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Barriers and solutions to adopting blended-learning in private schools for students from low-income families

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Abstract

Statement of Problem: *Blended learning is the integration of educational information communication technologies with traditional face-to-face teaching (Colis & Moonen, 2001). In the twenty-first century, with the new generation of digital native students, adopting blended learning to enhance student learning experience is no longer a question, but a given. But, are all schools able to integrate blended learning into their teaching and learning environments and prepare their students with the necessary digital skills desired by higher education institutions and employers alike? What are the barriers to adopting blended learning by schools that cater to students from medium-low wage households?*

Significance and relevance of work:: *The pilot study is carried out on one private school that caters to students from medium to minimum-low wage households in Dubai, United Arab Emirates. United Arab Emirates is very diligent and conscientious towards educational improvements in the country. The nation's 2021 vision aims to improve the nation's education sector to become competitive not just in the region, but in the world (National Qualifications Authority, 2013). The Emirate Dubai's Ruler, His Highness Sheikh Mohammed bin Rashid Al Maktoum always encourages advances in education and the role of information communication technology in boosting education (Arabian Business, 2014). The government has initiated many projects geared to support the public schools and implement technology for the benefit of the students.*

However, this research is very timely because it focuses on the private schools in Dubai, United Arab Emirates, particularly those schools that cater to students from medium to low income households. The findings of this study are expected to be beneficial to the following stakeholders:

- *Private schools*
- *Teachers*
- *Parents*

- *Governing bodies*

Description of research method: *As this is the phase one of the pilot study, a mixed-method approach has been used in order to fulfill the requirements of the phase. Existing literature has been analyzed to understand the barriers to blended learning. Then, a qualitative exploratory case study design has been adopted through structured 5-point Likert scale surveys and semi-structured and informal interviews and focus groups with the chosen private school in Dubai to understand the barriers faced by private schools that cater to students from medium-low income households and teachers' perceptions of blended learning and the process of adoption of blended learning in their school (McMillan & Schumacher, 2010; Maree, 2010).*

Results: *This paper reports the findings of the phase one of the pilot study being carried out in the United Arab Emirates to understand the barriers to adopting blended learning in schools, particularly the lack of funds to acquire information communication technology tools and facilitating training for teachers to help them integrate blended learning with the traditional classroom teaching. More specifically, the report highlights the difficulty faced by the schools that attract students from medium to low-minimum wage households and offer education at a low-fee structure. With a focus on one such school, the report offers insight into the current system of inspections in Dubai, the fastest growing Emirate of United Arab Emirates, that lead to ratings which decide on increments of fees, thereby further placing such schools in deeper predicament.*

Conclusions: *The paper concludes with recommendations based on further review of literature towards a possible solution to help these schools adopt blended learning through collaboration of schools, parents and community, using a proposed Triad Stakeholder Model and paves way for phase two of the pilot study, that of validating the effectiveness of the proposed model.*

Introduction

E-learning allows for a learning environment away from the actual classroom (Aranda, 2007; Moore & Kearsley, 2005), encouraging collaboration, improved team work and independent thinking among school students (Icon, 2002). Blended learning, on the other hand, is a combination of e-learning techniques and traditional classroom teaching, facilitated by the teacher (Simonson, 2006; Bonk & Graham, 2005, Culatta, 2011) and seems to be the desired option by many schools.

Whether implementing e-learning or blended learning, information communication technology (ICT) has had extraordinary influence on the practice and process of teaching and learning in schools in the last decade or so everywhere, including in the United Arab Emirates (UAE). With the support and encouragement of governing bodies, parents and policy makers,

many schools have adopted various ICT tools inside and out of classrooms successfully. This is mainly because the benefits of using ICT in education are many-folds. From quick communications, to enhanced visual and auditory learning, to pushing learning beyond the classrooms, ICT usage has revolutionized teaching and learning not just in the UAE but worldwide (Anderson, 2010).

However, where many schools have incorporated some form of ICT into their education system, many schools are still lagging behind in the UAE. The impact of ICT on education in some schools does not seem to have been as significant as expected due to reasons such as lack of finance, training, motivation and even interest among teachers (Soloway & Prior, 1996; Oliver, 2002).

This paper reviews existing literature on the use of blended learning in schools in the UAE in an effort to highlight the main reasons for the lag among some schools in catching up with using ICT in their teaching and learning environment, and through preliminary research and survey, proposes the development and implementation of a Triad Stakeholder Model that may help overcome the barriers to successful transition from traditional teaching and learning to blended learning environment at a local, private, school for low-income families (SLIF) in Dubai.

