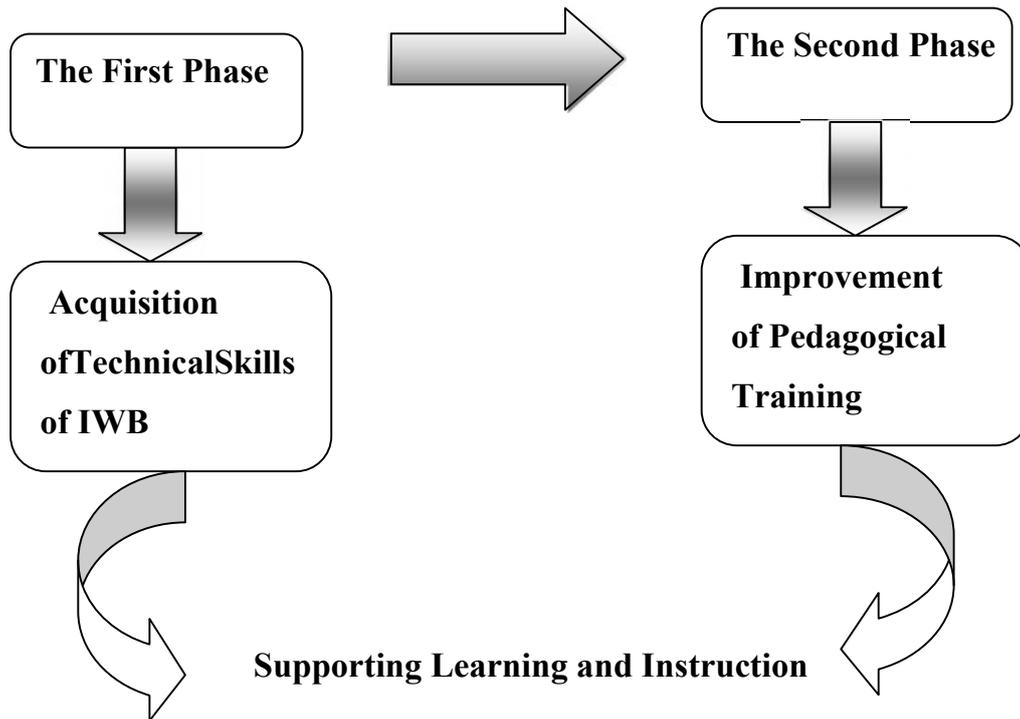


Figure 4.4 Phases of Technology Integration in Education.

4.5.2 Professional Development

The effect of supplying further training for teachers was investigated in depth by several researchers. They found that constant professional development by a designated tutor, instead of broad pedagogical and technological instruction, led to a swift progression from didactic to interactive teaching methods. Jewitt, et al (2007) recognised pedagogical tutoring, rather than only technical instruction for teachers, as being the key to IWBs, acting as managers for change in celerity and interactivity in the classroom, and Jones and Vincent (2006) came up with comparable findings in their study of the use of IWBs in a secondary school.

This supports Glover and Miller's previous conclusions of 2001 that coaching, individual development and reflective activities are crucial to improving

teacher practice of IWBs and the actual classroom experience (see also Schmid,2007). Somekh et al (2009) studied the process applied to promote the implementation of IWBs in many primary schools in UK found that teachers' professional development was so flourishing and develop effective communities of practice evolving within schools.

Beauchamp(2004), in a study investigating the factors leading to successful usage of IWBs by students, teachers concluded that access, support for, and modeling of, ICT use in the classroom were major points confirming that ICT could positively affect the teaching and learning process.

4.5.3 Adequate Preparation

Additional sharing of resources was also identified along with a new preparedness among the teaching staff to help with technical issues, offer ideas for board usage, and generally provide more “tips” and training.

In terms of training activity, the IWB allows teachers to explore more thoroughly “new” resources (those appropriate for use with the new technology). Moreover, this seeks to integrate a greater aspect of excitement and enthusiasm for classroom instruction. Teachers generally identify that the IWB require more preparation time for lessons but the time required will progressively narrow over time (Bacon,2011).

