The iPad schizophrenia:
UAE male students' reflection on the paradoxes of using iPads in college EFL classrooms.

Sultan Ali Rashed Alkaabi[1], Peter Albion, Petrea Redmond

School of Teacher Education and Early Childhood, Faculty of Business, education, law and accounting, University of Southern Queensland (USQ), Queensland, Australia

July 2015

Abstract

This paper presents data obtained from focus groups conducted to investigate male students' experience of higher education in the United Arab Emirates (UAE). Among the issues discussed by students was the impact of using iPads in replacement of printed books and this paper focuses on that issue. Thirteen focus groups were conducted with 83 EFL male students at four government campuses including United Arab Emirates University (UAEU) at Al-Ain Campus, Higher College of Technology (HCT) at Ras Al-Khaima Campus), and two campuses (Abu Dhabi and Dubai) of Zayed University (ZU). Students acknowledged the paradoxes of using iPads in learning, citing learning and technical issues that influenced their academic motivation to study. The resulting themes from the focus groups show that neffective iPad use has had an impact on student class performance and in some cases led to class failure. Recommendation for better iPad implementation are suggested to policy makers and instructors to foster a better student-iPad learning experience.

Keywords: iPad, motivation, mobile learning.

1. Introduction

The United Arab Emirates (UAE) is the Middle East hub for quality higher education. There are 103,431 students enrolled in 75 higher education, public and international private universities and colleges ("CAA 2011 Annual Report," 2011). In a region known for high unemployment because of the "low productivity of education" (Isfahani, 2010, p. 2), the UAE has taken the lead in educational policy change. In its 2021 vision initiative, the UAE government promises first rate education built around innovation, research, science and technology, with special concentration on students' achievement and attainment ("UAE 2021 vision," 2011).

Although the education curriculum is undergoing a major revision to enter the digital economy era following the country's 2021 vision initiative, public education at the primary and secondary level still follows a traditional face-to-face, teacher-centric education approach (ADEC, 2009). However, higher-education universities and colleges have been progressively adopting a student-centric approach to learning (HBMeU, 2011).

Building on the high investment in internet availability and infrastructure, the country leads the region in information and communication technology (ICT) connectivity (Kai, 2012). Higher education institutions have taken advantage of this connectivity continuum to offer students "functional, meaningful mobile learning in and outside of the classrooms" (Hargis, Cavanaugh, Kamali, & Soto, 2014, p. 46). Tablets like the iPad are considered mobile learning tools and have been adopted as a technology that supports learning in educational institutes (Courts & Tucker, 2012). As a result, in 2012, the UAE vice president inaugurated the use of 14,800 iPads in the three UAE federal universities (Altahar, 2012) as a mobile learning device to pave the way for active learning and student-centric education (Hargis et al., 2014). The initiative, from planning to deployment, was executed within 8 months. Students in college EFL programs started using unrestricted-access iPads for their learning of English, Math, Arabic and IT classes as a replacement for textbooks in the second semester of 2012 (Altahar, 2012). The aim was that iPads would motivate and engage students to acquire digital-economy skills of analytical thinking, adaptability and information technology (HCT, 2012).

2. Methodology

This study was constructed following a qualitative descriptive method design to acquire first-hand knowledge and gain a better understanding of what social issues affect student motivation in UAE tertiary education. It was essential that the research design followed a baseline design process. The flow of design took into account Onwuegbuzie and Collins' (2007) guidelines for a sound research design technique, where research goal, objectives, purpose and research questions guided the selection of the research design. In other words, the methodology and method chosen, analysis technique and discussion presentations were carefully constructed to answer the research question.

Focus groups "produce data that are seldom produced through individual interviewing and observation and that result in especially powerful interpretive insights" (Kamberelies & Dimitriadis, 2008, p. 397).

---

[1] *author* e-mail: Sultan.AlKaabi@usq.edu.au

Therefore, in this study, focus groups were used instead of observation or individual interviews because the technique was better suited to answer the research question (Connaway & Powell, 2010; Liamputtong, 2013).

The focus group protocol was carefully designed to extract the maximum information from students. The research opted for a technique that is a blend between specific and general inquiry about the topic at hand. The generality here was intentionally being controlled by the topic introduced by the researcher, to let students freely determine, by themselves, the factors that they deemed important to their motivation.

Data was collected using focus group sessions as per the following considerations of location, sample, language, and analysis method.

Location The study included the three UAE public (government) higher education institutes of the UAE University, Zayed University (ZU) and Higher Colleges of Technology (HCT). The research was conducted within large UAE public universities that adopt blended learning within their curriculum. The participants were divided into three groups based on their English level standings: lower, medium, and higher levels of English. Also, to cover the three universities and the diversity of the locations in the UAE, four locations or campuses were chosen to represent the different geographical regions in the UAE. The socioeconomics in Fujairah, Ajman, UAQ and RAK are similar and students from these regions have been shown to have similar behavior patterns and attitudes to school (Ridge, Farah, & Shami, 2013). Dubai and Abu Dhabi (AD) have different socioeconomics, because more of the country's wealth is concentrated within these two cities. The focus group sessions breakdown and designation is listed in **Error! Reference source not found.** below.

