



## The Role of Interactive Whiteboards for Enhancing Teaching and Learning in Higher Education

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### Abstrak

Sekarang teknologi telah membuka banyak pintu peluang perubahan di dunia Pendidikan. Oleh karena itu, teknologi menjadi bagian yang sangat penting dalam proses belajar-mengajar. Satu jenis teknologi agaknya terkait dengan hal ini adalah papan tulis interaktif. Artikel ini focus pada signifikansi papan tulis interaktif dalam meningkatkan kualitas proses pembelajaran sebagai cara memfasilitasi belajar siswa. Data penelitian diambil dari dua universitas swasta, observasi dilakukan terhadap 105 mahasiswa, sebanyak 15 mahasiswa dan 7 guru diwawancara. Hasil penelitian ini menunjukkan bahwa papan tulis interaktif memiliki dampak signifikan dalam menunjang berbagai ragam gaya belajar mahasiswa dan juga meningkatkan level keterlibatan mahasiswa.

### Abstract

*More recently technology has opened up variety fortune doors in the education sector. Therefore, technology has become one of the important parts in the teaching and learning process. One of the technology tools may have enhanced the process is IWBs. This paper focuses on the significance of the interactive whiteboard to enhance the learning process by supporting different learners. Hence, this research used qualitative approach by using observation and interview methods. The data was collected at two private universities. 105 learners were observed, 15 students interviewed, and 7 teachers questioned. The results illustrated that IWBs have significant impact to support different learning styles and increases the level of engagement.*

## INTRODUCTION

Technology has opened many opportunities in our daily lives, by providing many technological tools. The field of education has not been exempted from this. These technological tools might have helped educators and learners to engage and interact with each other and with lessons as well. According to Kumpulainen and Wray (2001), interaction is the process of learning considered as a powerful tool to engage and increase interest by educators and learners in learning. Therefore, this report will focus on one of the interactive technology tools which is Interactive Whiteboards (IWBs) and will argue that IWBs may help educators and learners to enhance the learning process.

The aim of this report is to focus on the role of interactive whiteboards and to highlight the advantages of it in Higher Education. In other words, having IWBs might have increased the teaching and learning process in Higher Education. However, using IWBs in Higher Education do not use widely. This paper presents that how IWBs are valuable tools to help educators and learners to increase outcomes? especially for those scholars who need more support. Another aim is to highlight the lack of having technology in the universities in Kurdistan, as an example. In the one of the oldest universities in Northern of Iraq, there is not sufficient technology facilities available.

According to Dell, Hakeem (2010) there are not enough technology facilities at this university, students only can access the internet through a small computer lab. Probably this statement does not apply to all universities, but according to the Ministry of Planning, Strategy of Kurdistan (2011) Universities still need more support one of these supports is they need smart boards. The content of this research is to introduce the topic and present the background of the study area and discuss about the advantages and some drawbacks of having IWBs in Higher Education.

Political power may sometimes lead countries to disasters instead of creating a good prosperous, wonderful life, especially if used by the wrong person or conducted in the wrong way. Kurdistan (Northern Iraq) might be one of the more well-known examples. During the period of Saddam Hussein 1979- 2003, Kurdistan had passed through the worst situation, for example, 5000 Kurdish villages were destroyed by the same regime (Wright, 2003). This means 5000 schools

were destroyed. As the result of these happenings the sector of education in Kurdistan was one of the sectors which was negatively affected by this catastrophic. The scientific level of Universities in Iraq and Kurdistan had been negatively decreased under the political situation. "Universities in 1979, gradually lost their intellectual dynamism and became increasingly politicized in the service of the regime" Harb (2008, p. 1).

During this regime people in Kurdistan did not have formal education. The education level in Kurdistan was very low, almost was three times lower than the other parts of Iraq UNESCO, (Institute for Statistics, 2010). As the result of these happenings in the past, teachers are still suffering with the lack of using technology, also it is a problem for both educators and students as well. Most educators need trainings to use it (Pavlik, et al, 2012). Therefore, the Kurdistan regional Government constantly signs contracts with organizations, universities and foreign countries in order to increase the quality of ministries, especially the education field (Sindi, 2020).

Learning theories are sets of principles produced by educators and psychologists as a result of many examinations and experiences, in order to know that how people learn and how people can expand their knowledge (Noel, 2011). It can be seen that numerous different theories have been used in order to understand individual learning abilities and how children learn, in order to increase the individual learning process (Honey & Mumford, 2000). Furthermore, learning theories are helping the learning process to know how children and adults interact with the materials to be learned.