Digital Natives and Blended Learning

ICT has been defined as any information and/or communication technology (hardware/software) that can be used to design, create, transmit, store or interpret information (Stevenson, 1997). Due to the rapid growth of ICT use in everyday life, from education to communication to business, students in the twenty-first century represent a new generation of users who are growing up with technology, rather than being taught to use them (Prensky, 2001; Palfrey & Gasser, 2008; Khan, 2012). These students invariably think differently and process information differently than previous generations because they have not known a world without ICT, making them the digital natives (Tapscott, 2008). Due to this transformation of the typical student, literacy has also been redefined as the ability to read, write, learn, comprehend and interact with technology (Coiro, 2003).

Schools and teachers have been busy competing with digital natives' knowledge and expertise in using ICT outside classrooms in the form of entertainment such as games, phones

and social media, by introducing new technologies into their teaching and learning environments (Ras & Rech, 2009; Goff, 2007; Schumacher, 2009). While some schools have advanced towards incorporating absolute e-learning environments, conducting the teaching and learning away from the traditional classrooms, others have struck a balance between traditional classroom teaching and the use of ICT, giving rise to blended learning (Colis & Moonen, 2001). Research suggests that a blended approach in a school setting is a much more desired environment than a traditional face-to-face or e-learning approach because it ensures the students' engagement with the content, peers and teachers, and drives the students' learning experience, appealing to different learning styles that are often represented in a typical classroom (Garrison & Kanuka, 2004).

Barriers to Implementing Blended Learning

Research has shown that the push to include ICT in schools has been successful, with most schools implementing computer labs, connected libraries and some going the extra mile to have computers in classrooms (Goldman et al, 1999). Some reasons for this success include ease of use, increased accessibility, monitoring, quick feedback, cheaper options of use, and so on (Khan, 2012).

However, there are some major issues that have not allowed the use of ICT in schools at the rate expected by most researchers (Soloway & Prior, 1996; Oliver, 2002):

- One major barrier is the placing of computers in the schools. If the computers are placed in computer labs and those labs have scheduled classes, then the accessibility to those computers reduces tremendously, thus reducing the utilization (Gahala, 2001).
- A second barrier is the lack of technical support available to teachers who are already tech-averse either due to past experience in using ICT or have developed a negative opinion because of someone else's experience, and therefore do not want to take the risk (Bailey & Pownell, 1998; Brody, 1995).
- A third barrier is the blurred distinction of goals for the blended learning. ICT use in classrooms can support higher-order thinking (Means et al, 1993). However, if the teachers do not have clear understanding of why they are being asked to use blended learning, they will not be motivated enough to roll out such projects and activities to students (Gahala, 2001).

- A fourth barrier is the teacher's changing role from an instructor to a facilitator and lack of professional development to support such changes (Henriquez & Riconscente, 1998; Kozma & Schank, 1998; Renyi, 1996).
- A final barrier is obtaining and sustaining funds to acquire and implement blended learning in the school (Anderson, 1996).

Pilot Study Methodology

This report highlights a pilot study that is in progress currently in order to understand the depths of the problem statement and propose a possible working solution model.

The pilot study is being carried out in two main phases. After carrying out a review of existing literature and choosing a case school, the pilot study tries to establish the gap in the existing literature and in practice where private schools are concerned in integrating and adopting blended learning approach. In doing so, the study puts forward a Triad Stakeholder Model that the authors believe is the way forward for most private SLIFs . This is phase one. In addressing the problem statement, a mixed-method approach is used that includes qualitative exploratory case study research design (McMillan & Schumacher, 2010), 5-point Likert scale survey to collect data on school demographics, face-to-face informal interviews to understand teachers' perceptions of adoption of blended learning and secondary data review. A mixed-method approach has been used in an effort to understand the types of existing barriers that schools perceive as obstacles to adopting blended learning and pose possible solution model (Maree, 2010). Complete sample of chosen school in chosen city were included and will be invited to participate as respondents (Cohen et al, 2010) to provide additional clarity on information that will be collected from the school database.

In phase two, the pilot study proposes to develop the final model and test the model through implementation of the proposed solution and then test the effectiveness of the solution model through surveys and analysis of data collected. Ultimately the aim of the pilot study is to provide a basis for a future comprehensive study in order to establish a solution model appropriate for all SLIFs wanting to integrate blended learning into their teaching and learning environment.

However, as this is beyond the scope of the report, phase one of the pilot study is discussed in detail below and phase two will be presented as a report at a later stage.

