

The Changing Landscape of Language Teachers' Usage of ICT in Classrooms in SMK Bandaraya Kota Kinabalu, Sabah, Malaysia

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ABSTRACT

The Malaysian Smart School is a learning institution that has been systemically reinvented in terms of teaching and learning practices in schools and school management processes in order to prepare students cope with the information age. It aims to produce proactive, efficient and competent students in information literacy so that they will be self-regulated learners who practise self-accessed and self-directed learning, at their own learning pace. In addition the Ministry of Education, Malaysia has also stated clearly in the National Education Blueprint (2013 – 2025) under Shift 7: Leverage ICT to scale up quality learning across Malaysia. Using models from Fullan's Change Theory and Rogers' Diffusion of Innovation Theory, a study was carried out on language teachers' changing mindset in integrating ICT in their classroom teaching in the school, SMK Bandaraya Kota Kinabalu. The study was carried out using observation techniques supported by the results obtained from the SSQS survey questions and a language teacher's feedback form to determine language teachers' progressive usage of ICT in their teaching process. Special focus is given to the changing attitudes of the language teachers in using ICT in their classrooms. Some issues that arise in the school's context and smart solutions taken to overcome these issues are also discussed. In conclusion, the writer proposes ways to further enhance and to upgrade the school's achievement in using ICT in the teaching and learning process.

Keywords: Information and Communication Technologies (ICT), ICT integration, enhancing learning, change, diffusion of innovation, Technological Pedagogical Content Knowledge

INTRODUCTION

Much have been said and documented about the Malaysian Smart School Project which began its implementation in 1997. This project is one of the Flagship Applications of the Multimedia Super Corridor (MSC) in Malaysia. The Malaysian Smart School is a learning institution that has been systemically reinvented in terms of teaching and

learning and school management processes in order to prepare students cope with the Information Age. Students are expected to be taught and be competent in information literacy. The intended outcomes of the Smart School are students will have the ability to use digital technology, communication tools, and/or networks to define, access, manage, integrate, evaluate, create, and communicate information ethically and legally in order to function in a knowledge society. Students will be able to practise self-accessed and self-directed learning, at their own learning pace, have the ability to distinguish when information is needed and then, the ability to locate, evaluate, and use the required information effectively. On 6th September 2013, the Ministry of Education, Malaysia launched the National Education Blueprint (2013 – 2025) which identified 11 shifts that need to be implemented to spur the education system in Malaysia to greater heights. One of the main concerns is Shift 7 which aims to “Leverage ICT to scale up quality learning across Malaysia” (Ministry of Education, Malaysia, 2012).

At the grass-root level, the writer’s school, SMK Bandaraya Kota Kinabalu (SMBKK) began its smart school programmes in 2003 when the two computer laboratories were equipped with computers. It was classified as smart school with level B technology by the Ministry of Education, Malaysia (MOE) based on the level of IT-integration in schools. When the writer assumed her post as the Principal here in 2009, she was keen to find out why after six years of IT-integration in this school, the Smart School Qualification Standards (SSQS) star ranking was only at the median or 3-stars level. By 2010 and 2011 the school successfully achieved the Advanced Plus or 5-stars level, the highest approval ranking awarded by the MOE.

In this paper, the writer will discuss the changing attitudes of the language teachers in SMK Bandaraya Kota Kinabalu in using ICT in their classrooms. This study aims to answer the questions below:

- i. What is the level of ICT integration of the language teachers?
- ii. What are the teachers’ perceptions towards students’ learning when integrating ICT in their language classes?
- iii. What are the problems faced by the teachers when integrating ICT in their teaching?
- iv. Why do the teachers adopt the technological pedagogical content knowledge change?

The results of the annual Smart School Qualification Standards (SSQS) survey will be used as supporting data of language teachers’ progressive usage of ICT in their teaching and learning process. Some issues that arise in the school’s context and the smart solutions taken to overcome these issues are also discussed. In conclusion, the writer proposes ways to enhance and to upgrade her school’s achievement in using ICT in the teaching and learning process.