4.5.4IWB in EFL Context

Many classrooms in the faculty of technology at Tlemcen University are one-computer-classrooms while others do not have a computer for classroom use. That is, the teacher uses the computer for classroom organisation activities and the effective incorporation of technology into the curriculum. The main learning needs are:

- Technologies that permit large groups of students to share the use of computers in their learning.
- Technologies to support whole class learning, visual presentations and interaction between students.
- Technologies that enable teachers to demonstrate information visually, strengthen their retention of vocabulary and abstract concepts, and provide students with a diversity of media.
- Technologies to access and illustrate websites, activate educational software, record live video from a camera, save, emphasize and review notes from a classroom discussion, and make PowerPoint presentations.
- Technologies to enhance teacher instruction and student learning across all grade levels.
- Technologies to alter the way students interact collaborate and learn in classrooms.
- Technologies that improve teachers' instructional methodologies.
- Several researches have revealed that the IWB helps teachers to utilise their classroom computer in innovative ways that meet the needs mentioned above.

The present study brings into focus the practical use of IWB technology in EFL classroom and investigates its effect upon students' engagement in learning. Throughout the previous chapter, the results revealed that the use of the Interactive Whiteboard's technology in classroom learning and instruction increases students' engagement and motivation in learning. On the other hand, the use of the IWB enhanced students' interaction with each other and also with the digital board. Since the integration of IWB technology in EFL context is still in the initial phase, the present research attempts to highlight its practical use in today's' education. To reach this end, in the following point, the researcher presents some lectures that could be thought via the use of IWB. The researcher in fact, endeavours to show to

what extent the use of IWB can be an engaging and attention grabbing factor in EFL classroom.

4.6 Theoretical Framework of the Study: What Should Lectures With IWB Offer Students?

Teachers frequently concerned about things like presentation skills, dealing with new technologies and bearing up difficult behaviour. With diligent planning of the lecture; these things need not be a reason for worry, and discerning precisely what you are going to be doing in the lecture is likely to reduce any concern you might be feeling.

In the present study, the Interactive Whiteboard technology is used in lectures to improve students' engagement and enhance their learning. A thorough design of a lecture presented with IWB technology can inspire students to want to learn about a subject - even seemingly dry subjects can become thrilling. Actually, in the investigation before hand, the researcher attempts to integrate IWB technology in EFL context to increase students' engagement to learning. Students can be even more motivated if they perceive the subject as something that applies to their learning needs and lived experience. Thus, they can truly get involved with themselves, hence activities that engage students with topical matters, or real life questions will make a subject more pertinent and appealing. In the current study, the researcher suggests some lectures which would hopefully meet EFL students' needs and interest.

As advocated above, employing a set of activities to inspire students' engagement with the lecture will aid to retain a high level of attention and enhance understanding of the device. One mean to captivate attention is with the employ of images or video clips rather than too overloaded text on slides. Accordingly, the researcher ,in this investigation, seeks to propose two ready planned lectures, downloaded from promethean planet. This software offers a variety of lectures that could be beneficial to attract students' attention and support their comprehension.

In the present study, the researcher has first installed Activinspire software on the computer connected to the IWB material. This later allows for the presentation of lectures. Then, she calibrates the Interactive Whiteboard to activate it. After that a display of the lecture starts, just by a touch of finger or pen.

In the light of this research, it could be interestingly important to present the structure of two selected lectures that could be thought via the use of IWB technology in EFL context. The lectures were downloaded from promethean planet website.

4.7 Practical Framework: Proposal of Lectures' Structure

Structure is vital for a clear and effective lecture. In fact, the lecture will initiate with a quick review of the preceding session and an outline or range of learning outcomes, pursued by the body of the lecture and a conclusion summarising the main points.

