

# 11

## REVITALIZING RURAL SCHOOLS: A CHALLENGE FOR MALAYSIA

Ardi Marwan  
Bambang Sumintono  
Nora Mislán

### 11.1 INTRODUCTION

Schools in rural areas play a significant role in helping a nation educate its people. In reality, however, they often receive less attention from the government in its reform agenda. This is likely due to the fact that the office of education is usually located in urban areas (Theobald, 2005) and the remoteness of rural schools (Mitra, Dangwal, & Thadani, 2008). Nevertheless, this phenomenon (i.e. lack of attention from government), especially in developed countries (e.g. The United States of America and Australia), is no longer a trend (Howley, 2006). Today, the focus of educational reforms has been to revitalize rural schools so that they can be more like their urban counterparts (Freeman & Anderman, 2005) especially in developing countries context.

Due to a long focus on urban schools (i.e. prior to the twenty-first century), policy makers experience a difficulty in finding recommendations from rigorous research studies which can help them formulate proper policies to help rural schools accelerate positive changes (Arnold, 2004). Thus, more high-quality educational research looking at issues surrounding rural schools and rural education need to be done (Holloway, 2002).

Otherwise, people (e.g. students, teachers, rural community) which become part of rural schools will remain at a disadvantage (Arnold, 2000; Holloway, 2002; Kline, 2002).

Malaysia, known as a country with unique geographical conditions consist of a peninsula and northern part of Borneo/Kalimantan Island, is facing a more challenging situation with respect to its efforts to reform rural schools. Some schools, for example, are located in areas that can only be reached using limited access road, or even river transport system such as in Sarawak state. This situation undoubtedly affects the school revitalization process. However, the precise condition is not yet known and need comprehensive research to be undertaken to investigate the quality of educational delivery and services in this type of schools.

In this article, definition of rural school will first be provided and followed with the review of literature on the profile of a quality rural school and lastly present relevant research about Malaysia's rural schools condition. This article also highlights some common problems or challenges faced by rural schools and presents information about previous research on rural education.

## **11.2 DEFINATION OF RURAL SCHOOL**

Despite the increase in the number of rural education research, educators across the globe have not come to an agreement as to the meaning of rural (Coladarci, 2007). Different people have a different interpretation about the rural concept. Herzog and Pittman (1995), for instance, simply define rural as an area which is not (part of) a city (or non-metropolitan area). Whereas, Farmer (1997) offers a more abstract concept stating that rural is the opposite of urban. If urban is occupied by a large number of inhabitants, so rural is a place with a small number of residents.

The definition of rural school which is often used by rural researchers is the one that was introduced by Johnson and Strange (2005). According to Johnson and Strange, rural school is "the

school which is located in a place inside or outside the metropolitan area and has the population of less than 2,500 people". This article will adapt this definition to identify whether a certain school belongs to a rural or an urban one.

### **11.2.1 The Profile of a Quality Rural School**

Malhoit (2005), in his research entitled "Providing rural students with a high quality education", highlights some strategies that can be put in place in order to make a rural school become a quality school. Firstly, a rural school should only employ high quality teachers. Quality teachers are not only the persons who possess a degree in education but the ones who can also demonstrate the skills that can cater for students' learning need and different learning styles. Eppley (2009) asserts that teachers of a rural school should have "a bachelor degree in the subject(s) taught, full state certification and proof of content knowledge for each subject". It is preferable, in her view, if these teachers possess a postgraduate degree (see also Holloway, 2002).

Secondly, teachers working in this school must be provided with adequate pay or salary. Teachers, no matter how good they are in their teaching, will not be motivated in educating their students if they are not well paid. Some may even come to a decision to resign from the school should this matter persists. On the contrary, a school that can offer a good pay for its teachers will be targeted by professional teachers and these teachers will not think of moving from this school for financial reasons. Holloway (2002: 146), however, advises that the level of teachers' pay should be based on their expertise or knowledge and skills. She further argues that such a compensation system "provides clear directions to teachers about how they should focus their professional energies for meeting education goals".