LITERATURE REVIEW

Background on the Developments of Malaysian Smart School

Back in the 1990's the Malaysian Government was aware that investment on information technology in education will spur up social developments and promote economic growth (Hamzah, Ismail & Embi, 2009). Hence, the Malaysian Government's embarked on the Multimedia Super Corridor (MSC) project in 1995, which aimed to create a knowledge-based economy through technological leapfrogging. This was one of the strategies to fulfil Malaysia's vision to achieve a developed nation status by 2020. In line with the task to fulfil Vision 2020, a transformation in the Malaysian education system is needed. The Malaysian Smart School was launched in July 1997 by Tun Dr. Mahathir Mohammad, the Prime Minister at that time, as one of the Multimedia Super Corridor's Flagship Applications. Chan (2002) in her paper explained the developments and strategies taken by Educational Technology Division, Ministry of Education, Malaysia to enhance ICT in education. Three main policies for ICT in education were formulated. The policies are drawn up for students, teachers and administrators in their office work. In the quest to accelerate ICT in education, the Ministry of Education created a group of about ninety pilot schools in 1999 that were expected to 'jumpstart deployment of enabling technology' (Chan, 2002) in their respective schools. The Pilot Project was trial-testing the Smart School Integrated Solution, which involved the following main components (Chan, 2002):

- Browser-based Teaching-Learning Materials (and related print materials) for Bahasa Melayu, English Language, Science and Mathematics
- A computerised Smart School Management System
- A Smart School Technology Infrastructure involving the use of IT and non-IT equipment, Local Area Networks for the pilot schools, and a
- virtual private network that connects the pilot schools, the Ministry's Data Centre and the Ministry's Help Desk
- Support services in the form of a centralised Help Desk, and service centres throughout the country to provide maintenance and support
- Specialised services such as systems integration, project management, business process reengineering, and change management.

Following this initiative, ICT training for teachers in the form of a cascade model where trainers train trainers and colleagues at different levels: at school, district or state-level. Then, the Ministry embarked on a three-stage computerization programme in schools. The computerization programme aims to narrow the digital divide among students in the urban and the rural areas. Hence, computer laboratories were built beginning in year 2000 and by year 2002 all the 2400 schools selected would have computer laboratories, well- equipped with the required infrastructures.

ICT Integration in Malaysia Smart Schools

The Smart School Qualification Standards (SSQS) was introduced in schools in 2007 to gauge the status of the enculturisation and integration of ICT in education in schools. The objectives of SSQS are:

- i. To increase utilisation of ICT in schools
- ii. To develop a system (set of indicators) to measure ICT integration in administration and teaching and learning
- iii. To provide a basis for policy planning and programme improvements
- iv. To raise standards in education
- v. To serve as a catalyst for educational change
- vi. To empower teachers and learners

(Smart School Qualification Standards, 2009:12)

The status of every school's initiatives in integrating ICT in education is evaluated by using the SSQS which outlines the ICT Focus Areas. Each area carries its own weightage reflecting its significance in the SSQS. The areas are:

- i. Utilisation 40%
- ii. Human Capital 40%
- iii. Applications 10%
- iv. Technology Infrastructure 10%

(Smart School Qualification Standards, 2009:15)

A study was carried out on 4000 schools to measure the level of ICT integration in schools using the SSQS. Based on the data collected, a national report was produced by Hassan in 2007. The report stated that out of the 4000 schools that were rated according to the SSQS, 89% of the schools achieved VARIOUS LEVELS OF ICT INTEGRATION IN TEACHING AND LEARNING.

Levels of Approaches in Integrating ICT in the Curriculum

Wan Ali, Mohd Nor, Hamzah and Alwi (2009) in their study developed indicators that describe the level of ICT integration approaches in the curriculum as shown in Table 1.

The indicators stated in Table 1 may be used to gauge teachers' level of ICT integration approaches in their teaching and learning in the classroom. However, the drawback of the indicators is the duration use or frequency use of ICT which is not taken into account to determine the level attained. Therefore, in order to obtain a better evaluation of the teachers' level of ICT integration approaches in teaching and learning, a marriage between Table 1 and the indicators in the SSQS is required.

Table 1 Level of ICT integration approaches in the curriculum (Wan Ali *et al.*, 2009)

Level	Approaches	Situation
Level 1	ICT as verbal resources	Teacher teaches with the aid of ICT as verbal resource. Teacher gives the website addresses or name of courseware that would help students to enhance their understanding of the topics.
Level 2	ICT as printed resources	Teacher teaches with the aid of ICT as printed resources. Teacher distributes printed downloaded information as teaching aids.
Level 3	ICT as hands-on experience	Teacher teaches with the aid of computer, courseware, software or internet only.
Level 4	A combination of all the levels: ICT as hands-on, printed resources and verbal resources	Teacher teaches with the aid of computer, courseware, software or internet in delivering the lessons. She or he also gives out handouts with information printed from the internet or courseware.

Reasons for Integrating ICT in Education

Although the SSQS evaluates the status of schools integrating ICT in education using four major constructs, it is important for teachers and school administrators to be able to translate the constructs into pragmatic initiatives in their respective school context. Hence, the school administrators and teachers should know the reasons for integrating ICT in education in order to bring our curriculum relevant to the demands of the 21st century society.