4.8 Conclusion

The current chapter tries to provide some recommendations on how to integrate IWB technology in EFL classroom. Indeed, the chapter emphasises the significance of preparing teachers as well as students for IWB's implementation through training programs. On the other hand, teachers should be aware of the importance of educational technology and its effects on their teaching practices. Moreover, education institutions could support the implementation of such technologies of education to provide teachers with necessary training, understanding, and strategies for integrating IWB technology in their classroom. What is unclear, however, as to whether such excitement is being interpreted into effective and determined practice. IWBs are expensive, and researchers indicate the technology is not standing still. Therefore, it could be argued that such technology should be employed in distinctive and inventive manners above and beyond that, which is used in instructions with ordinary whiteboards or other projection techniques. It could be avowed that the distinctiveness and the 'boon' of IWB technology allows for a junction between technical and pedagogic interactivity. Hence, IWB technology support interaction holds for collective sense including both verbal interaction with each other, and physical interaction with the Interactive Whiteboard.

In order for us to apprehend the best method for practitioners to employ IWB technology in the future as instructional devices, research is required so as to gather experimental evidence making the processes of teaching and learning with this innovative technology, more fully understood and more coherently conceived. An appealing starting point for this research would be to investigate the intersection between technical and pedagogic interactivity in current situations.

GENERAL CONCLUSION

Realising that technology itself will not change pedagogy, the technique through which it is integrated into instruction, will definitely be a critical factor in its infusion process. The present study aimed to find out how an IWB is integrated into a particular teaching practice. Besides, the study intended to scrutinize students' perceptions of the use of such technology in English language class during some practicum sections.

The objective of this work was to analyse the pedagogical use of the Interactive Whiteboard and its effects upon students' engagement to the learning process, and determine its role in an EFL classroom. In this study, students had exclusively experienced the use of the Interactive Whiteboard in the process of English language learning. What kept the researchers' attention is the effect of IWB's use on students' engagement and motivation to learn in an excited and interesting environment.

In chapter one, the researcher started reporting findings in the area of adopting IWB. First, she considered the actual implementation of the IWB in several contexts, and then she dealt with the theoretical background related to use of the IWB in the EFL context. The design of this research was mentioned in the first part of the second chapter. Before collecting data, thorough consideration was given to the research method adopted in this investigation. Bearing in mind the nature and the requirements of the present study, the researcher opted for an action research approach. The latter allows the researcher to reflect, diagnose, and work on his research problematic so that to propose a change to the observed acts. The researcher sets up a detailed description of the research sampling, instrumentation and procedure used in the study. In the second part, the researcher investigated the use of the IWB in the faculty of technology (at the Centre de Télé- Enseignement). The aim of this action research was to investigate the practical use of the IWB in authentic setting and to analyse students' perceptions and attitudes towards the integration of such device. In deed, this chapter seeks also to determine teachers' views and insights regarding the use of technology in their teaching practice. Chapter three dealt with the analysis of the data collected from the classroom observation, students' questionnaire and teachers' interview. Finally on

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the basis of the results scored, the researcher proposed in chapter four a contribution to educational change through the integration of IWB technology in the current pedagogy. Some notions such as interactive teaching, professional development, accurate preparation, and training and support are also suggested. Chapter four aimed to draw particular attention to the significance of educational change, providing the readers with some guidance about sufficient training and adequate preparation and to set up a thoughtful adoption of IWB technology in the Algerian education and pedagogy.

The multiple perspectives supplied by the research instruments allowed the researcher to gather a variety of data. The methodological triangulation seeks to promote the reliability and the validity of the data collected through the research instruments. The three instruments used in combination gathered a larger quantity of data, obtained insightful findings and helped the researcher to verify his research hypotheses and to cross-check resulting data.

The results emerging from this study provided positive insights into the informants' perceptions regarding the use of the Interactive Whiteboard in the English language class. The qualitative and quantitative data showed that the majority of informants are in favour of adopting IWB technology in the current pedagogy mainly because it adds the missed element of innovation, motivation, and interest to both instruction and learning. The findings also revealed that the use of the IWB makes the learning environment more interesting, engaging and motivating. It should be noted that these results confirm the first research hypothesis which predicts that the use of the Interactive Whiteboard increases students' engagement to the learning process. As far as the second research hypothesis is concerned, it was found that the use of the Interactive Whiteboard in the EFL classroom supports students' interaction in EFL classroom. The students under investigation assumed that without the use of IWB, they used to feel disengaged to attend lectures of English language which seemed to be difficult, boring and unfruitful; though it is essential for their field of study.

