A Model of Homeschooling Based on Technology in Malaysia

Norlidah Alias [1], Mohd. Nazri Abdul Rahman [2], Saedah Siraj [3], Ruslina Ibrahim [4]

[1] Faculty of Education, Universiti Malaya, Kuala Lumpur, Malaysia
Email: drnorlidah@um.edu.my

[2] Faculty of Education, Universiti Malaya, Kuala Lumpur, Malaysia
Email: mnazri@siswa.um.edu.my

[3] Faculty of Education, Universiti Malaya, Kuala Lumpur, Malaysia
Email: saedah@um.edu.my

[4] Faculty of Education, Universiti Malaya, Kuala Lumpur, Malaysia
Email: ruslina_ibrahim@yahoo.com my

ABSTRACT

Homeschooling in Malaysia is a form of alternative education that emphasizes quality education based on moral values and belief in strengthening family ties. The purpose of this study is to produce a model of homeschooling technology-based learning activities in Malaysia as a guideline to improve the quality of education, curriculum and organize the delivery of learning content and teaching for homeschooling children. This study used the Interpretive Structural Modeling (ISM) process to develop a model and map the relationship between the elements involved in the homeschooling model-based learning and teaching technology. This study dismantled a complex system into several sub-systems using practical experience and knowledge of the conduct of homeschooling by parents in Malaysia. A group of eight experts have reached consensus on seven elements of technology based activities in homeschooling teaching and learning practice, namely: The Social Networking Sites; Online Materials Development; access information via the Internet; M-Learning: Interactive Video Games, Digital stories and the Web Site (Web-Portal). The findings provide guidelines for homeschooling parents to plan teaching and learning activities based on priorities.

Keywords: *Alternative education, Homeschooling, Home Education, Interpretive Structural Modeling (ISM*

INTRODUCTION

Homeschooling is an educational practice that is fully supervised by parents at regular schooling and took place on the same day as the public schools (Ebinezar, 2008; Ray, 2000; Whitehead & Bird, 1984). Homeschooling education is also recognized as home education or home based school. Many studies have been conducted to determine the factors influencing the choice of 'homeschooling' education by parents (Barratt-Peacock, 1997; Beirne, 1994; Broadhurst, 1999; Baugus, 2009) although most of the countries in the world have been enforcing the Act Compulsory and Free education in line with the Universal Declaration of Human Rights (UNDHR, 1948) and the Convention on the Rights of the Child (CROC, 1990).

Based on the meta-analysis of studies associated with homeschooling conducted since the early 1990s until now, the studies can be categorized into five themes, namely factors that answered the question Why homeschooling (Barratt-Peacock, 1997; Beirne, 1994; Broadhurst, 1999; Chapman, & O'Donoghue, 2000), student achievement (Harding, 2003a, 2006A), student competence and social development (Baldwin, 1993; Barratt-Peacock, 1997), students with special needs (French, Walker, Shore, & Bruce, 2011; Jackson, 2009), and the legal and policy 'homeschooling' (Allan & Jackson, 2010p, 2010b; Neuman & Aviram, 2003). Studies conducted overseas have shown that most of the parents believe it is their responsibility to determine the best form of education for their children (Ray, 2009). For example, Bashan, Merrifield, and Hepburn (2007) they found that parents in Canada and the United States preferred to homeschool their children because they were worried about the moral values and beliefs instilled by traditional schooling.

Homeschooling is a new form of alternative education in the education system in Malaysia. Introduction of Free and Compulsory Education Act for primary schools in 2003 has changed the implementation of the educational dimension of 'homeschooling' in Malaysia. Children in Malaysia should follow the 11-year compulsory education (*Surat Pekeliling Ikhtisas, Bil. 14/2002*). In accordance with the provisions of Section 29A, parents are required to ensure that

all children 6 years old have free compulsory education. However there is some form of choice to parents in providing the best education to their children without compromising the provision of the Compulsory and Free Education Act of 2003. In addition to mainstream formal education, parents can send their children to private institutions or operate homeschooling.