Table 1: Focus Group Designation

College	Campus Code	Student English Level	Focus Group (FG) session
HCT	Campus 1	Low	FG3
		Medium	FG1
		High	FG2
UAEU	Campus 2	Low	FG5
		Medium	FG4
		High	FG6
ZU AD	Campus 3	Low	FG9
		Medium	FG7
		High	FG8
ZU Dubai	Campus 4	Low	FG11
		Medium	FG12
		High	FG10
		High	FG13

Source: Developed for this research.

Sample Three to six focus groups were deemed suitable, as a minimum, with each having 6-10 participants (Krueger, 1994; Onwuegbuzie & Collins, 2007). The goal was to select group size so that the outcome information reached the saturation point where no new information could be obtained, while keeping the groups small enough for deep understanding (Johnson & Christensen, 2012). Initially the researcher planned to conduct 9 focus groups, 3 for each campus. However, after ZU administration suggested an extra campus and groups, the researcher added 4 more groups and the final count of the focus groups conducted for the research was thirteen with a total of 83 male students.

Language Since all students are Arabs, all questions were translated to Arabic language and then the answers were translated back to English through an authorized local legal service translator. This ensured that participants were able to express their opinion without the difficulty of looking for the right expression in a second language that they might not know very well.

Data Analysis. Analysis began with coding the factors for each of the thirteen focus groups on its own using the raw transcribed data of each recording. Then, using a long table technique, similar factors and opinions were gathered and tabulated for clarity and coherence. This helped with reducing redundancy during analysis. Long table approach allows data analysis to be "systematic. It breaks the job down into doable chunks. It helps make analysis a visual process" (Krueger & Casey, 2000, p. 137). The full study investigated motivation in the context of a broader set of issues but that this paper reports specifically on data related to the iPads.

3. Results

The results have been divided into two section: an iPad use section, and an iPad impact section.

iPad Use Students at campuses 1-4 explained that they used iPads for two main purposes: academic and leisure. A sample of students' quotes on iPad use at campuses 1-4 is shown in Table 2.

Table 2: iPad use @ Campuses 1-4

use	FG	Student Quotes
Academic	3	▪ *"We don't have books, all our material is on the iPad"*,
	1	▪ *"Instead of you loosing papers...everything is on the iPad, and saved"*
	1	▪ *"In my opinion iPad made studying easy"*
	4	▪ *"Positive side, all books are in the iPad"*
	6	▪ *"Positive... All the books and material is on the iPad"*
	8	▪ *"It is really good for me I use to have back pain from carrying books and laptop, now, I have everything on the*

	FG	Student Quotes
		iPad."
	7	▪ *"It's great, it's a relief from heavy bags"*
	13	▪ *"iPad was good, to study, to write, to search, it was easier than the laptop"*
Leisure	2	▪ *"students check websites, chat, or play games with one another"*
	3	▪ *" when the teacher is busy writing on the board, most of the students open Instagram, twitter, and the likes*
	4	▪ *"teacher is busy writing on the board, and students would start playing games on the iPad, or chatting"*
	7	▪ *"games, we play games, and teacher does not catch us...", " when he comes we swipe to the class page"*
	11	▪ *"It is negative. Students play with the iPad. Most of them play."*

Source: Developed for this study.

iPad use @ Campus 1. Students shared their own experience on using an iPad in the classroom as a substitute for books. Mostly, students were happy about the idea of not carrying books. Many students, across the focus groups, viewed the iPad as a paradoxical tool; difficult to cope with for learning, easy to play with.

iPad use @ Campus 2. Campus 2 students' opinion on the iPad was very similar to Campus 1 students, with some detailed personal stories on their interaction with iPad in the classroom. In this Campus, again, students talked about iPad as a learning tool and a leisure tool. In FG6, students praised its lightness and portability over heavy books. However, most students focused on explaining its impact.

iPad use @ Campus 3. Campus 3 students agreed with the two previous Campuses regarding the iPad's use as educational tool and also as a distraction. The difference here was that students did not give a lot of details or description of their personal experience due to time restrictions. Many students expressed that the iPad is lighter than books and a relief from carrying school bags. One student in FG9 mentioned he had difficulties using it first, but over time, he got used to it and thinks it is a good educational tool

iPad use @ Campus 4. At Campus 4, students focused more on the impact of using iPads in class. With the exception of one student from FG 13, most other students felt that iPad implementation as part of the curriculum was too fast for them to get used to.

iPad Impact The views of students on iPad impact include both positive and negative reviews. Both are discussed hereafter.

Positive impact of iPad. On a positive note, many students expressed their opinion, that the iPad had changed the way they learn with positive and negative impact. Most students acknowledged that using the iPad in the classroom has made studying easier, and listed some of its advantages as:

▪ Virtual books where information is accessed more easily than in printed books
▪ Taking photos of teacher instruction on the board instead of writing notes, and
▪ Access internet simultaneously with book material for education and learning.
▪ Paperless environment, and
▪ Easy net browsing helps learning English.