GENERAL CONCLUSION

Concerning the interaction, students revealed that the use of the IWB supports students' interaction with each other and also with the Interactive whiteboard.

On the other hand, the interviewee teachers report that the adoption of IWB technology can be auspicious, yet it requires much time, efforts, technical support and adequate training. This piece of research is a context bound as it investigated the practical use of the Interactive Whiteboard by one teacher in one particular teaching context. It does not intend to generalize the findings of the obtained results, it seeks rather to focus on the effect of IWB's use on students' engagement to learning, and to determine students and teachers perceptions towards the integration of such technology in today' pedagogy.

The technology of the IWB in EFL classroom, which is being explored in Tlemcen University, flourishes the hope for significant pedagogical change in traditional classroom learning. Teachers, students, and educational institutions all over the world laud the capacity of the technology to provide effective impetus for the estimated changes. In addition, it is evidenced that effective teacher training will allow for pedagogical change and development. Teachers can indeed utilize the IWB to work jointly with their students on developing their thinking skills and capacities that will allow them to address the challenges of the 21st century.

Three major conclusions may be drawn from our findings. Firstly, the IWB though is exclusively used in Tlemcen University within the context of teaching/ learning English language for technology students; does not emerge to change only the techniques used in classroom instruction but also to thoroughly conceptualize the conception of interactive teaching which seeks to foster students' interaction and motivation when being actively engaged in the learning process. Secondly, as indicated by students who had the opportunity to learn with the new device, IWB can enhance the learning of English language in terms of exploring resources, supporting presentations, facilitating explanations, improving instructions and activities, and achieving students' interaction and motivation; and learning

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outcomes. Thirdly, students reveal positive perceptions of the impact of IWB on their learning process; however, their perceptions focused on making use of IWB as only a visual support for learning which does not lead to the creative language pedagogy. However, there are some issues that should be addressed for more IWB incorporation such as time, technological infrastructure and materials, training, and technical support.

A significant result stemming from these findings is that professional attempt to develop the use of this technology should reflect the variety of its use. Appropriate standardized workshops are not supposed to be as important as peer interchange of ideas and approaches which endorses reflective learning rather than focusing only on providing in time support to supply quick resolution of technical issues. Evidently, despite of the training or professional learning opportunities offered, it is suggested that IWBs will be a technology that is willingly adopted by the majority of teachers and one that, in stead of being locked away in a dusty stockroom when the waves of dread and resistance wear off, will expand and flourish in successive and permanent developments in teaching practice.

To conclude, one might argue that this study is a little attempt to underline the integration of IWB technology in EFL classroom. Yet, further research is needed to explore other issues, such as the impact of IWB integration on other languages proficiency, teachers' attitudes towards IWB, types of training programs teachers require, in addition to the ways educational institutions accessible for teachers to relate technology and pedagogy.

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Appendix A
Classroom Observation

Classroom Observation Worksheet

Classroom Observation: Session 1

October, 23rd, 2012

Variables		Evaluation			Comments
		Low	Moderate	High	
Students' Attendance	With IWB		×		Not all students attend the class.
	Without IWB		×		Some students attend the class.
Students' Motivation	with IWB	×			Student motivation to learn is poor and their behaviour is often inappropriate.
	Without IWB	×			
Students' Interaction	With IWB				Some students interact in the class.
	Without IWB				Not all students interact the class.
Students' Participation	With IWB		×		The level of participation is quite good.
	Without IWB	×			The level of participation is low.
Students' Retention	With IWB		×		Students' retention of vocabulary is not that much good
	Without IWB	×			Students' retention of vocabulary is weak.