Integrating ICT in the teaching and learning process does not just mean that teachers convert their lesson content in the form of power point presentation and students read from the computer screen instead of their text book. Ranasinghe and Leisher (2009) pointed out that in many cases, educators ‘failed to find the right blend of technologies’: hence, some educators merely replicated their existing educational practices by transferring their traditional teaching approaches into the computer screen. Ranasinghe and Leisher (2009) emphasised that teachers play a crucial role to teach students how to use technology in their learning process. Therefore, the conventional teaching of specific subject content matter ought to be re-designed to focus on solving problems and issues which would require students to search for relevant information in the network and develop smart solutions using facts, principles and procedures. Furthermore, once teachers and students begin using technology for their teaching and learning purposes, they will eventually realise that not only their computer literacy but other areas of learning are being enhanced. In addition, this will also add value to students’ learning; engage students in the four-step experiential learning process by Kolb (1984) as follows:

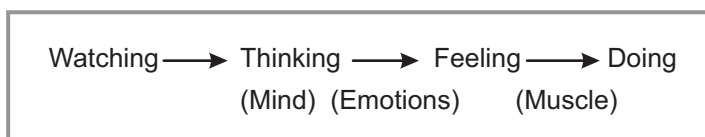


Figure 1 Kolb's (1984) four-step experiential learning

Other reasons highlighted by advocates of integrating technology in education are: students participate actively in their learning process as they are required to gather information from the internet and decide whether the information is relevant or not. The rich media that are readily available on the Internet can also stimulate students' sensory stimuli and thus, help the student grasp more complex concepts quicker and easier than using the written words alone. The use of technology in classrooms for this generation of students who are born in the digital era makes the delivery and learning environment very comfortable for them. With proper guidance from the teacher, students can easily acquire in-depth knowledge on any subject using different types of technology.

Factors Influencing the Integration of ICT in Education in Schools

Pang (2005) conducted an evaluation research project of an implementation of the Malaysian Smart School Curriculum in a secondary school in Sabah concluded in his findings that there were still many problems to solve and needs to fulfil even though the school has implemented the Smart School Curriculum for two years at that time. Among the areas identified that need to be improved were the basic resources such as time and financial support; the quantity and the quality of the hardware and software and teachers' training, exposure and motivation.

Similar findings were reported in the national report which was produced by Hassan in 2007. The report addressed some pressing issues such as teachers' training to integrate ICT in their teaching and learning process; changing educators' mindset and willingness to use ICT in classrooms; coping up with the rapid change of technology; increasing operation cost; maintenance of hardware and software; producing courseware compatible with the rapid changing needs of the schools and capacity building of qualified personnel in ICT is urgently required to speed up educators' ICT competency level (Shamsuddin, 2007).

In 2009, Wan Zah *et al.* identified the conditions that facilitated as well as the factors working against the implementation of ICT integration in the Malaysian Smart School. The study which was conducted in three Malaysian secondary schools, revealed two sets of conditions namely, the essential and the supporting conditions. According to Wan Ali *et al.* (2009), the essential conditions identified were the availability of ICT resources and the teachers' acquisition of ICT knowledge. Hence, for successful integration of ICT in schools, teachers must be knowledgeable and should have easy

access to ICT resources. Besides that, the supporting conditions that would encourage and enhance teachers' integration of ICT in their teaching process included accessibility to ICT resources; support by their school principals; teachers' own desire to change; students' advanced ICT skills; and teachers' commitment towards the innovation. Furthermore, among the problems faced by the teachers in this study during the process of integrating ICT in schools were time; training course content which was not relevant to the school context; and frequent technical problems with computers, server, router, and the LCD projector.

Another study conducted in the same year by Hamzah *et al.* (2009), also showed similar factors impedes the implementation of technology use in Smart Schools in teaching Islamic Education. Among the reasons why teachers were reluctant to integrate technology in their teaching were the limited number of computers and LCD projectors as well as supporting infrastructure. The computers available were mostly outdated. Other problems included slow internet connection and frequent interruptions due to weather conditions. There was also a lack of appropriate Smart Schools' software for Islamic Education. As with the other studies, time constraint remained as the major factor hindering the use of technology in classrooms. Teachers also reported that there was insufficient training to equip them to use ICT in teaching Islamic Education.

Theories of Change versus Diffusion and Innovation Adoption Cycle

The difference between theories of change and the diffusion of innovations lies in the people involved in the change and the innovation itself. Fullan (2005, 2006, 2007 and 2008); Hargreaves (2001) and Goodson (2003) discuss educational change occurring in schools by investigating factors that facilitate and conditions that hinders change. Based on the findings, the suggestions proposed are related to how the school community (principals, teachers and students) involved should adjust, adopt and internalise the change.