Negative Impact of the iPad. On the other hand, most students talked about issues using the iPad, the inappropriate use of the iPad, and the impact that it had on their motivation, choice and class performance. There is a host of learning, technical, and adaptation issues related to the use of the iPad. As a result, many students view the iPad as a distraction tool, good for gaming and social network chatting. Students' justification of this view and their preferences have been recorded and presented hereafter.

Learning issues. Many students struggle with using the iPad as a learning tool. Students' quotes on using iPad as a learning tool are listed in Table 3.

Table 3: iPad Learning Issues

	FG	Student Quotes
iPad Learning Issues	2	▪ *"Most reasons, are difficult writing on the iPad, it makes you not with the teacher"*
	5	▪ *"solving a homework by hand is way faster than doing it on the iPad"*
	7	▪ *"typing is tiring on the iPad "*
	13	▪ *"We used it last semester to study excel on iPad. It was difficult to adapt to iPad it was a technical course I needed a keyboard"*
	12	▪ *"it's slow to use the iPad, and does not help in memorization"*
	10	▪ *"When you write on the iPad , things like answers and notes, it does not stick in your mind"*

Source: Developed for this research.

Specifically, some claim it is still difficult for them to get used to writing on the iPad without a stylus or a keyboard. Students mentioned it was slow, and tiring to write on the iPad in comparison to hand writing. Some students complained that reading from the iPad screen does not help memorization in comparison to reading from books, making them less prepared for exams. Many students expressed that it was difficult to write notes and highlight texts (annotation) on the iPad, therefore completing an assignment takes a longer time than using printed books.

Technical issues: Students complained about technical issues related to the use of iPad, as listed in Table 4 that had negative impact on their learning.

Table 4: iPad Technical Issues

	FG	Student Quotes
iPad Technical	4	▪ *"In the negative side, the program crash, deletes what we wrote…"*
	5	▪ *"we depend on iPad, it is positive, but the negative, sometimes the book page does not open, some technical problems sometimes"*

6	•	*"Sometimes, in the software on the iPad, we answer some questions and it tells us the answer is wrong. But the answer is right. We feel frustrated. So now the teacher tells us to print and solve on paper "*
10	•	*"because of the crash, I have to leave the class an miss the lecture to go fix the problem with the IT"*
12	•	*"some programs or applications don't work on some iPads"*

Source: Developed for this research.

For example, students mentioned that sometimes book pages would not open, class educational software tended to crash and saving student work sometimes causes a program to crash and exit without saving. As a result, students are forced to use multiple software programs to finish, save and send their assignment through.

iPad adaptation issues Writing and technical issues have had an impact on how students view the ease of use of the iPad, as listed in Table 5.

Table 5: iPad Adaptation Issues

	FG	Student Quotes
iPad Adaptation issues	4	*"we spent 12 to 13 years of our life using a book, now it is difficult, we have not yet adapted to use the iPad"*
	9	*"Positive…typing was difficult but now we got used to it"*
	13	*" iPad was good, to study, to write, to search, it was easier than the laptop"*
	10	*"Technology is new for us. Overusing technology is a negative point here"*
	13	*"I don't like to use the iPad. I use the laptop. I am always frustrated using the iPad, I am still suffering from the iPad"*
	12	*" 2 years, but we still don't adapt…we use the book more than the iPad"*

Source: Developed for this research.

Some students felt that the iPad takes time to get used to as an educational tool, while many other students struggle to adapt to using the iPad as part of their learning process. Some students, were anti-iPad users, mentioning more than once that it is useless as an educational tool, with one student replacing it with a laptop.

Distraction. As listed in Table 6 below, most students agree that the technical and writing difficulties have made students frustrated using the iPad as a study medium.

Table 6: iPad Distraction Issues

	FG	Student Quotes
iPad Distraction issues	2	• *"technology, like the iPad, we use it , it is good for studying, but it distracts students"*
	6	• *"so it has a negative impact ?" ,"* yes , very much, you don't pay attention"*
	6	• *"Our law book now is on the iPad, not good. No one pays attention"*
	10	• *"The minute I open the iPad, I start playing, I don't pay attention in class, it is definitely negative."*

Source: Developed for this research.

Many students feel it made their learning More difficult. Therefore, most students use it for playing games and accessing social networks, which has distracted their attention, and in some cases led to student failure. These difficulties lead to less understanding and distracted attention. Many students see the iPad as a distraction to their study because it acts as a facilitator to accessing games and social networks in the classroom.

iPad as a gaming platform. Many students use the iPad to play games, as listed in Table 7. Most of the time they play while the instructor is busy writing or explaining the material on the board.

Table 7: iPad as a Gaming Platform

	FG	Student Quotes
iPad as a gaming platform	3	*"when the teacher is busy writing on the board, most of the students open Instagram, twitter, and the likes*
	4	*"teacher is busy writing on the board, and students would start playing games on the iPad, or chatting"*
	7	*"games, we play games, and teacher does not catch us…", "when he comes we swipe to the class page"*
	11	*"It is negative. Students play with the iPad. Most of them play."*

Source: Developed for this research.