Classroom Observation: Session 2

October,30th,2012

Variables		Evaluation			Comments
		Low	Moderate	High	
Students' Attendance	With IWB			×	Most students attend the class.
	Without IWB		×		Some students attend the class.
Students' Motivation	with IWB		×		Students' motivation to learn is satisfactory.
	Without IWB	×			Students' motivation to learn is poor.
Students' Interaction	With IWB			×	Most students interact in the class.
	Without IWB			×	
Students' Participation	With IWB		×		The level of participation is satisfactory.
	Without IWB	×			The level of participation is low.
Students' Retention	With IWB		×		Students' retention is satisfactory.
	Without IWB	×			Students' retention is weak.

Classroom Observation: Session 3

November,06th,2012

Variables		Evaluation			Comments
		Low	Moderate	High	
Students' Attendance	With IWB			×	All students attend the class.
	Without IWB		×		Some students attend the class.
Students' Motivation	with IWB			×	Students' motivation to learn is high
	Without IWB		×		Students' motivation to learn is somewhat moderate.
Students' Interaction	With IWB			×	Most students interact in the class.
	Without IWB		×		
Students' Participation	With IWB		×		The level of participation is quite good.
	Without IWB		×		
Students' Retention	With IWB		×		Students' retention of vocabulary is satisfactory.
	Without IWB	×			students' retention of vocabulary is weak.

Classroom Observation: Session 4

November, 13th, 2012

Variables		Evaluation			Comments
		Low	Moderate	High	
Students' Attendance	With IWB			×	All students attend the Class.
	Without IWB		×		Not all students attend the class.
Students' Motivation	with IWB		×		Students' motivation to learn is good.
	Without IWB		×		
Students' Interaction	With IWB		×		Most students interact in the class.
	Without IWB	×			Not all students interact the class
Students' Participation	With IWB		×		The level of participation is good.
	Without IWB	×			The level of participation Is low
Students' Retention	With IWB		×		Students' retention of vocabulary is good.
	Without IWB	×			Students' retention of vocabulary is weak.

Classroom Observation: Session 5

November, 20th, 2012

Variables		Evaluation			Comments
		Low	Moderate	High	
Students' Attendance	With IWB			×	Most students attend the Class.
	Without IWB		×		Some students attend the Class.
Students' Motivation	with IWB			×	Students' motivation to learn is good and behave well.
	Without IWB		×		Students' motivation to Learn is moderate
Students' Interaction	With IWB			×	Most students interact in the class.
	Without IWB			×	
Students' Participation	With IWB		×		Students' participation is good.
	Without IWB		×		
Students' Retention	With IWB		×		Students' retention of vocabulary is satisfactory.
	Without IWB	×			Students' retention of vocabulary is weak.

Classroom Observation: Session 6

November, 27th, 2012

Variables		Evaluation			Comments
		Low	Moderate	High	
Students' Attendance	With IWB			×	All students attend the Class.
	Without IWB		×		Most students attend the class.
Students' Motivation	with IWB			×	Students' motivation to learn is good and behave well.
	Without IWB			×	
Students' Interaction	With IWB			×	Most students interact in the class.
	Without IWB			×	
Students' Participation	With IWB		×		Students' participation is satisfactory.
	Without IWB	×			The level of Students' participation Is low
Students' Retention	With IWB			×	Students' retention of vocabulary is good.
	Without IWB		×		Students' retention of vocabulary is satisfactory.

Classroom Observation: Session 7

December,04th,2012

Variables		Evaluation			Comments
		Low	Moderate	High	
Students' Attendance	With IWB			×	Most students attend the class.
	Without IWB		×		Not all students attend the class.
Students' Motivation	with IWB			×	Students' motivation to learn is very good.
	Without IWB		×		Students' motivation to learn is moderate.
Students' Interaction	With IWB			×	Most students interact in the class.
	Without IWB			×	
Students' Participation	With IWB		×		Students' participation is good.
	Without IWB		×		
Students' Retention	With IWB		×		Students' retention of vocabulary is good.
	Without IWB	×			Students' retention of vocabulary is weak.