In the diffusion of innovations theory, the concern is about why some innovations spread more quickly than others and why others fail. Rogers (2003) as cited by Sahin (2006) stated that diffusion of innovations as a process by which an innovation is spread across members of a social system (which can be an individual or an organisation) over time; thus, the rate of adoption will depend on conditions like knowledge of the innovation, persuasion to use the innovation, decision to adopt or reject the innovation, then it is followed by the implementation stage whereby the task to integrate the innovation into regular use requires re-learning or re-invention of the innovation, in this context the integration of ICT in education. Once implemented, the individual or organisation will look for support for the decision made earlier. At the confirmation stage, there is still a tendency of discontinuance of the innovation. This means that the innovation may be adopted, rejected or abandoned depending the innovation decision process.

Rogers (2003), cited by Sahin (2006), proposed attributes of innovations that included five characteristics of the innovation which will influence the adopter's decision. The attributes are: relative advantage over other options, compatibility with the user's life

and practises with minimal interruption to the user's workflow, complexity or simplicity of use, trialability which allows user to test run the innovation and observability which refers to the extent the user gets to see, hear about and talk about the advantages of the innovation. According to Rogers' study, the adoption of the innovation process began with a small number of people, was slow in the beginning as awareness of the technology was limited. The early adopters were people who held leadership roles and were role models using the technology because they were the trend setters and their proclamation about the innovation determined the success of the adoption. Gradually, more and more people used the technology because this category of early majority becomes more aware of the technology and are convinced that the technology brought more advantages and minimal disruption to their workflow. Then the late majority who were conservative pragmatists who hate risk and were uncomfortable with the new idea will take on the innovation when they heard that plenty of other conservative folks like themselves thought it was normal or indispensable. Thus the rate of adoption increased until the technology became common use and saturated the market. At this point, the numbers of adoptions dropped off as there were fewer and fewer new consumers available. Figure 2 shows the adoption categories over time.

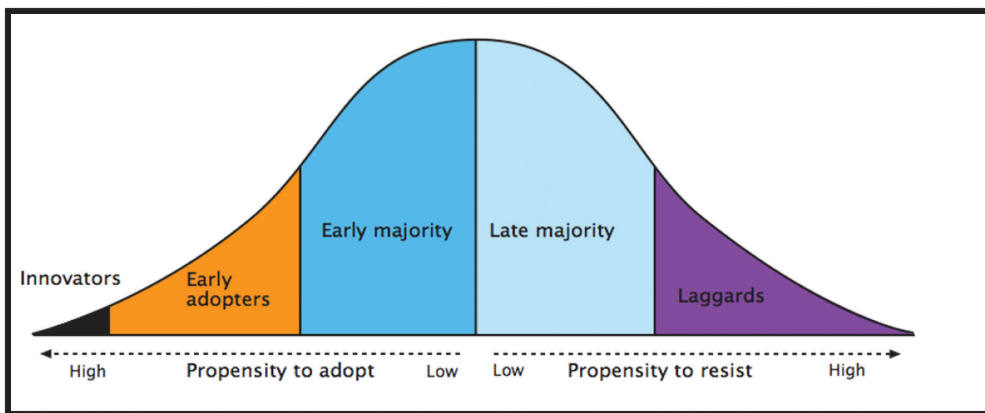


Figure 2 Adopters categories (Rogers, 2003, cited by Sahin, 2006)

METHODOLOGY

Respondents

A qualitative methodology was used to investigate the status of teachers' integration of ICT in their daily work in a school setting. The data was obtained through the writer's own observation as the school principal, classroom observations, a simple questionnaire, informal interviews and document reviews such as the teachers' record book and the SSQS survey forms. The participants in this study were all the language teachers of this

school which included the Malay language, English language and the Kadazandusun language teachers.

Background of School

SMK Bandaraya Kota Kinabalu (SMKBKK) is situated on the peripheral the city of Kota Kinabalu in Sabah, Malaysia. Before the physical development behind the school, the location of SMKBKK was deep inside a village and was only accessible through a single-lane un-tarred road. The school receives students from the surrounding villages and students who come from the nearby coastal areas and islands. The school has a population of 2620 students and a majority of them depend on public transportation to come to the school. At the moment the school can accommodate only 10% or 260 students in the school hostel. Generally, the students' parents are small-scale subsistence farmers, fishermen, odd-job workers, and some government officers. The main challenges the school faces are students' poor attendance and students' low motivation to attend school. Nevertheless, these pressing social issues do not hamper the spirit of the school's teachers and the determination to excel in various educational areas. For instance, one of the achievements is the 5-star ranking in the SSQS evaluation.