Blended Learning and Schools in Dubai, UAE

Pilot City: Dubai, UAE

UAE is a relatively young nation, having gained its independence in 1971. It is located in the Southern part of the Arabian Peninsula and is a federation of seven emirates, namely Abu Dhabi, Dubai, Sharjah, Umm al Quwain, Ras al Khaima, Ajman and Fujairah. With the discovery of oil, the nation grew fast under the visionary leadership the founding father, Late HH Sheikh Zayed al Sultan al Nahyan, expanding its horizons to international trade, tourism, and even education. The country has the second largest economy in the Arab region with a gross domestic product of $400 billion recorded in 2013 (World Bank, 2013). The total population of the nation stands at 9.45 million as reported in 2013 (World Bank, 2013). This pilot study, however, focuses on Dubai and its schools.

Dubai is the fastest growing Emirate in the UAE and has outgrown its oil exports under the leadership of the visionary ruler, HH Sheikh Mohammed bin Rashid al Maktoum who has made it into a bustling metropolitan city, a melting pot of cultures, beliefs, traditions and languages. This city saw a growth rate of 6.1% in 2014 (Zawya, 2014) with a population of more than two million and only 170,000 indigenous (Dubai FDI, 2013). This suggests a 90% expatriate population that resides in Dubai currently.

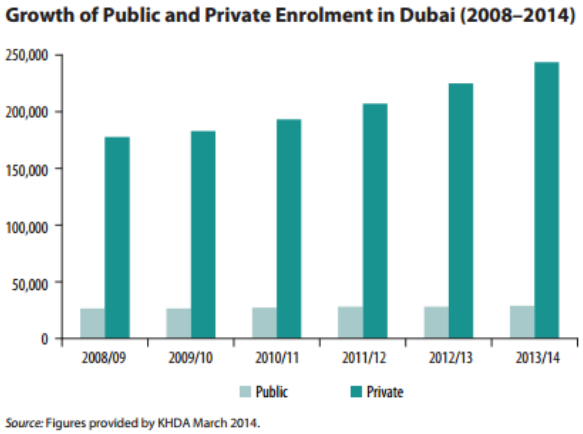
Education in Dubai

With the increase in the population of expatriates in the city, the education sector has also exploded in the last few years. Dubai currently has many public and private schools accommodating over 200,000 students (see Figure 1). One of the highest priorities of Dubai and the entire nation for social development has consistently been education, further stressed by UAE Vision 2021 (National Qualifications Authority, 2013).

With almost 90% of schools belonging to private sector, Dubai established the Knowledge and Human Development Authority (KHDA) in 2007 to oversee growth, quality and direction of private education in Dubai (Thacker & Cuadra, 2014). KHDA uses an analytical framework looking at engineering, incentives and accountability to inspect the

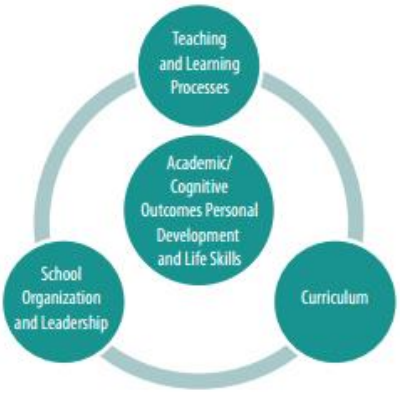
private schools annually, producing a report that is presented to the schools and made available to the public, using the inspection framework shown in figure 2 below.

Figure 43: Growth of Public and Private Enrollment in Dubai (Source: Thacker & Cuadra, 2014)



Source: Figures provided by KHDA March 2014.

Figure 44: Dubai Schools Inspections Bureau (DSIB) Inspection Framework (Source: Thacker & Cuadra, 2014)



Source: Adapted from DSIB, 2013, p. 124.

The schools inspected by KHDA are rated on a scale ranging from Outstanding to Good to Acceptable to Unsatisfactory. The table below illustrates the overall ratings given to schools in 2013 after an extensive inspection process.

In recent reports, key areas of dissatisfaction in the KHDA inspections of schools deemed acceptable or unsatisfactory have highlighted the need for improvement in

- monitoring and evaluation of assessments,

- professional development of teachers and
- modification of curricula, with emphasis on the lack of use of pedagogical tools and ICT in preparing students' digital literacies as well

(KHDA, 2014).