Classroom Observation: Session 8

December, 11th, 2012

Variables		Evaluation			Comments
		Low	Moderate	High	
Students' Attendance	With IWB			×	Most students attend the class.
	Without IWB		×		Not all students attend the class.
Students' Motivation	with IWB			×	Students' motivation to learn is good and behave well.
	Without IWB			×	
Students' Interaction	With IWB			×	Most students interact in the class.
	Without IWB			×	
Students' Participation	With IWB		×		Students' participation is good.
	Without IWB		×		
Students' Retention	With IWB			×	Students' retention of vocabulary is very good.
	Without IWB		×		Students' retention of vocabulary is satisfactory.

Classroom Observation: Session 9

January, 09th, 2013

Variables		Evaluation			Comments
		Low	Moderate	High	
Students' Attendance	With IWB			×	Most students attend the class.
	Without IWB		×		Not all students attend the class.
Students' Motivation	with IWB			×	Students' motivation to learn is outstanding.
	Without IWB		×		Students' motivation to learn is moderate.
Students' Interaction	With IWB			×	Most students interact in the class.
	Without IWB		×		
Students' Participation	With IWB			×	Students' participation is outstanding and students are motivated to contribute in the lesson.
	Without IWB		×		Students' participation is low.
Students' Retention	With IWB			×	Students' retention of vocabulary is excellent
	Without IWB		×		Students' retention of vocabulary is satisfactory.

xClassroom Observation: Session 10

January ,16th ,2013

Variables		Evaluation			Comments
		Low	Moderate	High	
Students' Attendance	With IWB			×	All students attend the class.
	Without IWB		×		Some students attend the class.
Students' Motivation	with IWB			×	Students' motivation outstanding and their behaviour is excellent.
	Without IWB		×		Students' motivation moderate.
Students' Interaction	With IWB			×	Most students interact in the class.
	Without IWB		×		
Students' Participation	With IWB			×	Students' participation is outstanding and students are motivated to contribute in the lesson.
	Without IWB		×		Students' participation is moderate.
Students' Retention	With IWB			×	Students' retention of vocabulary is excellent
	Without IWB		×		Students' retention of vocabulary is satisfactory.

Appendix B
Students' Questionnaire

Dear informants,

I am presently conducting an investigation in order to analyse the effect of the Interactive Whiteboard's use on student engagement to learning. I would be very grateful if you could answer the following questions.

Please, think about the twenty one statements below and place a tick in the column 1-5.

Please indicate with the scale 1-5 whether you

- 1 Strongly disagree
2. Somewhat disagree
3. Feel neutral or don't know
4. Agree
5. Strongly agree

Rubric 1. The Relationship between IWB Use and Students' Engagement to Learning

Statement 1- "I enjoy learning when the teacher uses an Interactive Whiteboard".

' Strongly disagree

'Somewhat disagree

'Feel neutral or don't know

'Agree

'Strongly agree

Statement 2-"I have fun when the Interactive Whiteboard is used in the English language class".

' Strongly disagree

'Somewhat disagree

'Feel neutral or don't know

'Agree

'Strongly agree

Statement 3- "I concentrate better in class when an Interactive Whiteboard is used to deliver instruction".

' Strongly disagree

'Somewhat disagree

'Feel neutral or don't know

'Agree

'Strongly agree

Statement 4- "I believe that it is important for me to learn how to use an Interactive Whiteboard".

' Strongly disagree

'Somewhat disagree

'Feel neutral or don't know

'Agree

'Strongly agree

Rubric 2. Contribution to Students' Engagement in the Lesson

Statement 5- "The Interactive Whiteboard stimulates my motivation."

' Strongly disagree

'Somewhat disagree

'Feel neutral or don't know

'Agree

'Strongly agree

Statement 6- "The Interactive Whiteboard increases my engagement, and interest in English language learning."

' Strongly disagree

'Somewhat disagree

'Feel neutral or don't know

'Agree

'Strongly agree

Statement 7- "Interactive Whiteboard encourages more active participation"

' Strongly disagree

'Somewhat disagree

'Feel neutral or don't know

'Agree

'Strongly agree

Statement 8- "Interactive Whiteboard helps me interact with peers and teachers."