SMKBKK has the privilege to enjoy the facilities and support provided by the Malaysian Government. In year 2008, the school achieved 3-star rating, and then a 4-star rating in 2009. Various efforts were taken to ensure that the school would achieve the 5-star rating. In both 2010 and 2011, SMKBKK achieved the said target and is still moving on to sustain the status as well as to increase its score in line with the making of the school smart initiatives. Collaborative efforts from all parties and stakeholders are crucial in ensuring all ICT initiatives in schools are optimized for the benefit of teaching and learning.

Data Gathering Methods

Observing and monitoring teachers' teaching and learning process is one of the main job requirements of a school principal as an instructional leader in the school. In Malaysia, apart from observing teachers teaching in classroom, the school principal also checks teachers' record book every week. Data gathered through the classroom observations and teachers' teaching notes were used to study the changing attitudes of the teachers towards using technology in their classroom teaching. Informal interviews as well as responses from teachers during meeting in relation to the use of ICT by the teachers were noted as field notes. A simple questionnaire was administered to find out:

- i. the language teachers' perception and self-evaluation of their ICT competency skill
- ii. the frequency of ICT integration in teaching

- iii. teachers' opinion about students' learning with ICT
- iv. teachers' needs for ICT training
- v. issues faced by teachers in integrating ICT in their teaching
- vi. suggestions to fulfil the integration of ICT in their teaching

The SSQS survey form for teachers is provided by the Ministry of Education, Malaysia. The survey aims to find out two major focus areas:

1. Utilization of ICT in terms of ICT integration in teaching and learning
2. Human Capital development

Utilization of ICT includes the time used for integration of ICT-based teaching materials by teachers in teaching and learning; usage of Learning Content Management System; usage of electronic tools (email, SMS, online forum, chat, etc.) for teaching and learning; usage of educational TV content; usage of education technology equipment (other than computer and TV) such as overhead projector (OHP), slide projector, interactive whiteboard, radio or visualise; usage of internet by teachers for seeking information in teaching and learning.

Human Capital development focus area includes ICT competency level of teachers; number of ICT-related courses or workshops attended by teachers in the last three years; number of in-house training courses conducted by teachers; and frequency of dissemination of information regarding ICT by teachers.

Data Analysis

Qualitative data were gathered through the methods mentioned above. The data analysis was carried out guided by qualitative research literature (Merriam, 1998; Creswell, 2005; Strauss and Corbin, 1998; Miles and Huberman, 1994). Seidel (1998) explained that the complex and rigorous practice of qualitative analysis data (QDA) has a simple foundation which comprises three parts: Noticing, Collecting, and Thinking about interesting things. Hence, this paper was written based on the writer's three and a half years (2009, 2010, 2011 and 2012) of observations, reviewing documents (teachers' record books and SSQS survey forms), and talking to the teacher using the foundation summarised by Seidel (1998). The following discussion is based on the analysis of the SSQS survey form provided by the Ministry of Education, Malaysia. The indicators in the form are included as Appendix 1.

FINDINGS AND DISCUSSIONS

Question (i): What is the level of ICT integration of the language teachers?

The findings revealed that there was a growing trend where teachers in SMKBBK were gradually moving forward to integrate ICT in their teaching and learning process. This included the language teachers. However, based on Wan Ali *et al.*'s (2009: 27) 'Level of ICT Integration Approaches in the Curriculum' all the language teachers have attained at least Level 3 but not all the time. In terms of frequency use of ICT in their teaching, 61.5% of the respondents in the questionnaire said that they used ICT once a week; 19.2 % of the language teachers used ICT twice a week and only 11.5% of the language teachers used ICT everyday in their teaching and there were also three (11.5%) language teachers who admitted not using ICT at all in their teaching.

Question (ii): What are the teachers' perceptions towards students' learning when integrating ICT in their language classes?

All the respondents except one agreed that integrating ICT in their classroom teaching enabled students learn better. Among the comments and reasons given as to why they felt students learn better when ICT was used during classroom teaching and learning were:

- i. Something different from the normal pedagogical approach
- ii. Attractive visuals, sound and illustrations
- iii. Students were more focused
- iv. Students developed self-directed learning

Question (iii): What are the problems faced by the teachers when integrating ICT in their teaching?

The challenges faced by teachers in integrating ICT in their teaching and learning process were similar to most of the findings in other parts of Malaysia as well as abroad. In SMKBBK, the language teachers highlighted time as the major setback for them to integrate ICT in their teaching. The issue of time constraints was related to the significantly large amount time used to search for and prepare teaching materials, to set up the computer and LCD projector, visualizer, television and troubleshooting whenever there was a technical problem. This was followed by basic facilities such as malfunction sockets, lack of computers and LCD projectors, lack of special rooms for effective teaching using ICT and frequent power interruption. Besides, another main obstacle was the slow internet connection which was also cut-off frequently.