Thirdly, a rural school should be led by effective school leaders. Educational researchers have come to a consensus that this factor is the most crucial one that a rural school should have.

Without it, there will never be a good rural school. Cheng (2002) contends that effective leaders are the persons who can provide high level supports for their school communities (e.g. teachers and students). These leaders, just like quality teachers, should also be provided with a good salary.

Malhoit goes on to say that a rural school should also have quality school facilities. He maintains that there is a clear link between the condition of school building and the quality of students' learning. He further says:

... it is difficult for teachers to teach and for students to learn in places that have leaking roofs, rotting floors, and inadequate lighting, heating, and air conditioning. Moreover, dilapidated school buildings send a message to children that they and their education are not valued. Rural students, like all students, are entitled to attend a school in a building that is healthy, safe, and conducive to learning. Yet, historically rural school facilities have been ignored, neglected, and under-funded because states tend to rely on local communities to pay all or most of the costs of school repairs and maintenance.

Technology is another factor that a rural school should need to take into account. This school, in Malhoit's view, like their urban counterparts, should have adequate internet and ICT (Information and Communication Technology) infrastructures. A lot of teaching and learning resources are available online and these should be accessible by the school communities. Finally, this school should also be supported with adequate instructional supplies such as "well-equipped libraries, media centers, and laboratories" and with all these facilities it is expected that students can "learn to think critically, and enhance their readiness for higher education opportunities" (Malhoit, 2005, p. 19).

Arnold (2004) adds another important point with regard to a quality rural school. He argues that a rural school should consider

having only small classes (i.e. in terms of the number of students in each class) because it is evident in research that there is a clear influence between the number of students in the class and student achievement. That is, students learning in a small class tend to achieve better learning outcomes than those studying in a big class. He, however, warns that “small size does not automatically result in increased learning if educators engage in practices that are better suited to schools with larger class sizes”.

Some governments regard schools as high quality ones if they “have good academic performance in examinations” (Mitra et al., 2008, p. 169). This claim can also be interpreted that no matter how good a school is in terms of its infrastructures and facilities if it cannot perform well in examinations (e.g. national exam), it is still considered a low quality school. Mitra et al., however, oppose such an opinion suggesting that a school, despite its good performance in exams, is not a quality one if it does not have “motivated and qualified teachers, appropriate infrastructure (e.g. adequate school building, electricity, classrooms, connectivity) and appropriate facilities for students (e.g. free textbooks)”. So, a success in exams should not be used as the sole criteria to determine the level of school quality.

### **11.2.2 An Overview of Some Common Problems or Challenges Faced by Rural Schools**

A number of research studies could identify some problems or challenges faced by rural schools. Lyons, Cooksey, Panizzon, Parnell, and Pegg (2006), for instance, found that rural schools often have problems with teacher shortages. In Australia, this problem has become a nation-wide issue over the last couple of years (White et al., 2008) and may have caused the decrease in the quality of rural education (Mulford, 2003). In several countries, the shortage of teachers has been caused by the turnover trend. Many teachers have decided to move to urban schools which can offer them a much better work condition (Arnold, 2004). Hudson and Hudson (2008), citing Collin (1999), *The Age* (February 26, 2007)

and McClure, Redfield, and Hammer (2003), could highlight some causes which have triggered an exodus of rural teachers. These causes are, among others, “social, cultural, professional isolation, overwork, pay structures, being put on contract without assurance of permanency, inadequate housing and economically deficient surrounding communities”. According to Collin (1999), in some settings, the Department of Education or schools often experience a difficulty in recruiting rural teachers. But, what is more challenging is how to make the rural teachers stay for a long period in the rural schools where they are assigned and teach responsibly and professionally (McClure et al., 2003).