Table 2: Overall rating of schools by curriculum (Source: KHDA, 2014)

Overall Rating of the Schools by Curriculum

	UK	Indian	US	MoE	IB	French	Other	All School
Outstanding	9	2	1	0	0	0	0	12
Good	27	8	7	3	6	4	2	57
Acceptable	14	13	21	6	0	0	10	64
Unsatisfactory	1	2	1	3	0	0	1	8

One outcome/incentive of the reports allows Outstanding and Good schools to increase their fees, besides giving parents and community option to choose these schools based on the reports in line with the School Fees Framework (SFF) provided by KHDA. The SFF dictates and governs the school fee increment based on the annual inspection ratings, educational and economic aspects, and allows for the following percentages on the Educational Cost Index (ECI) that is annually decided by the Dubai Statistics Centre:

Table 3: Educational Cost Index (ECI) and % of increment allowed by KHDA (Source: KHDA, 2012)

DSIB School Performance Results	Percentage
Outstanding	ECI x 2
Good	ECI x 1.5
Acceptable	ECI
Unsatisfactory	ECI

Blended Learning in Schools in Dubai

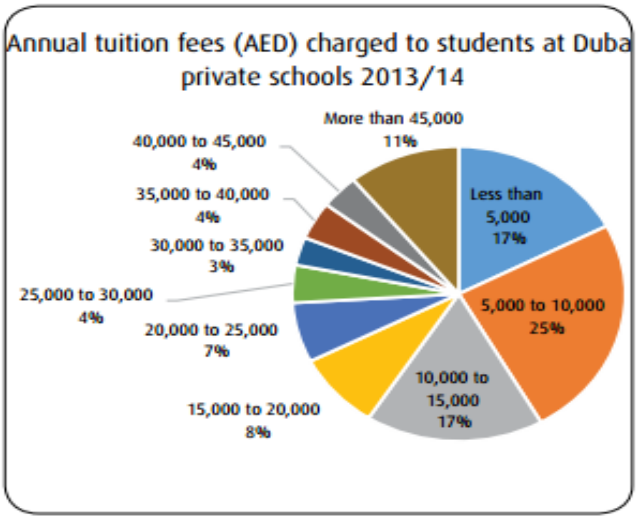
Dubai has a comprehensive framework of ICT in business and government (Rosenthal, 2009). For instance, the Dubai Smart Government stands as an example of one such initiative by the city to incorporate ICT. In 2008, the United National Department of Economic and Social Affairs ranked UAE as the 32nd in e-readiness index, out of almost 200 countries (United

Nations, 2008). In the education sector, in 2012, His Highness Sheikh Mohammed bin Rashid Al Maktoum launched the Mohammed bi Rashid Initiative for Smart Learning for public schools in Dubai, aiming to create an integrated e-learning platform for teachers, parents and students of public schools through a US$273,224,043 project as a joint venture between Ministry of Education and the UAE Telecommunications Regulatory Authority (TRA) in association with HH Sheikh Mohammed's office (TRA, 2013). In 2013, the TRA initiated and signed an ICT Fund worth US$ 14,480,874 to support the Smart Learning program, targeted towards public schools. Due to the tremendous support from government bodies and agencies, most public schools have begun implementing blended learning environments within their education system, some moving completely towards e-learning environment.

However, the private sector depends mostly on investment, loans and school fees as sources of income in order to implement any ICT tools in order to incorporate blended learning in their schools (see Figure 3 below for distribution of fees in Dubai). According to the figure, 42% of students in Dubai pay less than US$2700 per year as tuition fees to private schools while only 15% pay more than US$10900. This poses a question on unequal funding sources for all schools in Dubai.

Interestingly, studies have shown that majority of the schools considered Outstanding or Good all have incorporated blended learning in their schools (KHDA, 2014). On the other hand, majority of the schools deemed Acceptable or Unsatisfactory have been found to have had lukewarm integration of ICT into their learning and teaching environments (KHDA, 2014). Based on the literature, it can be seen that one major barrier among private SLIFs in Dubai, UAE is the lack of funding to attain and sustain ICT for blended learning. In the next section, this report looks closely at one private school in Dubai that caters to students from low-income families and is struggling to increase its KHDA rating and incorporate blended learning approach into its teaching and learning environment, in order to understand the barriers they face.

Figure 45: Annual Tuition Fees charged by schools in Dubai (Source: KHDA 2014b)



Background: The Case School and Blended Learning

In order to understand the depths of the barriers in incorporating blended learning in some schools in Dubai, the pilot study uses a case school, details of which are provided in this section.

Pilot School: The Case School in Dubai

For the purpose of the pilot study, the school chosen, hereby to be referred to as the Case School has been chosen because it is a SLIF, attracting students from low-income households and striving to move up in the KHDA ratings.