Social Network Platform. Many students confessed to using the iPad to access social network sites and not pay attention in class as can be seen from their quotes in Table 8. Accessing social network sites like Twitter, Instagram and Facebook is a daily activity to some students.

Table 8: iPad as a Social-networks Platform

	FG	Student Quotes
iPad as a social-networks platform	2	• *"iPad makes it easy, students open two pages , one translation and another for social networks , so the students swipes to the translation page when the teacher comes"*
	5	• *"Positive for studying…negative for social network""*
	6	• *"Also, today, I was at the class, I understand the material, so I was on YouTube the whole time. Even students next to me".*
	6	• *"I had a really bad experience with social networks, so I deleted these applications completely from the iPad. Instagram twitter, Facebook. I have my friend in class, he is addicted to Facebook, so much. He wastes time"*

Source: Developed for this research.

Inconsistency of use. Interestingly, instructors' mixed messages on iPad-use in the classroom have confused students on its adoption with a few students complaining that although studying is mostly done on the iPad, the exams are taken on printed paper, not an iPad. One of the students explained this dilemma by saying that *"there is a distraction on the use of the iPad, the whole semester we focus on the use of iPad, then at the end of the term we do IELTS exam on a paper"*(FG2).

Reason for Inappropriate use. Students had different reasons and justifications for improper use of iPad in the classroom as can be seen in Table 9 below.

Table 9: Reason for Improper iPad Use

	FG	Student Quotes

6	▪ "No control on the iPad. I can play games and when the teacher asks me what I am doing, I would say I am doing the homework, by sliding to the homework screen."
6	▪ "I know the teacher will not catch me."
6	▪ "sometimes I am bored in the class, so I play...since I have an unrestricted iPad, I tend to play"

Source: Developed for this research.

As can be seen in the table above, when students explained why they use the iPad for other than educational purposes in the classroom, they gave many reasons including:

- Using iPad for learning is frustrating, because of the technical and writing difficulties mentioned above, but using it for social networks is easier
- Boredom (I know the lecture, so I watch YouTube)
- No site restriction on the iPad (no control)
- Teacher not able to catch students
- Student addiction to social networks.

Student Preference. Many students expressed that they prefer books or laptop to overcome iPad use issues. Table 10 presents student accounts on why they prefer books over the iPad.

Table 10: Students' Preference

	FG	Student Quotes
Students preference	3	"I prefer the book on the iPad, because there are some problems in the iPad and so on"
	4	"The better choice is the book, with the book the information is stuck to the mind..."
	4	"Book is better than iPad, with the iPad you get bored, and then you start playing games".
	6	"had I had only a book, I will not be able to play"
	7	" well it is easier to highlight on a book, its faster"
	7	"A teacher asked us to write an essay on a paper, we did. Then he asked us to write on the iPad and send it. It was tiring."

Source: Developed for this research.

Many students expressed that they prefer books because it is faster to annotate and to focus than on the iPad and in some cases students felt that the iPad made their learning harder and they wished they could revert back to using printed books in the classroom. Many students said that they prefer books over the iPad because books have no adaptation or technical issue like the iPad they claimed. They preferred using books over iPad because it consumes less time to highlight and finish assignment tasks.

Class Failure. Some students expressed their frustration when reflecting their personal stories using iPads and consider it a demotivating factor. Probably the most memorable quote that depicts the impact of iPad use in the classroom and links its adoption issues effects over student motivation and academic achievement is the following comment from one of the students:

"I failed because of it, in levels 5 and 6 I studied using normal book. In level 7, all of a sudden iPad was introduced to me. Although I have an iPad at home for a long time, but studying using the iPad proved to be difficult for the reasons mentioned earlier. When I go home, the minute I see the iPad I feel nervous. I don't feel motivated to study. I see the iPad, I throw it away. The result; well, I failed the level" (FG10)

4. Discussion of Results

In Table 11 below, iPad impact on students is shown. Students have used the iPad for mixed purposes : as a book, a notebook, a platform to do assignments and take exams, and as a leisure device.

Table 11: Academic & non-academic Impact of using iPad @ UAE colleges

	Impact of iPad				
	Area of Impact/ Explanation	Campus 1	Campus 2	Campus 3	Campus 4
Academic use	Virtual book/ Light weight	✓	✓	✓	✓
	Difficult/slow to write	✓	✓	✓	✓
	Inconsistency of use	✓			
	Technical Issues (Apps Crash/ saving files)	✓	✓		✓
	Difficult to adapt to iPad		✓		✓
	Easy to adapt to iPad			✓	
Non Academic use	A platform for SN access (chat, cheat, Play)	✓	✓	✓	✓
Impact on students	Does not help memorization			✓	✓
	Frustration of use (iPad-Anxiety)				✓
	Loss of focus in the class	✓	✓		✓
	Causes boredom		✓		
	Prefer traditional book over iPad	✓	✓	✓	✓
Academic outcome	Made studying easy	✓			
	Made learning English easy	✓			
	Low motivation to study				✓
	Class Failure				✓

Source: Developed by the researcher

Because of its unrestricted access, iPad leisure uses included social network access to chat, or play online games, and watch movies. Boredom in the class is sometimes an issue; some students refer to teaching style or repeated material as boring which makes them start looking for entertainment in the class, most often using an iPad. With the exception of a few students, most students expressed difficulties in adapting to use an iPad, acknowledging its lack of keyboard as a main drawback in writing tasks, along with technical difficulties in saving files and applications crashing.