The lack of teachers’ quality is also considered to be a problem that can be easily identified in rural schools (Holloway, 2002; Hudson & Hudson, 2008; Malhoit, 2005). This problem may occur due to the remoteness of rural schools (Mitra et al., 2008), little or no support from the department of education for teachers to take part in professional development programs (Holloway, 2002), too much work, and poor pay system (Hudson & Hudson, 2008). Poor school infrastructure is also a common problem faced by schools in rural areas (Mitra et al., 2008). Maria, et al., in their research looking at educational delivery process in several rural schools in India, provided a following description about their case study schools:

All schools’ buildings are made of brick and mortar, though with small and cramped classrooms that lack electricity, proper lighting and ventilation. The schools do not have sufficient urinals, as most are equipped only with two and these are not clean. Along with the infrastructure problems, the schools are inadequately furnished. While all schools have a blackboard as their solitary teaching aid, most of these are worn out and have no dusters or chalk to work with. The schools’ only furniture consists of a table and chair for the teachers and principals, while the children sit on mats on the floor. Apart from the

muddy fields facing the school compound, the schools have no playgrounds or swing sets for the children's use. (p. 173)

Arnold (2004) also noted a common problem often faced by rural schools. That problem is related to the lack of quality school administrators (e.g. school principal). This could happen because potential administrators are aware that "being a rural administrator is a difficult job that fewer and fewer people are willing to take" and they know that they will also "receive less compensation" (p. 5). To cope with this matter, schools or local authorities should offer a good salary and better work conditions for administrators working in rural schools. Distributing leadership is also another alternative to alleviate this problem (see Malhoit, 2005). Transportation is also another common problem. According to Malhoit (2005, p.12), "the lack of transportation affects all other issues facing rural schools and deepens their severity. In many rural communities there is no public transportation". This matter of course can negatively influence the quality of education received by rural students. For example, they may not be able to take part in the before or after hours school programs for enhancing their knowledge and skills.

The above-mentioned problems may or may not be similarly shared among the rural schools. Many factors have influenced their similarities or differences such as political, social and economic condition of a nation or a district. A deep investigation is, therefore, a necessity to identify the actual problems or challenges faced by rural schools in a certain setting.

### **11.2.3 Previous Research on Rural Education**

Carlson and Buttram (2004) undertook case studies looking the implementation of comprehensive school reform model (CSR) at rural schools in America. Five small rural schools located in Arkansas, Louisiana, New Mexico, Oklahoma, and Texas were selected. The schools were chosen because they were located in the

region which is “challenged by population sparseness, high poverty, diverse ethnic groups, conservative political values, and faltering or weak economies” (Carlson & Buttram, 2004, p. 7). Carlson and Buttram carried out some interviews with the key people from each school and undertook some observations in the classrooms. Some relevant documents including the data from the test were also analyzed. The results showed that all schools were passionate with the implementation of the CSR model. “The most positive impact on CSR implementation was observing student progress throughout the process” (Carlson & Buttram, 2004, p. 11). All teachers in five schools were well aware of the importance of observing student progress regularly (i.e. daily and weekly). This process could give them clear information about the progresses that students have made. The teachers felt that their profession was well supported throughout the CSR project because schools could supply them with all their instructional need (e.g. books, CDs, videos, internet, software, etc) and provide them with in-house professional development for enhancing their teaching quality. Despite all these positive gains, teachers still felt stressed because of their overloaded teaching hours and they suggested the schools to recruit more teachers. The researchers, in the last part of their report, came to a general conclusion that “that rural isolation, small size, and limited fiscal and personnel resources do not necessarily limit a school’s capacity to improve” (p. 16).

Mitra et al. (2008) also did an investigation on rural education. The aim of their research was to examine the effects of remoteness on the quality of education in schools. A number of students and teachers from 16 rural schools in Northern India were surveyed. Students’ performance on several subjects including science, English, Hindi and math were also checked. The results showed that students in these schools did not perform well in all these subjects. This poor performance, according to the researchers, was partly caused by the schools’ poor quality (i.e. poor infrastructure and facilities). One of the most interesting findings of the study was that most teachers working in these schools hoped that they could migrate to urban schools which



could offer them “better job satisfaction, salary structure, standard of living, facilities and educational opportunities” (p. 177).