Homeschooling in Malaysia is still at an early stage of development. These studies as well as education-related writing on 'homeschooling' are still limited. However, it does not mean that homeschooling education does not exist in Malaysia. The rapid growth of technology has given rise to a new phenomenon in the country's education system. Official figures of the Ministry of Education stated that almost 5000 children are undergoing homeschooling education in Malaysia, but the actual figure is expected to exceed that amount (Ibrahim Bajunid, 2002). The information technology revolution has made it possible for several potential alternative forms of education to take positions in the Malaysia mainstream education today; among them is Homeschooling (Ruslina, Rohani, Norlidah, &Saedah, 2012; Ebinezar John, 2008).

In Malaysia, studies on homeschooling are still limited. This is because 'homeschooling' education is still new and so far-off to most people in Malaysia. Homeschooling is run for children as early as two years old or before they are enrolled in a college. Homeschooling is practiced by parents who teach their children without engaging in any specific curriculum as followed by the students in public school. Furthermore, the children are taught in a very conducive environment at home.

Ebinezar John (2008) conducted a qualitative study of five Malaysian families who homeschooled their children. The findings showed parents choose to homeschool them due to the content of the public school curriculum which is not convincing enough. Parents were also concerned about what they saw as inefficiency in teaching and learning and practice in the mainstream school that is not aligned with the family's belief.

Hawa Rahmat, Rohaidah Mashudi, and Ahmad ZainalAbidin (2010); Ruslina Ibrahim, Rohani Abdul Aziz, Norlidah Alias and Saedah Siraj (2012); Ruslina Ibrahim, Yusliza Baharin, Deny Indahsari, Saedah Siraj and Norlidah Alias; as well as Zainudin Abu Bakar, Zainal Abidin Zainuddin, Halijah Ibrahin, Asha Hasnimy Mohd Hashim and Fakrul Anwar Khalil (2012) have analyzed related journal articles, and expectations of homeschooling education development in Malaysia. According to Hawa Rahmat et al. (2010) the development and effectiveness of homeschooling as a form of education in Malaysia in the future have a great opportunity in terms of the ability of parents to establish family relationships through education at home. While studies on Expected Future Homeschooling in Malaysia conducted by Ruslina Ibrahim et al. (2011) found that existing technology advancement and readiness to adapt the homeschooling education curriculum will give a new dimension in education in Malaysia.

The popularity of homeschooling will be growing among parents who are not only concerned about the quality of education received by their children, but also to avoid the perceived social problems plaguing the mainstream school. Thus, this study aimed at designing homeschooling learning and teaching models based on the latest technology in Malaysia. The objective is to identify the relationship between the elements involved in implementing learning and teaching activities in homeschooling by parents in Malaysia

Methodology Interpretive Structural Modeling (ISM)

ISM is a computer based learning process to allow individuals or groups to develop a model or map of the relationship between the elements involved in a complex issue based on practical experience and expert knowledge. ISM methodology is also used to identify and analyze the relationships between specific variables to define a complex problem or issue (Janes, 1988; Sage, 1977; Warfield, 1974; Warfield & Perino, 1999). In other words, the ISM will produce a directed graph (Diagraph) to reflect the relationship between the elements and the subsequent structuring of complex issues in the hierarchical structure of the model (Porter, Rossini, Capenter & Roper, 1980).

The ISM approach has been applied extensively to solve complex issues in the economic field in particular when dealing a business (Chang Hu & Hong, 2012; Kaliyan, Govindan, Noorulhaq & Yong, 2013). Furthermore, the use of ISM extends into the areas of technical and engineering (Han Jinshan & Tan Zhongfu, 2008; Reza, Yeap &Nazli, 2010).

However, studies using the ISM approach in the field of education are still limited. Warfield, (2009) for example applied ISM in the planning of higher education programs, while Georgakopoulus (2009) had applied it in the study of teacher effectiveness. Meanwhile Sahney, Banwe and Karunes (2006) applied the ISM approach to identify the minimum characteristics designed to meet the needs of students as leisure customers in the quality of education system.