The school was established in 1982 and is affiliated with the Central Board of Secondary Education (CBSE). The school has classes from kindergarten and goes up to 12th grade. It follows "the New Indian Model Group of School's curricula in Kindergarten, National Council for Education and Research and Training syllabus in Grades 1 – 8 and the CBSE in Grade 10, and Senior School Certificate in Grade 12", (KHDA, 2014c).

With over 30 years of experience, the school's board results are highly comparative, with top 5% of school graduates are accepted into some of the top universities in the country or receive scholarship to attend universities overseas.

School Demographics

It currently has over 3000 students enrolled with almost 200 teachers and two teaching assistants. It runs two separate sessions – a morning session for boys and girls from kindergarten to Grade 2 and for girls from grades 3 – 13, and an afternoon session consisted of boys from Grades 3 – 12 (KHDA, 2014c). Preliminary survey using a tool on Likert scale followed by focus group interviews of some teachers and management have found that:

One quarter of all students are in foundation stage (kindergarten), while almost half the population are in primary phase (see Figure 5 for details)

The monthly fees of the school ranges from about US$54 to US$109 per month (see Figure 6 for details)

The school's target population is South Asian students, with 3/4 of the currently enrolled students of Indian nationality. There are no Emirati students. See Figure 6 for details

Lower middle to minimum-wage range families with average monthly income of approximately US$ 1900