Kline (2002) performed a unique study where she compared the successful implementation of a model (called *Escuela Nueva* or EN) for improving rural schools in Columbia and Guatemala. The model emerged following “the extreme inequity between rural and urban areas” in the two countries and thus, creating the need to revitalize rural schools. The model has four main components, namely the training of teachers, teacher support, micro-center, and the self-instructional EN learning guides. Kline found that this model could improve the school quality. Among the four components, she identified that teacher support has been “the most crucial component of EN’s success”. The government does not only provide teachers “with educational materials, resources, and opportunities for capacity”, but they also “train local supervisors to serve as pedagogical advisors to teachers”(p. 172). Another good practice is that teachers, students and local community members can harmonize their relationships through regular discussions in the micro-center. In this center, teachers can also discuss issues associated with their teaching and learning with other teachers from nearby schools. Due to the success of this model, Kline expects that it can also be used in other settings for improving the quality of rural schools and education.

### **11.3 MALAYSIA’S CONTEXT OF RURAL SCHOOL**

There are limited research related to rural schools in Malaysia, this chapter is therefore using some reports and newspaper articles that can give a broader picture of the situation. The biggest part relates to English language teaching research such as from Ratnawati and Ismail (2003), Thiyagarajah (2003), Martin (2005), Palmers and Atiqah (2008). The other part comes from achievement in science and mathematics (Singh, Arba & Teoh, 2010; World Bank, 2010), and several actual newspaper articles explaining current issues

involving rural schools as well as a report from teacher union.

In terms of English language teaching, a research done by Ratnawati and Ismail (2003) which focused on student reading ability in rural schools in three states, particularly looking at students' lack of proficiency in English. Their program is called GER (Guided Extensive Reading) where for the period of four months students are exposed to several methods of extensive reading. The study found a promising result that rural schools student can "developed positive attitudes towards reading in English as the term progressed, although they were initially reluctant readers" (Ratnawati & Ismail, 2003). Then, an intervention program reported by Palmers and Atiqah (2008) involving teachers and students in rural schools in Negeri Sembilan, identified that the students "were less shy, better prepared and given more opportunities, through cooperative learning and increased questioning, to use English" and a similar outcome was also shown by the teachers. Those researches show that limitations in rural situation can lead to good performance provided that right treatment, especially in English subject is put in place.

Thiyagarajah's (2003) research is about difficulties faced by Malay students in rural schools resulted in interesting findings. That is, the students' did not perform well in the four macro skills in English language. They did not use English outside the classrooms and adopted very limited learning strategies. He argues that "this may be due to the unawareness of the learners' different styles of learning". He, therefore, suggests that "if teachers can develop students' awareness of language learning strategies and styles and actively engage them in activities which focus on these strategies", then learners from rural schools performance's in English can be improved (Thiyagarajah, 2003).

Martin (2005) in his research investigating two different rural classrooms located in the interior of Sarawak where their students come from minority groups in the Malaysian context. He found in both classrooms practices that he seen as a language policy disengagement, when "other linguistic resources are being

used alongside the official language of the lessons” (Martin, 2005, p. 88). The situation cannot be avoided since both English and Malay languages are foreign thing in both areas. He called it with ‘safe’ practices. Further he writes (Martin, 2005, p. 89):

One of the most significant of these ‘safe’ practices is ‘code switching’ between the official language of the lesson and a language which the classroom participants have a greater access to, usually a share local language...[it] refer to practices that allow the classroom participants to be seen to accomplish lesson.

This unique situation is typical of rural schools in many parts of Malaysia, especially in the areas where no literate tradition and no standard orthography for local language. However, Martin (2005) predicts that information and communication technologies such as the internet and mobile phones will have greater impacts on language acquisition especially if they are used extensively by young generations in rural areas.