Howard Gardner (2006) was produced a new learning theory under the name of Multiple intelligence in 1983. Gardner's theory "was not a teaching and learning theory, but was based on human potential" (Franklin, 2006, p. 82). The purpose of the idea of multiple intelligence was to show that all people have some levels of intelligence. Frames of mind and the other works of Garner (1983,1985, 1999) have significant positive impact on the learning process, by helping educators to know how abilities and intelligences of children can sensed (Reid, 2005). Moreover, all types can come up or be active by teachers in the classroom during the lesson by doing different activities (Pritchard, 2014). When using multiple intelligence with different teaching styles to support learning styles considerable positive

outcomes are produced.

As the result of Gardner's theory, we all have some multiple intelligence, educators should put multiple intelligence to use in their classrooms to make lesson more effective and know individual abilities (Reid, 2005). Meanwhile, learning style is a favoured way of learning and studying (Pritchard, 2014). also suggests that learning is individual and discusses how to make a lesson enjoyable and engage learners. Therefore, it is important for educators to know about learning styles in order to effectively share their knowledge with learners, because it may have led to enhanced learning results.

According to these researchers, learning style is different from person to person, therefore during the learning process it might be helpful for both educators and learners to know about learning styles, especially for educators, in order to effectively share their knowledge with learners by using different learning styles, because it might be that students prefer learning by listening rather than watching. In other words, learners have different individuality for learning. For example, Honey-Mumford Model, four learning styles have been classified such as "activists, reflectors, theorists and pragmatists" (Pritchard, 2009, p. 43). Based on the mentioned researchers and learning styles which have mentioned this is clear evidence all learners do not learn positively in the same learning way. In other words, all learners do not learn from only one learning style.

As a result of many research outcomes, generally, three specific learning styles have been recognised, which are visual, auditory and tactile /kinesthetic (VAK). VAK style refers to NLP (Neuro-linguistic programming) which has been developed by Fleming (Pritchard, 2014). Furthermore, VAK is generally used in primary schools, in spite of VAK been used in universities and colleges as a part of learning process (Sharpa, Bowkerb, & Byrn, 2008). In conclusion, a teacher's style has a significant role to enhance learning (Jarvis, 2006). Therefore, teaching style considered as important part during the learning process. By the end, we have to remember that the teaching style and readiness to engage in learning styles and to help learners to take responsibility of the process of learning, are basic to the success of learning styles teaching (Reid, 2005).

According to Ludwig, Friedland, & Knipping, (2007), the new technology and trends

has opened up significant and exciting opportunities in the field of education for both educators and scholars, such as computers, laptops mobiles and semantic computing. Also, laptops and computers are not the only technology tools, others, might be loudspeakers, data projectors, smart slates, whiteboards, even different pen types which have been used in Higher Education. Each one may have a significant role to enhance teaching and learning. For example, 50 million pounds have been spent by the UK government to parch Interactive whiteboards for primary and secondary schools. One of the main reasons have been that IWBs have direct capability to support interactivity and engagement for whole class teaching and support different learning styles (BECTA, 2004).

This statement may apply to Higher Education. One of the significant benefits of using IWBs in the classroom is that they increase the level of engagement and elevate interest in the classroom (Lacina, 2009). Based on some of the psychologists and educational research, toolkits have a positive effect on the learning process, especially during the early educational stages. Toolkits may also apply in Higher Education, as Prashing, (2006) mentions that when adult learners pass the early stages and attend to the new stage, they bring some attitude and learning styles with them and over time will remain stable with them. This means that the toolkits in the early learning stage may positively apply and help them to increase their knowledge even if they are in Higher Education. IWBs may help the whole classroom and small groups to increase their knowledge in Higher Education. This is especially true for small groups, because small groups have widely become a model in Higher Education, this means technology can positively help teachers to teach small groups in Higher Education (Exley & Dennick, 2004).

What is more (see Kyriakou & Higgins, 2016), has emphasized that IWBs encourage learners to engage and interact with the lesson and achieve something which is not easy to obtain by using different technology tools. On the other hand, IWBs might be suited for different learning styles such as, auditory, visual and tactile learners, because when people learn they will use all three styles, some students heavily rely on one of them during the learning process (Pritchard, 2014). For auditory learners it may be an advantage to have a group discussion. Whereas visual learners can present many pictures and videos and tactile learners can touch it (Bell,

2002. Para, 5).

Furthermore, IWBs may help students who have a problem with reading and writing. However, with these benefits of having IWBs, they may also have some disadvantages. The first use learners engage with it, but engagement will not stay for a long time, because engagement is short lived. Also, the high cost to purchase IWBs install software might be another disadvantage (Moss, et al, 2007). Maybe the negative fact might be the lack of using this tool by teachers, if the teachers do not have a good training about how to use IWBs, they may just feel like wasting time during lesson time. Other research has been found some drawbacks of using IWBs in classroom for teachers is taking sometimes to prepare classroom lesson and may confuse students about learning content (Jang & Tsai, 2012).