Another drawback was inconsistency of iPad use where some students spend the whole semester using the iPad and end up with a paper examination. There were many negative impacts on students like weaker memorization from an iPad screen as compared to books, frustration of use or iPad-anxiety, and boredom with using it as an academic platform of

learning. For these reasons, students suggested the use of books to replace the iPad in learning. Academically, some students felt the iPad made studying and learning English easier and more interesting. On the other hand, negative academic outcomes included failure due to iPad-anxiety, where some students became nervous around the iPad, which severely degraded their efforts to study and do assignments, leading them to failure.

Evidence from the literature. Research on iPad use in the classroom is both recent and an expanding area of research where recent studies have concluded similar findings to the current research results (Bain, 2015; Hargis et al., 2014; Mullen, 2014; Rossing, Miller, Cecil, & Stamper, 2012; Shepherd & Reeves, 2011; Souleles, Savva, Watters, Annesley, & Bull, 2014; Wood, 2014).

Hargis, Cavanaugh, Kamali and Soto (2014) conducted a case study on teachers' perceptions of the iPad initiative at one of the colleges that participated in this research and found that the iPad initiative has achieved its goal, which was to focus on a student-centric education. In contrast to the current study, their result indicated that "student engagement was perceived as high" (Hargis et al., 2014, p. 56) when using the iPad. In their study, students were perceived as keen and quick in adapting and using the iPad for class registration, reading text material and surfing the net (Hargis et al., 2014). A key difference is that the current research took into account students' perceptions, while the research by Hargis et al. (2014) measured teachers' points of view and their thoughts about students' perception. In other words, this research is a direct measure of students' opinion while the previous research (Hargis et al., 2014) is an indirect approach and this difference in approach could probably explain the opposing views on student engagement. This difference is supported by other research findings that teachers have a prior assumption of the positive student-iPad encounters as evident in Benton (2012) finding that teachers "perceived that iPads had the potential to positively impact student engagement and learning" (Benton, 2012, p. 5).

Another key difference is the period in which the research was conducted. After all, the Hargis et al. (2014) research was conducted in the first month of the iPad implementation initiative compared to the current research which took place in the third year of the iPad-initiative. In Hargis et al. (2014), measurement of student's engagement in the classroom using the iPad was not the intention of the study; the intention was to measure how well faculty had adapted to the iPad-initiative. On the other hand, students in the current study have acknowledged how easy it was to use iPad for internet browsing and reading, but the difficulties they faced were to use it as the main method of their learning activities, such as taking notes and writing assignments, and the challenges in accessing educational applications during the classroom activities. It is these challenges that accumulated after repeated iPad use and which affected their engagement in the classroom and impacted their study outcomes.

On their study of using the iPad in the classroom, Shepherd and Reeves (2011) noticed that students complained about being frustrated with the iPad virtual keyboard in writing and difficulties in using some applications. Similarly, in Rossing et al. (2012) research on students' perceptions of using the iPad as a learning tool, some students, although growing up in a digital environment, had difficulties adapting to the iPad. Rossing et al. (2012) argued that students' knowledge in certain technology or technology functions was not applied when using the iPad because of the lack of "refined critical thinking skills that would allow them to adapt this knowledge to other devices and uses" (Rossing et al., 2012, p. 17).

Difficulties using the iPad that are cited in this research are also shared by instructors from other research. Within the UAE context, Mullen (2014), used a mixed-method research of 35 instructors' perceptions on the benefits and challenges of using the iPad in teaching foundation classes. Of the challenges found in her research, 43% agreed that students had difficulties in writing using the iPad, with 53% of teachers experiencing technical difficulties in such processes as file storage and software compatibility. Most of all, 57% of the participants view the iPad as a distraction from the learning process (Mullen, 2014).

Those technical difficulties faced by teachers created idle time in the classroom, an environment in which students drifted away from learning activities to entertainment activities using the iPad with teachers recalling that "occurrence of technical problems impedes learning and creates more opportunities for students to download free games or become engaged in social media applications" (Mullen, 2014, p. 32). This is also confirmed by Rossing et al. (2012) who claim that "unstructured learning activities create idle time that allows students to lose focus and explore games or other interests on the Internet" (Rossing et al., 2012, p. 17). It is not surprising then, that as few as 7% of teachers in Mullen's (2014) findings thought that the iPad helped student engagement in the classroom.

Other researchers confirmed that students prefer to use other devices over the iPad in their learning even with students who thought that the iPad is a positive educational device (Souleles et al., 2014). In his phenomenological study of students' perception on

using iPads for Art classes, Souleles et al. (2014) found out that some students considered the iPad "had low usability, and the laptop computer—in comparison with an iPad—is more useful for their learning" (Souleles et al., 2014, p. 9).