Figure 46: Distribution of students according to grades

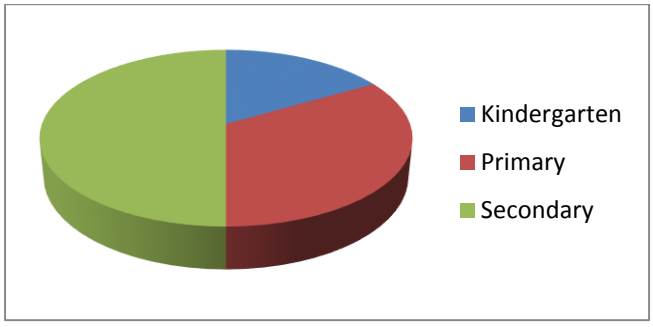


Figure 47: Distribution of fees across school grades from KG - 12

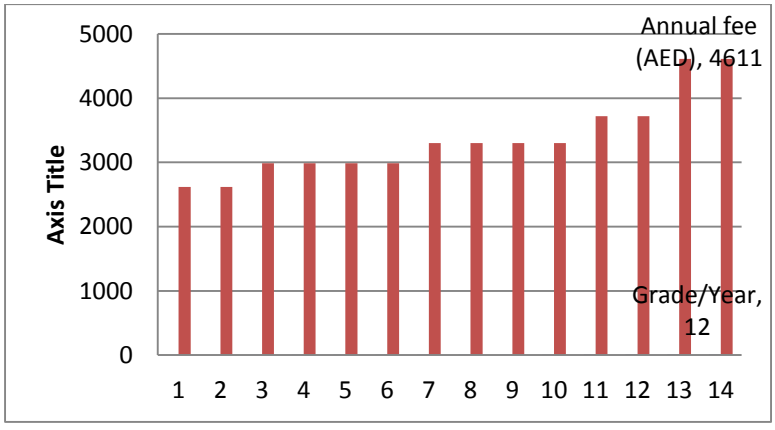


Figure 48: Distribution of students according to nationality

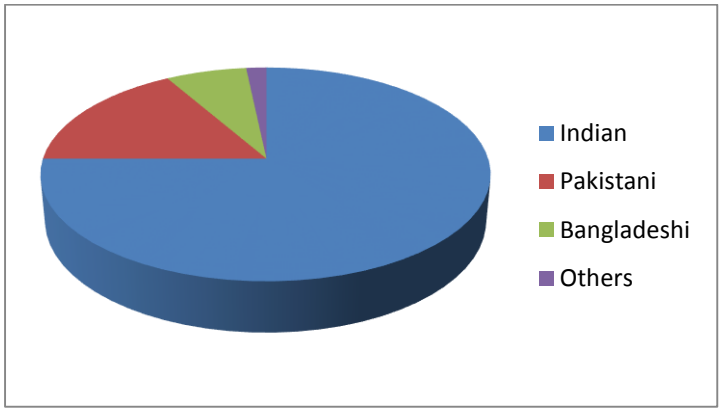
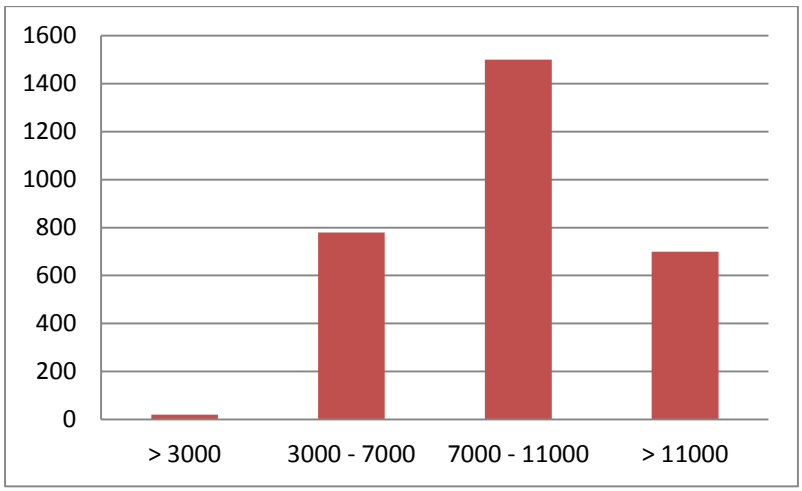


Figure 49: Distribution of students according to family income



School ICT Infrastructure

The school has a live website that is constantly upgraded, containing the generic information for potential customers and offering a Parent Login to allow access to learning resources for home learning.

The school currently houses three fully-functioning computer laboratories and a library that has a few computers connected to the Internet. There is an IT department that provides technical support if and when needed.

As part of its ongoing efforts to implement and adopt blended learning into its teaching and learning environment, the school encouraged all teachers in 2012 to buy laptops from a vendor at a subsidized price through a salary-based loan. The school rolled out more than 100

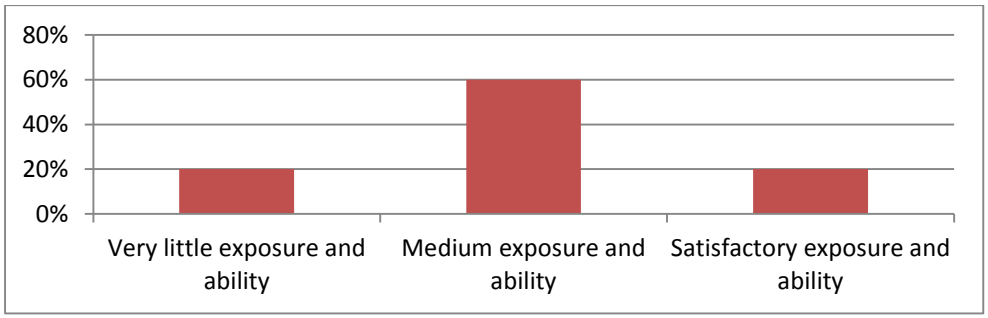
laptops to its teachers and the teachers have been paying back the loan every month through monthly deductions from their salary. The main drivers behind the roll out of laptops at the school were two folds:

The CBSE system that the school follows is now heavily dependent on online database of exam papers, practice sheets, syllabi and so on. So, the school needs to ensure its teachers have the right equipment in order to be able to access the websites and resources in order to be able to provide the resources to the students for enhanced learning experience.

Enhancing the communication between teachers and students and offering homework and such to students via the school's website, thus encouraging student and parent interaction is a part of fulfilment of KHDA recommendations (KHDA, 2014c).

It is important to note here that although teachers have been asked to buy the laptops, cascading professional development opportunities have not been available in order to assist teachers in the transition. Only 20% of the teachers, those in secondary section, have some experience in using ICT and consider themselves as tech-savvy. 60% are not confident of using ICT in classrooms or for teaching purposes. Remaining 20% have very little skills in using ICT and do not use to except for basic communication requirements (see Figure 8 below for details). There are no computers in classrooms or existence of any smart technology on campus.