Finally, IWBs have been considered as an important teaching tool in the learning process for both educators and learner because it is an interactive tool and allows learners to engage and focus on the core of a subject or lesson. Interactivity in the field of education has been stressed by sociocultural theory as a valuable tool for learning (Kumpulainen & Wray, 2001). In the following parts this paper will present the advantages of IWBs for educators and learners, focussing on particular on those students who need more support during the learning process.

One of the advantages of having IWBs in the classroom is that the teachers do not have to stand in front of the board anymore. IWB allows educators to move around the class and interact with the IWB by using a smart airliner (smart slate) it is also possible for teachers and students to interact with IWBs by using some smart air-liner and write down the notes on the board at the same time (Chin, 2004). It simply means that IWBs present a high level of engagement, which is useful for teachers to control and engage with the whole class and different groups during the lesson. Furthermore, IWBs can help teachers to present different multimedia resources such as, video, sound, websites, pictures and diagrams in order to make the lessons more effective for different learner types during the lesson time (Moss, et al. 2007).

## METHOD

This research uses qualitative approach by using observational method. The of choosing this method is that to see learners in the natural

environment. The participants were randomly selected for this research. Two private universities were participated in this project. The number of students observed were 105 learners and seven teachers from three different departments. 20 learners were interviewed. The data in this research were collected through observation and interview methods. The same methods used for all departments and classes. The methods were taken in the two different times. The first one was taken in the beginning of the new year study, the second one was taken after midterm. The collected data carefully recorded and manuscript.

## RESULT AND DISCUSSION

The interview responses from five teachers illustrates that, interactive whiteboards have significant positive impact on their student engagement level, because the tool is something new for them and makes the lesson more enjoyable and fun. Also, IWBs increases the level of student participation. On the other hand, it supports different learning styles, which means different learners may benefited from it. However, two teachers do believe that the interactive whiteboards have not such impact on higher education students. They do believe that IWBs may have more positive impact on primary and secondary schools than higher education learners. In terms of supporting learning styles most of them agreed with that IWBs have significant role to support different learning styles, because IWBs can provide variety sources and provides different facilities for different learners.

Another fortune point was, IWBs helps those students who needs more support and disable students, because the board allows them to connect their technology tools to the board for example a few students had sensitivity to some coolers when they connect their technology tools the board, they could change the colours to feel comfortable.

In terms of the observation, during both periods. The results showed that learners highly benefited of it. It shows that the lessons are easier to understand for the students, especially for the visual and auditory learners. Some of the interviewee's students claim that having IWBs in the classroom makes the lesson simpler to understand because we can see and hear at the same time. Further, "when my classes rely on IWBs I feel more comfortable, because it allows teachers to present variety sources such as videos, dia-



grams, pictures and video taps” interviewee (12). Therefore, it can be clearly seen that interactive whiteboards have significant positive support on the different learning styles and makes the lesson easier to understand.

## CONCLUSION

Based on the findings using IWBs in higher education, IWBs are considered as helper tools to engage students with the learning process. IWBs are active tools to support learning styles such as VAK learning style. IWBs allow learners and teachers to present variety of sources such as videos, photos, sound, diagrams and charts, even allows that to use fingers for writing which is great for kinesthetic learners. Further, IWBs are considered as power full tools to enhance teaching and learning. In addition, The Kurdish Regional Government (KRG) supports all educational sectors in Kurdistan, especially the Higher Education sector by opening many continuous training courses for teachers, providing some technology tools, building new public universities and supporting new private universities. However, if have a look at the strategy of Kurdistan, it can be seen that clear evidence is that the sector needs more and more support on the side of course reinforcements and provision of technology like smart boards. Also, no support for disabled learners is mentioned (Planning, 2011) Ministry of Planning, (2012-2016).

Therefore, some possible recommendations are listed may have enhance the learning process in Northern of Iraq “Kurdistan”. Which are supply the Higher Education sector with more IWBs in order to support different learning styles and support disabled learners by providing more IWBs and smart slates and add specific part in the strategy of Kurdistan to support disabled learners. In addition, making a contract with IWBs sellers to buy more IWBs and open some courses by seller companies for some local teachers to teach them how can be effectively used during the class time, then the local teachers can teach some other teachers and continues the courses, because some other ministries made this plan to buy some other technology tools for their departments and they were successful.

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