Question (iv): Why do the teachers adopt the technological pedagogical content knowledge change?

Hence, although faced with numerous challenges and hindrances integrating ICT in their teaching, the teachers' beliefs and acknowledgement that integration of ICT in their teaching had positive outcomes had attributed to their changing mindsets and their desire to change their teaching approach. These supporting conditions were further encouraged by teachers' acquisition of ICT knowledge through in-house trainings and workshops on the use of ICT equipments and management of software. The support from the school administration, ICT coordinator, technician and colleagues enabled the language teachers to upgrade their computer skills as well as increase their frequency of ICT use and most importantly, the teachers applied new technological pedagogical content knowledge in their teaching. As Fullan (1991: 131) advocated that the degree of a successful change in schools is 'strongly related to the extent to which teachers interact with each other and others providing technical help'.

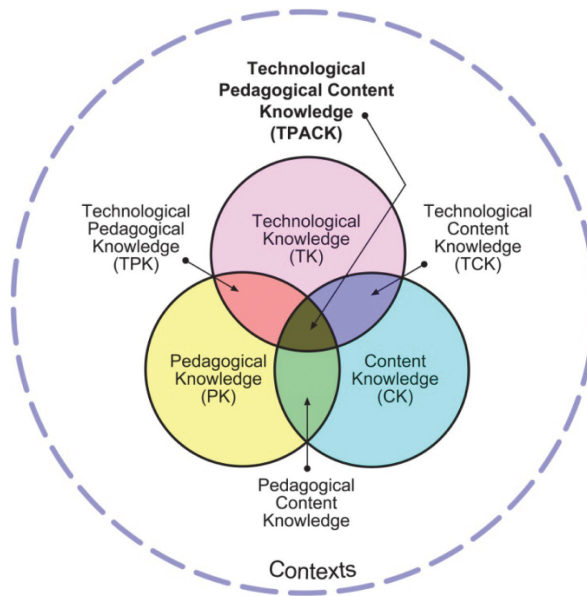


Figure 3 Technological Pedagogical Content Knowledge (TPACK) framework by *Matthew Koehler (2011)*
 (Source: <http://tpack.org>)

The desire to change and the teachers' commitment towards the innovation began to intensify in 2010. The writer showed leadership roles by integrating and utilising ICT and electronic tools in school management, staff meetings and disseminating information through school website, email, SMS, info-blast SMS, conducting ICT training courses

together with the ICT coordinator. In addition to the supporting conditions provided by the school administrators, the teachers were also convinced that the technology brings more advantages and minimal disruption to their workflow, as stated in the Diffusion of Innovation Theory (Rogers', 2003 cited by Sahin, 2006).

The aggressive integration of ICT in the teachers' teaching have helped the school earned high scores in the SSQS survey and sustain the five-star rankings namely, the Advanced Plus, the highest approval ranking. In 2012, English language teachers and students developed software for learning grammar and basic sentence structure which is named 'Grasenture'. The software can be used by students to learn English at their own pace. The Kadazandusun language teacher also used Kadazandusun songs downloaded from the internet to teach listening skills. The Malay language teachers developed teaching materials with interesting and interactive visuals and sounds to teach multiple types of language components, too.

CONCLUSION: MOVING FORWARD TO THE FUTURE WITH ICT

"Change is no longer an option it is now an imperative" (RSOG, 2010)

With the advancement of Information and Communication Technology (ICT) teachers who play the role as change agent must ensure that they are never lagging behind and must always stay relevant with the changing times. Teachers' ICT knowledge and the willingness to apply the knowledge in their teaching and learning process will ensure the success of this technology innovation. Nevertheless, the support and commitment of the school principal and administrators serve as the driving force to facilitate the teachers' implementation of ICT integration in their classrooms.

Although SMKBKK faces issues such as limited number of computers, LCD projectors, malfunction electrical appliances, slow or frequent interruptions of internet connections; these issue have not hindered the school's effort to fulfil the government's aspiration that all schools will be Smart School and technology will become an integral part of the nation's learning process. Efforts were taken to acquire more computers from the local community leaders and the school's Parents and Teachers' Association. The distribution of 1Malaysia netbook for approximately 800 students in SMKBKK had also enhanced the teachers' initiatives to incorporate ICT in their teaching. Apart from that, the school had allowed a network service provider to set-up two routers in the school so that the students could access the internet through the broadband service provided in school at a very low and affordable rate.