Regarding Malaysian students’ achievement in Mathematics at year 9 (15 years of age) the World Bank (2010) reports a disparity between urban and rural schools. It is clear that many rural schools in Malaysia could not provide their students with an adequate teaching and learning. Three international assessments undertaken by TIMSS (Trends in International Mathematics and Science Study) in years of 1999, 2003 and 2007 reported that Malaysian students’ mathematics scores declined over time. This situation is worrying and is believed due to the result of policy which says that school should use English as the medium of instruction for the teaching of science and mathematics (this policy is known in Malaysian language as PPSMI) (Singh, Kaur & Noor Shah, 2009). A study by Singh, Arba and Teoh (2010) confirms the situation that happened in rural primary schools in Malaysia. That is, despite having similar weaknesses when using English in mathematics subject, rural students found to be weaker in mathematics performance than their counterpart. The

World Bank's (2010, p. 92) report illustrates this:

Potentially as a result of less favorable conditions in rural schools, students from rural and remote schools perform significantly worse on tests than their peers in urban areas...Disparities within states between rural and urban areas are most prevalent in poorer states like Sabah, Kelantan, and Melaka.

In addition, the World Bank (2010) writes some facts about situation in Malaysia rural schools:

A lack of resources is one reason for their relatively poor performance, but other factors also come into play. For example, there is a high turnover of teachers in these schools as well as a shortage of teachers in English, mathematics, and science. Due to the small size of these schools, many teachers in rural schools are expected to cover several grades at the same time (multi-grade teaching), which means that they are unable to impart each grade's curricula separately. Also, the infrastructure of these schools is often inadequate. Some schools do not have electricity for 24 hours a day or an adequate source of water.

Lok (no date) also confirms this condition which he believe could make teaching profession in those schools become threat for educators. He cited a survey where more than 1.2 thousand respondents participated: 54.7% respondents agree that there is gap between urban and rural school, also 72.5% of them agree lack of specialist teachers which cause non-effective teaching, and 92.4% respondent agree that "the ministry of education must provide enough and comprehensive sets of teaching aids to teachers". This survey indicates that Malaysian government has to deal with challenging tasks.

In relation to the above situation, during the announcement

of the Malaysian best schools in January 2010, the government (represented by the deputy prime minister) publicly acknowledges it and will do something about it. He claims that "...if the (rural) schools are constrained because they do not have the same facilities as their urban counterparts, we will speed up action to narrow the gap" (The Star, 2010). Moreover, Lok (no date) mentions that though the government already channel aids to improve school infrastructure, it also needs to find solution related to unnecessary bureaucracy, enhance quality of work and reduce ineffectiveness. This shows that improving rural schools becomes more complex and in the Malaysian context, providing 'education for a few' (students from poor family) costs a lot of money.

The problem faced by the government concerning this chronic situation needs a long time to deal with. In other words, making a transformation to rural schools is not an easy task and something which can be achieved in the near future. This is so because many rural schools are located in wide and isolated areas with unique terrain (Malaysiandigest, 2011).

Also, many new initiatives, make transformation of rural schools not an easy task to complete in the near future, as reported by Bernama (Malaysiandigest, 2011)

#### **11.4 SUMMARY**

The significance of a rural school lies on the impacts it can give to a wider community especially to those who have a great interest in Malaysia. One of the biggest impacts is that research about rural schools can better inform the society and the relevant authorities regarding the actual conditions of rural schools in Malaysia, including the problems these schools face which need to be handled urgently. Such important information can later be used as the means to formulate appropriate strategies to accelerate the process of school revitalization. One of the significant benefits is that they have the opportunity to access quality education, as long as the concerned problems can be dealt with by the relevant

authorities which can benefit to those affiliated with rural schools such as rural students.

Revitalizing Malaysian rural schools is not an easy job, but yet it has to be done. As a guide, information about best practices from developed countries' rural schools can be used as a reference to revitalize rural schools in the Malaysian context.

Overall, as long as the right policy can be put in place, we are certain that the quality of Malaysian rural schools can be improved and therefore, the gap exists between these schools and their urban counterparts can be minimized or possibly closed.