Applications of Interpretive Structural Modeling Approach

There are some limitations in the application of the ISM methodology, including contextual relationships between the elements depending on the knowledge, expertise and experience of lecturers and parents who practice homeschooling. Hence, the constructed model will be influenced by individual consideration bias of the elements.

The methodology of applying measures of Interpretive Structural Model (modified from Janes 1988; Moore, 1987; Malone, 1975) are:

i. Identify the elements that influence the teaching and learning activities of homeschooling parents (Issues: Activity-based learning and teaching technology homeschooling)

Step 1:

- The expert group of 8 experts consisting of five homeschooling parents (with 5 years experiences), a lecturer of the Institute of Teacher Education (Child Development Specialization), A University Lecturer (curriculum areas), An Officer of the Education Policy Research and Development Division (EPRD).
- Process Idea writing technique used to list possible elements that influence learning and teaching activities of homeschooling parents to use a technology to date.
- A total of 20 elements that influence learning and teaching activities homeschooling by parents using the latest technologies through technique "Ideawriting Process'

Step 2:

- 'Group brainstorming' Technique is used to shortlist 20 elements to some of the most important elements influencing the teaching and learning activities of homeschooling by parents using the latest technology.
- After a thorough presentation and open discussion, the 12 elements have been identified and agreed upon as a necessary element in implementing the teaching and learning activities based on the latest technology homeschooling.

Step 3:

- Twelve (12) elements that affect learning and teaching homeschooling activities by parents using the latest technology are once again presented to the expert group for feedback and suggestions.
- Expert Group considers that there are some similarities in these 12 selected elements. Through discussion, the group of experts reached consensus only on 7 most important elements influencing the teaching and learning homeschooling activities by parents using the latest technology has been chosen as in Table 1:

Table 1 Seven Elements of Homeschooling

Element	Explanation
Social website (*Facebook, Twiter, Google Circle, MySpace, Friendster*)	Services that offer online social network to a community of shared interests and activities. These social sites are web-based and offers multiple ways of interaction between users, such as file sharing, voice chat, online chat, exchange messages and discussions.
Online material development (*Wiki & Blog*)	Online material development refers to the teaching and learning activities that involve process communication, information dissemination and sharing of learning materials online either through Blogs and Wikis
Accessing information via (*WebQuest*)	Teaching and learning activities such as web-based learning to surf related topics via the website, vetting, selecting and screening materials to make learning relevant to the topic you wish to learn. Access information through the internet refers to learning activities involving WebQuest and WordPress
Mlearning (*Mobile Learning*)	M-learning or mobile learning is the learning and teaching activities that refers to e-learning, technology-based learning and distance learning.
[5] Interactive Video Games	Learning and teaching activities involving interactive video game form either in the form of edutainment video games, animation or display edutainment.
[6] Web-Portal	Activity-based learning and teaching via web portal offers information from various sources, applications and databases. Apart from having a standard search engine, web portal also offers other services such as email, news, information and entertainment database and edutainment.
[7] *Digital Story*	Digital story-based learning activity refers to a short story in the form of digital media involving film, animation, still images, audio, which can be used by individuals as a material for a story or convey an idea

ii. Model design based Homeschooling Learning and Teaching through Technology Applications Interpretive Structural Modeling (ISM)