Figure 50: Teacher Perception of their own exposure and ability to use ICT for Teaching



Among reasons for such a large number of teachers with below average exposure and/or ability to use ICT, the study has found that most teachers:

- Have not used ICT before and so are apprehensive
- Fear embarrassment in front of students and peers due to lack of knowledge and skills

- Think the bare-minimum is enough
- Don’t have enough training to know how to incorporate blended learning in traditional classrooms
- Don’t have enough funding to buy and use ICT in classrooms
- Need clear policies and support to implement blended learning

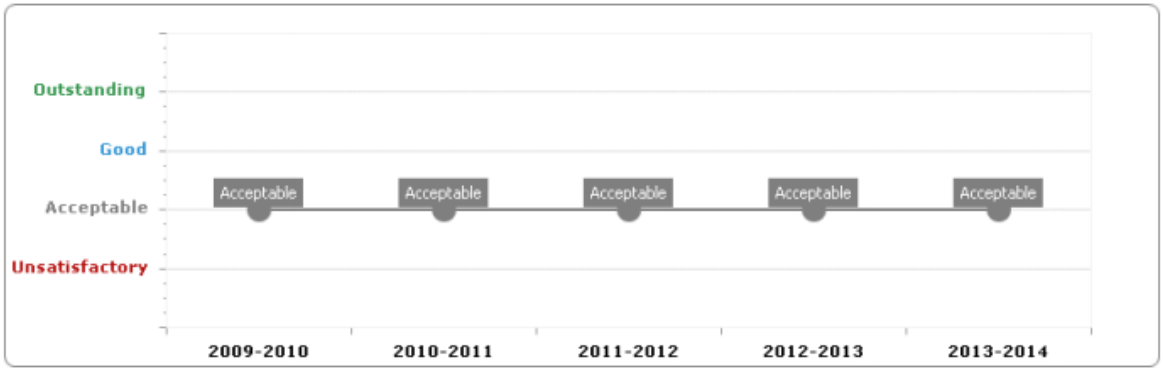
60% of the secondary school students consider themselves to be tech-savvy and have access to a computer/laptop and Internet outside of school. However, almost 70% of all students believe they are unable to bring their own device to schools because they simply cannot afford it. Only 23% of secondary students own their own mobile phones, of whom15% own smart phones.

Overall, although the school seems to understand the importance and benefits of adopting blended learning, there is a barrier in teacher perceptions of integrating face-to-face teaching with blended learning.

KHDA Report on the School

The school has been steadily receiving ‘Acceptable’ rating by KHDA (see Figure 8 below). The reports have found that the students’ personal and social development is in the ‘good’ range along with students’ participation in extracurricular activities. Inspectors of the school have, however, recommended that although ICT skills were apparent in the middle phase of students, it was rarely acceptable in primary lessons (KHDA, 2014c). The report further suggested that neither the parents nor the students thought the school provided sufficient ICT to support learning (KHDA, 2014c).

Figure 51: Trend of overall performance (Source: KHDA, 2014c)



The demographic data of Case School and the KHDA recommendations to the school make the Case School an apt candidate for this pilot study.

Statement of Problem

Based on the preliminary surveys, interviews and the KHDA report, it is suggested that one of the major barriers for Case School to implementing a blended learning approach is the severe lack of funding (Anderson, 1996; Murphy et al, 2014; Muyinda, 2012), especially as the school's fees are low, compared to the schools in the Outstanding and Good ratings in Dubai. As the school fails to attain a higher rating than Acceptable every year, it does not get an opportunity to increase its fees substantially to increase profit margin, nor can it increase the fees substantially as it may then inadvertently change its market position and lose its target customers. This lack of funding impacts the inclusion of blended learning in two ways:

- Unable to acquire ICT tools needed for blended learning
- Unable to train teachers on how to incorporate blended learning

This poses a serious threat on the school's ability to prepare students for the twenty-first century with digital literacy, ready to join higher education or the work force. ***So, how can an SLIF with limited funding source adopt blended learning?***

The next section looks closely at developing a solution model that can help Case School integrate blended learning into its teaching and learning environment.

Is BYOD the way forward for SLIFs like Case School

To combat funding issues, many schools implement policies that permit students to bring in their own mobile devices to schools in order to be able to cut costs and still include ICT as an essential part of the students' learning experience (Bhaskar, 2013). This is known as BYOD or Bring Your Own Device, sometimes also called Bring Your Own Phone (BYOP) or Bring Your Own Computer (BYOC) (Bhaskar, 2013). This strategy was first introduced by Intel in 2009 in order to cut down cost of technology due to the financial crisis but has gained popularity, particularly in education sector over the years because of its tremendous success across the globe (Snehanshu, 2013). Research has shown the power of blended learning approach in changing the traditional private schooling system in conjunction with BYOD

program that increases access to learning resources, making adoption of blended learning even more successful (Jones, 2013).

However, pilot study has already shown that the Case School is a SLIF, with low fee structure. Some students at the Case School have reported that they are not able to afford ICT outside of classrooms. So a pure BYOD policy does not seem feasible in the case of SLIFs such as the Case School in Dubai.