' Strongly disagree

'Somewhat disagree

'Feel neutral or don't know

'Agree

'Strongly agree

Statement 9- "The multimedia and multi modal feature of Interactive Whiteboard help me to retain more information."

' Strongly disagree

'Somewhat disagree

'Feel neutral or don't know

'Agree

'Strongly agree

Rubric 3. Developing Language Skills

Statement 10- "Interactive Whiteboard helps explore my visual skills."

' Strongly disagree

'Somewhat disagree

'Feel neutral or don't know

'Agree

'Strongly agree

Statement 11- "Interactive Whiteboard helps explore my tactile skills ."

' Strongly disagree

'Somewhat disagree

'Feel neutral or don't know

'Agree

'Strongly agree

Statement 12- “The multimedia provided with the interactive whiteboard improves my listening”.

‘ Strongly disagree

‘Somewhat disagree

‘Feel neutral or don’t know

‘Agree

‘Strongly agree

Statement 13- “Use of videos and audios helps me develop good accent”.

‘ Strongly disagree

‘Somewhat disagree

‘Feel neutral or don’t know

‘Agree

‘Strongly agree

Statement 14-“Interactive Whiteboard helps me communicate and in English language more fluently”.

‘ Strongly disagree

‘Somewhat disagree

‘Feel neutral or don’t know

‘Agree

‘Strongly agree

Rubric 4. Impact on Learning and Instruction

Statement 15- “Interactive Whiteboard can be effective for learning English language”.

‘ Strongly disagree

‘Somewhat disagree

‘Feel neutral or don’t know

‘Agree

‘Strongly agree

Statement 16-“Interactive Whiteboard makes content and learning more interesting and exciting”.

‘Strongly disagree

‘Somewhat disagree

‘Feel neutral or don’t know

‘Agree

‘Strongly agree

Statement 17“Interactive Whiteboard allows the presentation of a wider variety of information.”

‘ Strongly disagree

‘Somewhat disagree

‘Feel neutral or don’t know

‘Agree

‘Strongly agree

Statement 18-“Use of interactive whiteboard makes my results better”

‘Strongly disagree

‘Somewhat disagree

‘Feel neutral or don’t know

‘Agree

‘Strongly agree

Statement 19-“My engagement in the learning process facilitates my learning success”.

‘Strongly disagree

‘Somewhat disagree

‘Feel neutral or don’t know

‘Agree

‘Strongly agree

5. Possible Limitations And Negative Perceptions

Statement 20- “I would prefer ‘traditional’ learning with textbooks and ordinary whiteboard.”

'Strongly disagree

'Somewhat disagree

'Feel neutral or don't know

'Agree

'Strongly agree

Statement 21- "Interactive Whiteboard can be boring sometimes."

' Strongly disagree

' Somewhat disagree

'Feel neutral or don't know

'Agree

'Strongly agree

Statement 22- "Using an Interactive Whiteboard makes me nervous".

' Strongly disagree

'Somewhat disagree

'Feel neutral or don't know

'Agree

'Strongly agree

Thank you very much for doing the survey questionnaire!

Appendix C
Teacher's Semi-Structured Interview

Dear Teacher,

I am currently conducting an investigation to try to analyse the pedagogical effect of the Interactive Whiteboard technology which is actually explored in the Faculty of Technology at Tlemcen University. I would be very grateful if you could answer the following questions.

Rubric 1. Exploration of Teachers' Experiences

Q1. Do you use technological tools in your classroom instruction?

Q2. Have you ever heard about the Interactive Whiteboard?

Rubric 2. Diversity in Teachers' Views

Q3. Do you believe you are able to teach better when an IWB is used in the classroom?

Q4. What can IWB technology add to a traditional classroom instruction?

Q5. What do you prefer a classroom with or without an Interactive Whiteboard technology?

Rubric 3. Spotlight on Teachers' Personal Perceptions

Q6. What are the challenges of integrating IWB technology in your classroom instruction?

Q7. What do you like least about the pedagogical integration of technology?