## REFERENCES

- Arnold, M. (2004). *Guiding rural schools and districts: A research agenda*. Washington: McREL.
- Carlson, R. V., & Buttram, J. L. (2004). *Case Studies of Rural Schools Implementing Comprehensive School Reform Models*. Paper presented at the Paper Presented at the Annual Conference of the American Educational Research Association.
- Cheng, Y. C. (2002). The changing context of school leadership: Implications for paradigm shift. In K. H. Leithwood, P (Ed.), *Second international handbook of educational leadership and administration*. Norwell, MA: Kluwer Academic Publishers.
- Collins, T. (1999). Attracting and retaining teachers in rural areas. *ERIC Clearinghouse on Rural Education and Small Schools*. Charleston WV. Retrieved 2 April 2010, from <http://www.ericdigests.org/2000-4/rural.htm>
- Creswell, J. W. (2005). *Educational research: planning, conducting, and evaluating quantitative and qualitative research*. New Jersey: Upper Saddle River.
- Eppley, K. (2009). Rural Schools and the Highly Qualified Teacher Provision of No Child Left Behind: A Critical Policy Analysis. *Journal of Research in Rural Education*,

24(4), 1-11.

- Freeman, T. M., & Anderman, L. H. (2005). Changes in mastery goals in urban and rural middle school students. . *Journal of Research in Rural Education*, 20(1).
- Herzog, M. J., & Pittman, R. B. (1995). Home, family, and community: Ingredients in the rural education equation. *Phi Delta Kappan*, 77(2), 1-24.
- Holloway, D., L. (2002). Using Research to Ensure Quality Teaching in Rural Schools. *Journal of Research in Rural Education*, 17(3), 138-153.
- Howley, C. W. (2006). Remote possibilities: Rural children's educational aspirations. . *Peabody Journal of Education*, 81(2), 62-80.
- Hudson, P., & Hudson, S. (2008). Changing Preservice Teachers' Attitudes For Teaching In Rural Schools. *Australian Journal of Teacher Education*, 33(4), 67-77.
- Johnson, J., & Strange, M. (2005). Why rural matters 2005: The facts about rural education in the 50 states. The rural school and community trust. Retrieved April 10, 2010, from <http://www.ruraledu.org>. [Electronic Version],
- Kline, R. (2002). A Model for Improving Rural Schools: Escuela Nueva in Colombia and Guatemala. *Current Issues in Comparative Education*, 2(2), 170-181.
- Lok, Y. P. (no date). [Bridging Rural and Urban Gap in Malaysia Schools Opportunities](#). a power point presentation. Available at: [http://www.cpps.org.my/resource\\_centre/Lok\\_Yim\\_Pheng-bridging\\_the\\_gap.ppt](http://www.cpps.org.my/resource_centre/Lok_Yim_Pheng-bridging_the_gap.ppt) [21 Aug 2011]
- Lyons, T., Cooksey, R., Panizzon, D., Parnell, A., & Pegg, J. (2006). *The SiMERR national survey*. Armidale: National Centre of Science, ICT and Mathematics Education for Rural and Regional Australia.
- Malhoit, G. C. (2005). *Providing Rural Students with a High Quality Education: The Rural Perspective on the Concept of Educational Adequacy*. Arlington: The Rural School and

Community Trust.