Formation of model-based learning and teaching technologies homeschooling can be produced through the use of ISM applications. Figure 1 shows the result of this model of learning and teaching using technology-based homeschooling ISM through expert consensus.
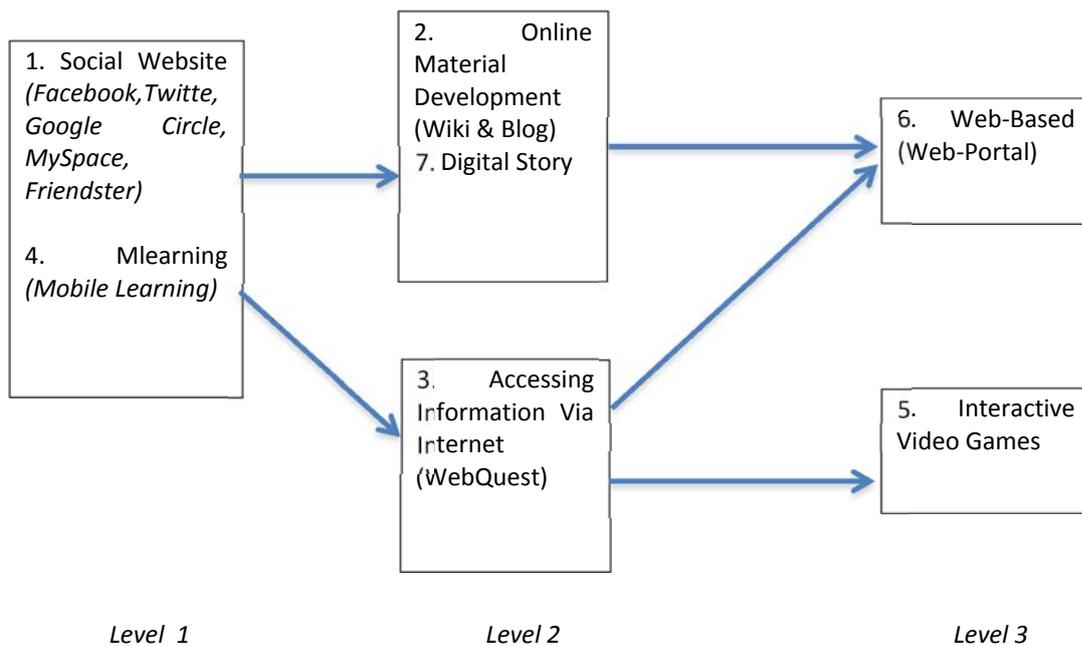

Figure1:Interpretive Structural Modeling: Learning and teaching homeschooling using the latest technology

Seven elements proposed by homeschooling experts in implementing learning and teaching activities of homeschooling by parents in Malaysia have facilitated understanding through ISM models produced. Model-based learning and teaching technologies homeschooling in Malaysia (Figure 1) was shown to a group of experts in a feedback session to examine and review whether the concepts, elements and facts are appropriate. If necessary, modifications to the model can be done by expert consensus. This session involves a total of 8 of the same experts. After discussing and arguing every relationship between the elements involved, the expert group has reached a consensus to accept the presented model without any modification.

DISCUSSION

The findings are shown in Figure 1: Model-based Homeschooling Learning and Teaching Technology in Malaysia. Structural equations, variables and the level of each element have been shown in visual form through ISM Hierarchal Structural Models (Warfield, 1976). Knowledge of each element is very important in order to implement the teaching and learning via homeschooling by parents.

Use of Social media such as Facebook, Twitter, Badoo, Myspace, Tagged, Friendster and Google + and M-Learning is at the highest stage in the hierarchy of ISM-Based Models based on clusters of elements namely Dependent High Power and Low Driving Power. Product of this study demonstrated that the use of social pages is learning and teaching styles practiced by parents who run homeschooling. For example, Facebook has been used extensively as a medium of teaching and learning, and has offered a conducive learning environment to its users (Immerse Aydin, 2012). The M-Learning based activities were also practiced by homeschooling parents in the era of globalization and technological advancement that optimizes the use of technological equipment as a medium of teaching and learning is effective (Zawawi, 2006; Ruslina Ibrahim, Rohani Abdul Aziz, Norlidah Alias & Saedah Siraj, 2012).