Epstein and Sanders (2006) suggest a partnership team of distributed leadership that includes parents, teachers and schools that can assist schools. Parental engagement has been deemed as a potential part of solutions to specific issues such as the introduction and use of technology in schools (Lucas, 2013). However, the pilot study has produced data that emphasizes that most of the families are medium to lower wage earners and therefore, in the case of the Case School, just including parents to help implement BYOD policies may also not be feasible.

Research has suggested a partnership of school stakeholders that include parents, schools and the greater community6 in supporting student development and digital skills (Melaville et al, 2011). Collaborative partnership between schools, parents and community allows for greater resource allocation and coordination according to the needs of the students, thus leading to greater school improvement (Melaville et al, 2011; NEA, 2008). One of the six types of involvement suggested as a research-based framework by Joyce Epstein of John Hopkins University highlights the importance of such collaborations with the parents and the community, strengthening parent-school partnerships to improve the schools, strengthening families, building community support and increasing student learning (Epstein & Salinas, 1992). Many studies have recorded the successful and positive impact of connecting community and parent resources with student and school needs in the past making it a key characteristic of even high-performing schools (Henderson et al, 2002; Communities in Schools, 2007).

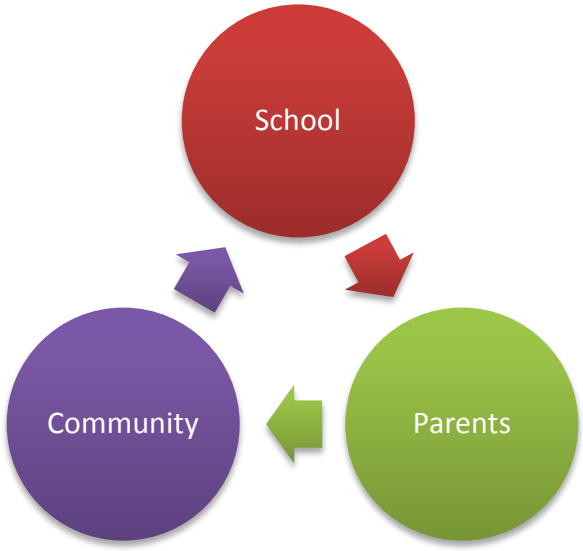
[6] Greater community includes stakeholders such as parents themselves, local businesses, universities

So, although it is clear that a BYOD policy cannot be adopted, it is possible to perhaps modify the concept of BYOD by including parents and community, given their influence and importance, to achieve the goal of adopting blended learning to SLIFs such as the Case School.
Modifying BYOD to propose Triad Stakeholder Model for SLIFs

While BYOD is the policy Bring Your Own Device, this research suggests a modified policy called Get A Sponsored Device (GASD) that allows schools to work in conjunction with parents and community to get sponsorships to:
buy the ICT tools – these can be the devices, phones, laptops, tablets, networks, etc
organize training for teachers to help them understand the need for blended learning and facilitate the integration of the ICT tools towards adopting blended learning in their subjects

This will give rise to a Triad Stakeholder Model (see Figure 10 for details) whereby the school works in conjunction with parents to find sponsors from the community to (i) fund the ICT tools needed for the school to implement blended learning and (ii) facilitate teacher training and transition from traditional to blended learning environment.

Figure 52: Triad Stakeholder Model for SLIFs



Implications and Limitations

The phase one of the pilot study has reviewed the existing literature to establish the importance of blended learning in schools in the UAE, particularly in Dubai. Studies have shown that with the adaptation of blended learning, students move from surface learning to deep learning, enhancing their overall learning experience, due to improved pedagogy, easy access, cost effectiveness and so on (Proctor, 2003; Graham, 2006). However, schools that cater to students from medium to minimum-wage households are finding it difficult to spend from their earnings to fund ICT tools and adopt blended learning. This is having an impact on their overall performance, getting them lower ratings by the government agency, KHDA every year, which is not giving them opportunity to increase the fees in order to get the required funding.

The pilot study has established that although SLIFs are unable to adopt blended learning due to lack of funding, they have a strong tool in parent – school – community collaboration that can help them overcome this barrier.

The next phase of the pilot study aims to (i) apply the proposed Triad Stakeholder Model presented in this report by getting parents' and communities' help in gaining sponsorship to fund acquirement of ICT tools for blended learning and teacher training and (ii) test the effectiveness and validity of the model through rigorous statistical analysis. However, as this is beyond the scope of this report, phase two findings will be published as a separate article.

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