In conclusion, now having attained a five-star ranking based on the SSQS survey, it is imperative for the school to sustain this innovative change. In order to do so, the writer has to use smart strategies to ensure the sustainability of the successes. The vision and aspiration of the writer in this school to create a learning organisation is conveyed through

the school's corporate slogan: *We continue to learn and grow together for excellence*. The aspiration is translated into actions through various initiatives. Among them are creating efficient working teams of teachers in the school; giving due recognition to teachers for their positive effort; making teachers gain ownership of their innovative approaches in teaching by creating a platform for them to share their best teaching practices and providing them opportunities for further professional developments. Finally, the staffs in SMKBBK have always held on to a very simple principle: *Don't give reasons why you can't but give reasons why you can*.

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APPENDIX 1

KETERANGAN BAGI SETIAP INDIKATOR SMK BANDARAYA KOTA KINABALU (2010 – 2012)

SMART SCHOOL INDICATORS

Nama Indikator	DOMAIN	Keterangan Indikator <i>Indicators</i>	2010	2011	2012
P1	P e n g g u n a n I C T (40%) / U T I L I Z A T I O N	Penggunaan aplikasi berasaskan ICT dalam pentadbiran dan pengurusan sekolah <i>Usage of ICT-based applications by administrators in school management</i>	5	5	5
P2		Kekerapan penggunaan modul WSMS dalam pentadbiran dan pengurusan sekolah <i>Frequency of usage of Web-based School Management System by administrators in school management</i>	2	2	3
P3		Kekerapan penggunaan peralatan ICT selain komputer oleh pentadbir <i>Frequency of usage of ICT equipment other than computer by administrators in school management</i>	5	5	5
P4		Kekerapan pentadbir menyebarkan maklumat menggunakan peralatan ICT <i>Frequency of usage of electronic tools (email, SMS, etc.) for dissemination of information by administrators</i>	5	5	5

Penggunaan ICT (40%) / UTILIZATION	P5	Jangkamasa menintegrasikan perisian kursus (TLM) dalam P&P <i>Integration of courseware or ICT-based teaching materials by teachers in T&L</i>	5	5	5
	P6	Kekerapan penggunaan LCMS dalam P&P <i>Usage of Learning Content Management System (LCMS) by teachers in T&L</i>	5	5	5
	P7	Kekerapan penggunaan bahan TV pendidikan dalam P&P <i>Usage of Educational TV content by teachers in T&L</i>	5	5	5
	P8	Kekerapan penggunaan peralatan ICT selain komputer oleh guru <i>Usage of ICT equipment (other than computer & TV) by teachers in T&L</i>	3	3	3
	P9	Kekerapan pengguna internet oleh guru dalam P&P <i>Usage of internet by teachers for seeking information in T&L</i>	4	4	5
	P10	Kekerapan penggunaan bahan berasaskan ICT oleh guru <i>Usage of ICT-based content by teachers to develop new teaching materials</i>	4	5	5
	P11	Kekerapan penggunaan komputer oleh murid semasa waktu persekolahan <i>Student-PC contact hours during school hours for any subjects</i>	4	4	5
	P12	Kekerapan penggunaan komputer oleh murid selepas waktu persekolahan <i>Student-PC contact hours after school hours for learning purposes</i>	4	4	5
	P13	Kekerapan penggunaan Pusat Sumber / Pusat Akses untuk tugas berasaskan ICT <i>Usage of Resource Centre / Access Centre for ICT-related work</i>	3	4	4
	P14	Kekerapan anda mengemaskini aktiviti dan data oleh guru ICT dalam modul-modul dalam WSMS <i>Update of activities and data on the relevant modules by the IT Coordinator in Web-based School Management System</i>	3	3	3
	P15	Kekerapan mengemaskini aktiviti dan data dalam laman web sekolah <i>Update of school portal by the IT-Coordinator</i>	5	5	5
	M1	Tahap Kemahiran ICT Pentadbir sekolah <i>ICT competency level of Administrator</i>	5	5	5
	M2	Pensijilan ICT (anjuran kerajaan / Swasta) Pentadbir Sekolah <i>Number of ICT-related courses attended by Administrator in the last 3 years</i>	0	5	5