With reference to Figure 1, homeschooling parents also prioritize activities in Online Learning Materials Development (Wiki, Blogs), digital story and access information via the Internet (WebQuest) after the teaching and learning activities using the social networking site. The existence of curriculum materials and online learning, the ability to access data and information via the Internet as well as blogs and digital WebQuest story that can be shared with possible teaching and learning Homeschooling activities achieve the intended learning outcomes of each homeschooling parent. The use of information networks and blogs such as Family Place, Home School Frontier, Malaysian Home Educator Network-Malhen and Learning Beyond schooling allows them to share homeschooling implementation problems, facilities, curriculum and expertise (Soon & Cheng, 2013).

The existence of various web sites (web-portal) has positively impact homeschooling parents in the planning variety of teaching and learning activities. Besides being capable of creating a social network of homeschooling children, it is also creating a network of co-operative learning activities based on common interests and abilities. Although learning and teaching activities as well as web-based interactive video games are placed at the lowest level in the hierarchy of the ISM model, homeschooling parents still practice in carrying out homeschooling learning and teaching on the belief that it increases literacy skills, problem solving and critical thinking.

CONCLUSION

Homeschooling is an alternative form of educational choice among parents who are concerned about shaping the spiritual, academic and pedagogical practices of other parents or have grievances against the mainstream education system (Collom, 2005; Ebinezar, 2008). Homeschooling curriculum selection in Malaysia is centered on religious leanings or pedagogical aspects (Ebinezar, 2008). While teaching and learning activities planned in homeschooling are largely based on the latest technology. This is due to the existence of various forms of technology that has made it possible for parents to share information, expertise, and problems in implementing teaching and learning activities. Hence the presence of various web sites and social sites to promote homeschooling is a bridge into the teaching and learning process of homeschooling children.

REFERENCES

Abdul Razak, Zakaria. (2011). Hubungan konteks keluarga dengan penglibatan ibu bapa dan pencapaian akademik anak-anak di sekolah menengah. Tesis Ph.D, University Malaya.

Allan, S., & Jackson, G. (2010a). Home education and policy. Directions in Education: Australian Council for Educational Leaders, 19(4), 4.

Allan, S., & Jackson, G. (2010b). The Whats, Whys and Wherefores of home education and its regulation in Australia. International Journal of Law & Education, 15(1), 55-77.

Basham, P., Merrified, J., & Hepburn, Claudia R. (2007). Home schooling: From the extreme to mainstream. Study in Education Policy Occasional Paper. Vancouver. The Fraser Institute.

Baldwin, C. I. (1993). Home schooling in New Zealand: A sociological analysis. Unpublished M.Soc.Sc.Education, University of Waikato.

Barr, A. (2008). High standards in ACT school education: Discussion paper for an ACT school standards authority.

Barratt-Peacock, J. (1997). The why and how of Australian home education. Ph.D, La Trobe, Melbourne. (Published by Beverly Paine, Learning Books, Yankalilla, SA)

Barratt-Peacock, J. (2003). Australian home education: A model. Evaluation and Research in Education, 17 (2), 101-111.

Baugus, B.D. (2009) An economic theory of homeschooling. (Unpublished PhD) George Mason University.

Beirne, J. (1994). Home schooling in Australia.Pembentangan di Annual Home Schooling Conference, 25th April, Sydney.

Broadhurst, D. (1999). Investigating young children's perceptions of home schooling. Retrieved from http://www.aare.edu.au/99pap/bro99413.htm

Chapman, A., & O'Donoghue, T. A. (2000). Home schooling: An emerging research agenda. Education Research and Perspectives, 27(1), 19-36.

Collom, E. (2005). The ins and outs of homeschooling: The determinants of parental motivations and student achievement. Education and Urban Society, 37(3), 307-335. doi: 10.1177/0013124504274190

Convention on the Rights of the Child (1990). United Nations. Retrieved from http://www.childrights.org.au/background

Ebinezar John A/L Y. Rajamony. (2008). The Malaysian experience in home schooling. Ph.D, Universiti Putra Malaysia, Kuala Lumpur.