Thank you very much for your cooperation

Question d'Interview

1. Est ce que vous utilisez la technologie dans vos cours?
2. Est ce que vous aviez déjà entendu parler du Tableau Interactif ?
3. Que peut il ajouter un Tableau Interactif à une classe traditionnelle ?
4. Qu'elle est votre réaction si on implique un Tableau Interactif dans votre calsse ?
5. Qu'est ce que vous préférez, une classe avec ou sans Tableau Interactif ?
6. Quels sont les avantages et les inconvénients de l'utilisation du Tableau Interactif ?
7. Dans le cas que vous n'avez pas apprécié la technologie du Tableau Interactif , qu'est ce que vous pouvez suggerer comme remède ?

Merci pour votre collaboration

المخلص

أثار دمج التكنولوجيا بمجال التعليم اهتماما وحماسا كبيرا بشأن اعتمادها وتأثيراتها في عملية التعلم ، لذا سعت هذه الدراسة إلى الاستقصاء في تكنولوجيا السبورة البيضاء التفاعلية في قسم اللغة الإنجليزية كلغة أجنبية مسلطا الضوء على ملاحظات الطلبة الذين اختبروه أثناء تعلمهم، كما يسعى هذا البحث إلى الإجابة على الأسئلة التالية : أولا، هل استعمال تقنية السبورة البيضاء التفاعلية يزيد من رغبة الطلبة في عملية التعلم؟ ثانيا، كيف يمكن لهذه التقنية دعم أقسام اللغة الإنجليزية كلغة أجنبية ؟ يكمن الهدف من وراء هذا البحث في تحديد ما إذا كان لاستعمال تقنية السبورة البيضاء التفاعلية أثر في رغبة الطلبة في التعلم. أفضت النتائج إلى أن استعمال السبورة البيضاء التفاعلية زاد من رغبة الطلبة في التعليم كما عزز تفاعلهم و تواصلهم باللغة الإنجليزية.

الكلمات المفتاحية: اللوحة البيضاء التفاعلية، قسم الإنجليزية كلغة أجنبية و رغبة الطلبة.

Résumé

L'intégration de la technologie dans le domaine de l'éducation suscite beaucoup d'attention et d'enthousiasme concernant son adoption ainsi que son effet sur le processus d'enseignement et d'apprentissage. L'objet de la présente étude était d'étudier l'utilisation de la technologie du Tableau Blanc Interactif (TBI) en classe d'Anglais comme Langue Etrangère (ALE) mettant en exergue les perceptions des étudiants qui ont expérimenté son utilisation dans leur apprentissage. Cette recherche vise à répondre aux questions suivantes: L'utilisation du tableau interactif peut-elle augmenter le désir des étudiants à l'apprentissage? Deuxièmement, comment l'utilisation du Tableau Blanc Interactif peut soutenir la classe ALE (L'Anglais comme une Langue Etrangère)? Le but de la recherche était de déterminer si l'utilisation du Tableau Blanc Interactif a accentué le désir des étudiants dans l'apprentissage. Les résultats ont révélé que l'utilisation du TBI a augmenté le désir des élèves vis à vis l'apprentissage et renforcé leur interaction ainsi que leur communication dans la langue Anglaise.

Mots-clés: Tableau Blanc Interactif (TBI), EFL classe (L'Anglais comme une Langue Etrangère), le désir des étudiants.

Abstract

The integration of technology in the field of education triggers much attention and enthusiasm concerning its adoption and effect on the teaching and learning process. The endeavour of the present study was to investigate the use of the Interactive WhiteBoard (IWB) technology in English as a Foreign Language (EFL) classroom highlighting the perceptions of students who experienced its use in their learning. This action research seeks to answer the following questions; first, does the use of the Interactive Whiteboard increase students' engagement in the learning process? Second, how can the use of the Interactive Whiteboard support EFL classroom? The purpose of this action research study was to determine whether the use of an Interactive Whiteboard had an effect on students' engagement in learning. The findings revealed that the use of IWB increased students' engagement in learning and enhanced their interaction and communication in English language.

Keywords: Interactive White Board (IWB), EFL classroom, students' engagement.

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The case of Technology Students at Tlemcen
University***

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University***

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