Contrary to the findings of this research, Diemer, Fernandez and Streepey (2013) state that student engagement has increased when using iPads. Their survey-based results on students' perceptions of iPad use in the classroom reported that students felt more engaged when using iPads in active and collaborative learning (Diemer et al., 2013). This claim is further supported by Mango's (2015) study on students' perceptions of using iPads in foreign language class. In the study, students felt that iPads "enhance students' learning and engagement with classroom activities facilitating students' collaboration between each other and their participation in classroom activities" (Mango, 2015, p. 56). Other research supported the view that iPad use has improved student engagement in the classroom (Manuguerra & Petocz, 2011; Shanbrun & Gilmore, 2013).

iPad Impact on Student Motivation Current research findings indicate that iPad adoption affects motivational constructs of efficacy, self-efficacy, and competence. When introduced to the iPad, students had overrated their iPad-efficacy simply because many of them had it at home and had used it before. After some time of daily use of the iPad and experiencing the issues related to its use, a re-evaluation of their iPad-efficacy occurred. Each time students had difficulties in writing, or saving their work, their doubt in their ability to overcome these obstacles only increased. These technical and learning issues have caused loss of focus and boredom in the classroom and made it difficult for many students to adapt to the iPad in their learning. As a result, students' self-efficacy decreased to negative levels. In turn, this impacted their efforts. Students felt low motivation to study, and ended up showing weak coping efforts and giving in to pressure which led to class failure. For example, when asked about the impact of using iPad on the motivation to study, a student replied: "*When they give us some technology we don't know how to use, we feel demotivated to learn. I open the iPad, and play, just play. Nothing motivates me to study. I see this as a negative point*" (FG10), while another nodded in agreement: "*Frankly, I see it as a negative*" FG10. Emotionally, some students described that they felt anxiety using the iPad to study. Anxiety was another effect of low self-efficacy, and also represented a student state in which their competence was challenged. A student expressed his case by saying: "*The minute I see the iPad I feel nervous. I don't feel motivated to study. I see the iPad, I threw it away. The result; well, I failed the level*" FG10**.** This challenge of successfully mastering the use of the iPad was overwhelming to students' skills so that they ended up with anxiety as a result of their low competence and unsuccessful efforts to win this challenge; hence they were unable to achieve the desired flow in this situation

5. Recommendation

The iPad is an educational tool, that when implemented correctly, has the potential to revolutionize learning (McFarlane, 2013). There is a wealth of iPad implementation plans that do support succesful roll out of the iPad ("21 Steps to 1-to-1 Success: iPads for Learning," 2011). Although these plans are useful when considering a new iPad intiative, the participating colleges have already implemented the iPad and thus more focus should be placed on involving students and their opinions in the process of evaluating and updating current strategies to better engage them in their learning.

One way to engage students in using the iPad in the classroom is to involve them in the evaluation of iPad-based class activities following Ostashewski, Dickinson-Delaporte, and Martin's (2014) 5 step-process of iPad activity design aimed at reconceptualizing learning designs in higher education using mobile devices such as the iPad to engage students. This process is detailed in Table 12 below.

Table 12 : iPad Activity Design Process

Steps	Tasks
1. Identify learning outcomes of the authentic activity	▪ Identify outputs (artifacts, assessments etc.) ▪ Review traditional approach to tasks and note areas where resources are used
2. Adapt/develop learning design for the iPad	▪ Develop a sequence of tasks to be undertaken by learners ▪ Identify tasks which could be supported by iPads (e.g. researching, graphics creation, e-book creation) and alternative options for students without iPads (e.g. drawing on paper, creating graphics in Photoshop; creating PDFs) ▪ Source, install and test apps that will be used to support tasks ▪ Test and revise activity design
3. In class – pilot the activity with students	▪ Explain learning outcomes and learning activity ▪ Demonstrate apps and required processes and provide information about non-iPad alternatives, if required ▪ Provide support for student activity ▪ Note areas of difficulty
4. Share outputs	▪ Students present and discuss outputs in class or via discussion forum ▪ Students share artifacts online ▪ Students upload artifacts to a portfolio (optional)
5. Evaluate activity and modify as required	▪ Gather student feedback ▪ Review processes for iPad users and alternative approaches

Source: (Martin, Ostashewski, & Dickinson-Delaporte, 2013, p. 251)

Students are to be involved in steps 3-5 of the iPad activity design process. In step 3, instructors will explain the activities and support students while noting the difficulties they face. In step 4 students discuss the activity's output in class and online. In step 5, student feedback is gathered to improve the design. In this process, student feedback is a measure of students' engagement, collaborative work, technical challenges, and their focus in the classroom. A successful implementation of the process is measured by whether or not the learning outcomes have been met while providing students "an enhanced learning experience and a more engaging series of classroom activities" (Ostashewski et al., 2014, p. 232).