M3	Aktiviti perkongsian ICT dengan komuniti setempat <i>Frequency of ICT Smart-partnership programme with community</i>	5	5	5
M4	Kursus dalaman berkaitan dengan ICT yang dijalankan di sekolah <i>Number of in-house ICT training courses conducted</i>	2	2	2
M5	Kekerapan Pentadbir Sekolah menyebarkan maklumat berkaitan ICT <i>Frequency of dissemination of information regarding ICT by Administrator</i>	5	5	5
M6	Kekerapan program Pengurusan Perubahan bagi tujuan membudayakan penggunaan ICT di sekolah <i>Frequency of change management conducted by Administrator</i>	5	5	5
M7	Bantuan kewangan, latihan, perkakasan ICT dari pihak luar <i>Funding, assistance, training and ICT equipment from the community</i>	3	4	5
M8	Bilangan program-program inovatif yang dilaksanakan di sekolah untuk meningkatkan pembudayaan ICT <i>Number of innovative programmes conducted in schools in promoting ICT culture</i>	5	5	5
M9	Tahap kemahiran ICT guru <i>ICT competency level of teachers</i>	4	4	5
M10	Tahap kemahiran tambahan guru <i>Additional ICT competency level of teachers</i>	3	4	4
M11	Kursus berkaitan ICT (anjaran kerajaan atau swasta) yang dihadiri guru dalam 3 tahun <i>Number of ICT-related courses attended by teachers in the last three years</i>	1	4	5
M12	Bilangan kursus dalaman berkaitan ICT yang dijalankan oleh guru di sekolah dalam tahun semasa <i>Number of in-house ICT training courses conducted in the current year</i>	2	4	5
M13	Kekerapan guru menyebarkan maklumat berkaitan ICT <i>Frequency of dissemination of information regarding ICT</i>	5	5	5
M14	Tahap kemahiran ICT Guru penyelaras ICT <i>ICT competency level of IT Coordinator</i>	5	5	5
M15	Jenis pensijilan ICT (anjaran kerajaan atau swasta) yang diperolehi guru ICT dalam 3 tahun <i>Number of ICT-related courses attended by IT Coordinator in the last three years</i>	5	5	5

Modal Insan (40%) / HUMAN CAPITAL

M16	Modal Insan (40%) / HUMAN CAPITAL	Bilangan kursus dalaman berkaitan ICT dijalankan oleh guru ICT <i>Number of in-house ICT training courses conducted by IT Coordinator</i>	3	3	3
M17		Kekerapan guru ICT menyebarkan maklumat berkaitan ICT <i>Frequency of dissemination of information regarding ICT by IT Coordinator</i>	5	5	5
M18		Kemahiran ICT murid <i>ICT competency level of students</i>	5	5	5
M19		Kemahiran tambahan ICT murid <i>Additional ICT competency level of students</i>	5	5	5
M20		Bilangan sumber murid mendapatkan kemahiran ICT <i>Number of sources students refers to for ICT-related knowledge</i>	4	4	5
A1	Aplikasi (10%) / APPLICATION	Sekolah mempunyai modul/aplikasi pengurusan yang digunakan di sekolah <i>School must have modules for school management</i>	5	5	5
A2		Sekolah mempunyai system pengurusan isi kandungan pembelajaran <i>Must have application for the school</i>	5	5	5
A3		Sekolah mempunyai perisian untuk pembangunan bahan pengajaran dan pembelajaran <i>Must have a system to manage learning content for teaching and learning</i>	5	5	5
A4		Bilangan perisian kursus/bahan P&P berasaskan ICT <i>Must have software for the development of teaching and learning materials</i>	5	5	5
A5		Kekerapan mengemaskini laman web sekolah <i>Frequency in updating school website</i>	5	5	5
A6		Kemudahan emel di sekolah <i>Must have an email application for the school</i>	3	5	5
I1	Infrastruktur (10%) / INFRASTRUCTURE	Bilangan komputer yang berfungsi <i>Number of functioning computers in the school</i>	1	1	1
I2		Nisbah komputer dengan murid <i>Computer:Pupil ratio</i>	5	5	5
I3		Nisbah komputer dengan guru <i>Computer / Notebook: Teacher Ratio</i>	5	5	5
I4		Nisbah bilik darjah dengan LCD Projektor <i>LCD projector: Class ratio</i>	5	5	5
I5		Bilangan lokasi yang boleh akses computer <i>Accessible computer locations</i>	5	5	5
I6		Peratus Komputer tidak berfungsi <i>Percentage of computers not working</i>	5	4	5

17	Infrastruktur (10%) / INFRASTRUCTURE	Capaian rangkaian setempat (LAN) dan internet di sekolah <i>Local Area Network connectivity</i>	1	3	2
18		Gangguan semasa mencapai SchoolNet <i>Interruption in SchoolNet connectivity</i>	5	0	0
19		Capaian internet di sekolah <i>Internet accessibility</i>	5	5	5
110		Kekerapan penyelenggaraan komputer/notebook di sekolah <i>Maintenance activity</i>	4	3	3
MARKAH SSQS (%) / SSQS Marks (%)			81	86	90.8

Nota: Tiada data detail tentang keterangan setiap indicator dari tahun 2008 (3 bintang) & 2009 (4 bintang).
 Note: There is no detail data for each indicator for years 2008 (3 star-rating) and 2009 (4 star-rating).

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