French, Lisa R., Walker, Cheryl L., & Shore, B. M. (2011). Do gifted students really prefer to work alone? Roeper Review.

GulshirinOrazova. (2010). Parental autonomy support in children's decision making upon their education and opportunities for diverse social interaction: A case study upon their education and group in Dekalb, IL. Thesis, Northern Illinois University.

Harding, T. (2003). A comparison of the academic results of students monitored by the State, with the academic results of students not monitored by the State. In A submission for the Home Schooling Review (p. 6). Brisbane: Australian Christian Academy.

Harding, T. (2006). A Study of Victorian Home Educator: Home School Law Reforms. Paper presented at the Home Education Symposium and Parliamentary Presentation, Camberwell Civic Centre and Victorian Parliament, Melbourne.

Hawa Rahmat, Rohaidah Mashudi, & Ahmad Zainal Abidin. (2010). Home school: The development and effectiveness in Malaysia. Paper presented at the Seminar Psikologi Kebangsaan, 28-29 October 2010 at Universiti Malaysia Sabah.

Ibrahim Bajunid. (2002). Changing mindsets: Lifelong learning for all. Presentation at the International Conference on Lifelong Learning, 13-15 May 2002, Kuala Lumpur.

Jackson, G. (2009). 'More than one way to learn': Home educated students' transitions between home and school. Unpublished PhD, Monash University, Clayton. Retrieved from http://arrow.monash.edu.au/hdl/1959.1/83110

Malaysia, Ministry of Education. (2010). Quick facts: Malaysian educational statistics. Kuala Lumpur: Educational Policy Planning & Research Division, Ministry of Education Malaysia.

Muldowney, H. M. (2011). The operation of co-operative education for homeschool children: The Quality Homeschool Cooperative as a case study. Unpublished PhD, A&M University Texas

Neuman, A., & Aviram, A. (2003). Homeschooling as a fundamental change in lifestyle. Evaluation & Research in Education, 17, No. 2&3, 2003.

Ray, B. D. (2000). Homeschooling teaching strategies. Washington DC: American Association of Colleges for Teacher Education.(ERIC Clearinghouse No. ED 501189)

Ray, B. D. (2009). Homeschool progress report 2009: Academic achievement and demographics. Available from http://www.hslda.org/docs/study/ray2009/2009_Ray_StudyFINAL.pdf

Reilly, L. (2007). Progressive modification: How parents deal with home schooling their children with intellectual disabilities. Unpublished PhD, University of Western Australia, Perth. http://theses.library.uwa.edu.au/adt-WU2008.0035/

Rudner, L. M. (1999). Scholastic achievement and demographic characteristic of homeschool students in 1998.Education Policy Analysis Archives,7(8).

Ruslina, Rohani, Norlidah, & Saedah. (2012). Research and Trends in The Field of Homeschooling from 2000 to 2012: A content Analysis of Homeschooling Research in Selected Journals. Paper presented at 1st International Seminar on Quality and Affordable Education (ISQAE2012), Organized by State University Of Jakarta, University Malaya and Universiti of Technology Malaysia, 21-23 May: Jakarta Indonesia.

Selami Aydin. (2012). A review of Research on facebook as an educational environment. Educational Technology Research and Development Journal. Springer, US.

Universal Declaration Of Human Rights (1948). United Nations. Retrieved from http://www.un.org/en/documents/udhr/index.shtml

Whitehead, J. W., & Bird, W. R. (1984). Home education and constitutional liberties: The historical and constitutional arguments in support of home instruction. Westchester, IL: Crossway Books.

Zainudin Abu Bakar, Zainal Abidin Zainuddin, Halijah Ibrahin, Asha Hasnimy Mohd Hashim, & Fakrul Anwar Khalil. (2012). Home Education: Prospect and Effectiveness in Malaysia. Paper presented at 1st International Seminar on Quality and Affordable Education (ISQAE2012), Organized by State University Of Jakarta, University Malaya and University of Technology Malaysia, 21-23 May, Jakarta, Indonesia.