- Martin, P. (2005). Safe language practices in two rural schools in Malaysia. Tensions between policy and practice. In A.M. Lin and P.W. Martin (Eds.), *Decolonisation, globalization: Language-in-education policy and practice* (pp. 74-97), Clevedon, UK: Multilingual Matters
- Malaysiandigest. (2011). [Bringing 'Transformation' to Sarawak Rural Schools](http://www.malaysiandigest.com/features/18061-bringing-transformation-to-sarawak-rural-schools.html). Available at: <http://www.malaysiandigest.com/features/18061-bringing-transformation-to-sarawak-rural-schools.html> [21 Aug 2011]
- McClure, C. T., Redfield, D., & Hammer, P. C. (2003). *Recruiting and retaining high-quality teachers in rural areas*. AEL. Retrieved 10 April, 2010 from [www.ael.org/page.htm?&pd=abo6721&id=764](http://www.ael.org/page.htm?&pd=abo6721&id=764).
- Merriam, S. B. (2002). *Qualitative Research in Practice: Examples for Discussion and Analysis* San Francisco: Jossey-Bass.
- Miles, M. B., & Huberman, A. M. (2005). *An expanded sourcebook: Qualitative data analysis* Thousand Oaks, CA: Sage.
- Mitra, S., Dangwal, R., & Thadani, L. (2008). Effects of remoteness on the quality of education: A case study from North Indian schools. *Australasian Journal of Educational Technology* 24(2), 168-180.
- Mulford, B. (2003). *School leaders: Changing roles and impact on teacher and school effectiveness*: OECD: The Education and Training Policy Division.
- Palmer, S. & Atiqah (2008). Project to Improve English in Rural Schools (PIERS), Jelebu Pertang, Negeri Sembilan. CfBT Education Malaysia. Available at: [www.cfbt.com.my/PIERS Jelebu Pertang Final Report.pdf](http://www.cfbt.com.my/PIERS_Jelebu_Pertang_Final_Report.pdf) [21 Aug 2011]
- Ratnawati M.A. and Ismail S.A. (2003). Promoting English language development and the reading habit among students in rural schools through the Guided Extensive Reading program. *Reading in a Foreign Language* Volume



- 15, No. 2.
- Singh, P., Kauh, G.S. and Noor Shah M.S. (2009). *An Assessment of the policy of Teaching Mathematics and Science in English: A Malaysian Perspective*. Fakulti Pendidikan Universiti Teknologi Mara. Shah Alam, Selangor, Malaysia.  
Available at: [http://eprints.ptar.uitm.edu.my/2192/1/LP\\_AN\\_ASSESSMENT\\_OF\\_THE\\_POLICY\\_OF\\_TEACHING\\_MATHEMATICS\\_AND\\_SCIENCE\\_IN\\_ENGLISH\\_09\\_24.pdf](http://eprints.ptar.uitm.edu.my/2192/1/LP_AN_ASSESSMENT_OF_THE_POLICY_OF_TEACHING_MATHEMATICS_AND_SCIENCE_IN_ENGLISH_09_24.pdf) [21 Aug 2011]
- Singh, P., Arba A.R. and Teoh S.H. (2010) Languages and Mathematics Achievements Among Rural and Urban Primary Four Pupils: A Malaysian Experience. *Journal of Science and Mathematics Education in Southeast Asia* , Vol. 33 No. 1, pp. 65-85
- The Age. (February 26, 2007). *Classroom burnout triggers teacher opt-out*. Retrieved 30 September, 2007, from <http://www.theage.com.au/news/educationnews/classroomburnout-triggersteacheroptout/2007/02/24/1171734032304.html>
- Theobald, P. (2005). Urban and rural schools: Overcoming lingering obstacles. *Phi Delta Kappan*, pp 116-122.
- Thiyagarajah, P.M. (2003). Learning English in Malaysian Rural Secondary Schools: Difficulties, Learning Styles & Strategies and Motivation. unpublished paper at The Learning Conference 2003: What Learning Means: Institute of Education. University of London 15-18 July 2003.
- The Star. (2010) . The best schools in Malaysia? available at: <http://thestar.com.my/news/story.asp?file=/2010/1/25/nation/20100125193150&sec=nation> [21 Aug 2011]
- White, S., Green, B., Reid, J., Lock, G., Hastings, W., & Cooper, M. (2008). *Teacher education for rural communities: A focus on 'incentives'*. Paper presented at the Australian Teachers Education Association (ATEA) Conference, Sunshine Coast, Australia.,
- World Bank. (2010). *Malaysia Economic Monitor, Inclusive*

*Growth*. World Bank: Bangkok, Thailand. Available at:  
[http://siteresources.worldbank.org/INTMALAYSIA/Resources/324392-1288897994959/mem\\_nov2010\\_fullreport.pdf](http://siteresources.worldbank.org/INTMALAYSIA/Resources/324392-1288897994959/mem_nov2010_fullreport.pdf)  
[21 Aug 2011]