6. Future Research

Future research can focus on iPad acceptance amongst students utilizing one of the technology acceptance models (TAM) (Davis Jr, 1986) or an updated version of TAM used by Park and del Pobil (2013) for tablet PC acceptance. Although these models measure the intention to use technology through perceived usfelness and ease of use (Davis Jr, 1986), future research should augment this measure with concentration on the impact of adoption on motivation because "technology acceptance in education is more complex, requiring complementary approaches to examine how adaptation and learning behaviors influence motivation" (Gasparini & Culén, 2012, p. 4).

Specifically, questions related to student experience using iPads should be explored for UAE male students. Among the variables to be tested, future research should focus on iPad impact on students' satisfaction, engagement, retention, motivation, and achievement of learning outcomes (MacDonald, Brimble, & Manning, 2014).

Another area of future research should focus on iPad-anxiety and its role in student motivation, academic outcome and dropout. The research at hand found that students explicitly pointed that their frustration when using iPads has driven their motivation level downwards and affected their assignment completion and exam outcomes. The fact that some students left because of these challenges requires further investigation on the implications of such issues on students. Anxiety scales have been used in measuring the impact of iPad social script application on students with autism (Johnson et al., 2014). Currently, iPad anxiety related research is both recent and scarce. As an example, iPad-use anxiety emerged as a theme in Psiropoulos et al. (2014) case study of 16 instructors at a woman's college in the UAE. Therefore, further investigation into student related anxiety using mobile devices will help diminish the gap in the area of iPad-anxiety impact on students.

7. Conclusion

Technology is a paradoxical tool that needs to be tested and verified before fully-fledged implementation. In particular the use of iPad as an educational tool needs further assessment and evaluation. Students' opinions should be taken into account when addressing the shortfalls and issues in using iPads. Some issues are clear and straight forward like technical issues and physical control measures. But other issues like writing difficulties and iPad-use-anxiety take time to develop and therefore require student input in the beginning and end of semester to measure the extent of the impact of these issues and find and implement the proper solutions

References

21 Steps to 1-to-1 Success: iPads for Learning. (2011). Retrieved from: http://www.ipadsforeducation.vic.edu.au/userfiles/files/ipads_for_learning_21Steps.pdf

ADEC. (2009). Comprehensive New School Model. Retrieved 20 April 2012, 2012, from http://www.adec.ac.ae/ADEC%20Shared%20Documents/attachments/Comprehensive%20New%20School%20Model_Website%20Version.pdf

Altahar, N. (2012). UAE Vice-President launches iPad Initiative. from http://gulfnews.com/news/uae/education/uae-vice-president-launches-ipad-initiative-1.1080182

Bain, L. Z. (2015). How students use technology to cheat and what faculty can do about it. *Information Systems Education Journal, 13*(5), 92-99.

Benton, B. K. (2012). *The iPad as an instructional tool: An examination of teacher implementation experiences.* (Doctoral Dissertation), University of Arkansas. Retrieved from http://www.editlib.org/p/123836/

CAA 2011 Annual Report. (2011). from https://www.caa.ae/caa/images/AnnualReport2011.pdf

Connaway, L. S., & Powell, R. R. (2010). *Basic research methods for librarians, fifth edition*. CA: Libraries Unlimited.

Courts, B., & Tucker, J. (2012). Using technology to create a dynamic classroom experience. *Journal of College Teaching & Learning (TLC), 9*(2), 121-128.

Davis Jr, F. D. (1986). *A technology acceptance model for empirically testing new end-user information systems: Theory and results.* Massachusetts Institute of Technology.

Diemer, T. T., Fernandez, E., & Streepey, J. W. (2013). Student perceptions of classroom engagement and learning using iPads. *Journal of Teaching and Learning with Technology, 1*(2), 13-25.

Gasparini, A., & Culén, A. (2012). *Acceptance factors: an iPad in classroom ecology*. Paper presented at the e-Learning and e-Technologies in Education (ICEEE), 2012 International Conference. http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=6333415

Hargis, J., Cavanaugh, C., Kamali, T., & Soto, M. (2014). A federal higher education iPad mobile learning initiative: Triangulation of data to determine early effectiveness. *Innovative Higher Education, 39*(1), 45-57.

HBMeU. (2011). HBMeU e-learning. Retrieved April 12 2012, 2012, from http://www.hbmeu.ac.ae/

HCT. (2012). Dawn of new era, history is made. *Alrawi.* from file:///C:/Users/w0060620/Desktop/iPad/alrawi_sep12.pdf

Isfahani, D. S. (2010). Human Development in the Middle East and North Africa. Retrieved from: http://core.ac.uk/download/pdf/6280411.pdf

Johnson, B., & Christensen, L. (2012). *Educational research- quantitative, qualitative, and mixed approaches* (Fourth Edition ed.). CA, USA.: Sage Publications, Inc.

Johnson, N., Bree, O., Lalley, E. E., Rettler, K., Grande, P., Gani, M. O., & Ahamed, S. I. (2014). Effect of a social script ipad application for children with autism going to imaging. *Journal of pediatric nursing, 29*(6), 651-659.

Kai, B. (2012). UAE, Qatar Lead Arab World in Leveraging Information Technology for Growth. Retrieved from: http://www.weforum.org/s?s=uae+

Kamberelies, G., & Dimitriadis, G. (2008). Focus group: Strategic articulations of pedagogy, policies, and inquiry. In N. K. Denzin & Y. S. Lincoln (Eds.), *Collecting and Interoretin Qualitative Materials*

(pp. 375-402). California: Sage Publications, Inc.

Krueger, R. A. (1994). *Focus groups: A practical guide for applied research*. California: SAGE Publications, Incorporated.

Krueger, R. A., & Casey, M. A. (2000). *Focus groups- a practical guide for applied research* Thousand Oaks, Calif: Sage Publications.

Liamputtong, P. (2013). *Qualitative Research Methods*. Victoria, Australia: Oxford University Press.

MacDonald, K. L., Brimble, M. A., & Manning, A. (2014). *The iPad cohort of 2013: A multiple stakeholder view of the planning, design and implementation of a first year curriculum integrating tablets*. Paper presented at the 17th International First Year in Higher Education Conference. http://fyhe.com.au/past_papers/papers14/02G.pdf

Mango, O. (2015). Ipad use and student engagement in the classroom. *Turkish Online Journal of Educational Technology, 14*(1), 53-57.

Manuguerra, M., & Petocz, P. (2011). Promoting student engagement by integrating new technology into tertiary education: The role of the iPad. *Asian Social Science, 7*(11), 61-65.

Martin, R., Ostashewski, N., & Dickinson-Delaporte, S. (2013). *Creating authentic iPad activities to increase student engagement: A learning design approach*. Paper presented at the World Conference on Educational Multimedia, Hypermedia and Telecommunications.

McFarlane, C. (2013). Ipads and their potential to revolutionize learning. *World Conference on Educational Multimedia, Hypermedia and Telecommunications, 1*, 1690-1695.

Mullen, C. (2014). iPad iPedagogy: A study of teacher perceptions on the impact of the iPad on teaching and assessment practices at a third level college in the United Arab Emirates. Retrieved from: http://bspace.buid.ac.ae/bitstream/1234/671/1/120092.pdf

Onwuegbuzie, A. J., & Collins, K. M. T. (2007). A typology of mixed methods sampling designs in social science research. *The Qualitative Report, 12*(2), 281-316.

Ostashewski, N., Dickinson-Delaporte, S., & Martin, R. (2014). Reconceptualizing learning designs in higher education: Using mobile devices to engage. *Advancing Higher Education with Mobile Learning Technologies: Cases, Trends, and Inquiry-Based Methods*. Retrieved from: https://books.google.com.au/books?hl=en&lr=&id=fKR_BAAAQBAJ&oi=fnd&pg=PA220&dq=Reconceptualizing+learning+designs+in+higher+education:+Using+mobile+devices+to+engage&ots=tY4gYSOVPi&sig=ip1wU4YDVey6NqmhkdxOTeli-xk#v=onepage&q=Reconceptualizing%20learning%20designs%20in%20higher%20education%3A%20Using%20mobile%20devices%20to%20engage&f=false

Park, E., & del Pobil, A. P. (2013). Technology acceptance model for the use of tablet PCs. *Wireless personal communications, 73*(4), 1561-1572.

Psiropoulos, D., Barr, S., Eriksson, C., Fletcher, S., Hargis, J., & Cavanaugh, C. (2014). Professional development for iPad integration in general education: Staying ahead of the curve. *Education and Information Technologies*, 1-20. Retrieved from: http://link.springer.com/article/10.1007/s10639-014-9316-x#page-1

Ridge, N., Farah, S., & Shami, S. (2013). Patterns and Perceptions in Male Secondary School Dropouts in the United Arab Emirates.

Rossing, J. P., Miller, W. M., Cecil, A. K., & Stamper, S. E. (2012). Ilearning: The future of higher education? Student perceptions on learning with mobile

tablets. *Journal of the Scholarship of Teaching and Learning, 12*(2), 1-26.

Shanbrun, L., & Gilmore, C. D. (2013). Improving student engagement and success by using iPad initiated audience response systems in the classroom. *Journal of Nuclear Medicine, 54*(supplement 2), 2525-2525.

Shepherd, I. J., & Reeves, B. (2011). *iPad or iFad–The reality of a paperless classroom*. Paper presented at the Mobility Conference, Abilene Christian University. Retrieved December. http://www.acu.edu/technology/mobilelearning/documents/research/ipad-or-ifad.pdf

Souleles, N., Savva, S., Watters, H., Annesley, A., & Bull, B. (2014). A phenomenographic investigation on the use of iPads among undergraduate art and design students. *British Journal of Educational Technology, 46*(1), 131-141.

UAE 2021 vision. (2011). from http://www.vision2021.ae/downloads/UAE-Vision2021-Brochure-English.pdf

Wood, L. (2014). *ipad implementation in the middle school classroom: The teachers' perspectives.* (Masters of Education), University of Ontario Institute of Technology, Ontario. Retrieved from https://ir.library.dc-uoit.ca/bitstream/10155/499/1/Lauren_Wood_Masters_Project_August%202012.pdf