International Journal on New Trends in Education and Their Implications
January 2015 Volume: 6 Issue: 1 Article: 09 ISSN 1309-6249

THE ROLE OF RELIGOUS SOCIOCULTURAL CONTEXT IN PROMOTING POSITIVE ATTITUDE TOWARDS SCIENCE AMONG MALAYSIAN STUDENTS

Assoc. Prof. Dr. Azman YUSOF
Kuala Lumpur University
(UniKL MICET)
MALAYSIA

Shafiah Abdul RASHID
Science Department, Faculty of Education
National University of Malaysia (UKM)
MALAYSIA

ABSTRACT

Education plays a vital role in ensuring the progress and development of a nation. A perfect education system should be able to transform an individual into a successful citizen, and at the same time receive the blessings of the Almighty. Malaysia's National Education Philosophy had outlined the importance of implementing integrated principles to nurture individuals that are at peace with one's physical, emotional, spiritual and intelectual aspects. For muslim students, what is meant by the implementation of integrated principles are the infused and fortified of school subjects with the teachings of the holy Quran and as-sunnah. This study attempts to determine students' readiness to learn science within religous sociocultural context. A total of 74 Form Two muslim students responded to questionnaires on Perception Towards Science-Religion Interaction (PTSR) and Attitude Towards Science (ATS). The findings indicated that students hold positive PTSR. There is also exist an average correlation between PTSR and ATS (r= 0.334).

Key Words: Science, sociocultural context, religion, belief, integration.

INTRODUCTION

One of the major agendas that plays a vital role in determining the quality and rank of civilization of a nation is education. Mankind is deem aimless and uncivilized without education, hence people who place high regards on education and accept it as a way of life are believed to be more capable of making informed and wise decisions. The education process is an imperative component in developing the potential of a student that encompasses the cognitive, psycomotor, emotional or spiritual aspects.

In 1979, Malaysia discovered that the former national curriculum was not effective in producing a patriotic, ethical and balance citizen. Hence, the awareness towards the need of establishing a philosophical framework that outlines the national education system was then identified (Siti Alia Zaharuddin et al, 2012; Abdul Rahim & Siti Norashikin, 2007; Shahril & Habib, 1999). As a result, Primary School New Curriculum (KBSR) was launched in 1983, followed by Secondary School New Curriculum (KBSM) five years later with the main objectives of preparing a balanced human capital physically, emotionally, spiritually and intelectually (Yahaya & Azhar, 2010; Wan Mohd. Zahid, 1988). In 1987, the National Education Philosophy was formally declared as follows;

Education in Malaysia is a continuous effort towards enhancing potentials of individuals in a holistic and integrated manner in order to create individuals who are well-equipped intellectually, spiritually and emotionally. This effort aims to produce knowledgeable, ethical and responsible Malaysian citizens who are can contribute towards the harmony and prosperity of the community and nation.

This National Education Philosophy of Malaysia clearly stated the belief and subservient faith in God as their outline. This religous elements sets Malaysia's education system apart from the education system espoused by the West. However, a glimpse into the current education system shows a conflicting scenario. A holistic and integrated instructional approach based on one's submission and compliance to God is not fully implemented, for the system is still axised upon the Western secular ideas. The teaching of academic subjects and Islamic education subject are totally alienated, as religious matters are only taught during Islamic Education period whereas in other subjects, the word Allah are not mentioned at all.

The Role of Religous Sociocultural Context in Promoting Positive Attitude Towards Science

Research indicates that educational beliefs and practices are not context free or separated from the wider sociocultural context that we're embedded in (Mansour, 2013; Robbins, 2005). It is therefore necessary to take into account the contextual factors that have shaped and formed certain beliefs around us. Social constructivists emphasizes the importance of culture and context in understanding what occurs in society. They view meaningful learning as a social process that occurs when individuals are engaged in social activities (Mansour, 2013; Vygotsky, 1978). In science education, learning science means seeing the scientific study of the world as itself inseparable from the social organisation of scientists' activities. In muslim country like Malaysia, it is obvious that Islamic teaching and culture had become a dominant sociocultural context that shapes the learning process of science. Therefore, there should be a move to integrate science and religion in instructional approach so that students can be benefitted from this relationship. However above all, students' perception towards science-religion integration must first been determined to avoid any problem in the future.

RESEARCH METHODOLOGY

This study used two instruments in a set of five-point Likert scale questionnaire, namely Mansour Instrument (2011) and Harery Instrument (2007). The reliability of this questionnaire is 0.711, which according to Kerlinger (1986) questionnaires are suitable when Alpha Cronbach point gains more than 0.60. Mansour Instrument (2011) consists of 14 items asking for students' perception over the interaction between science and religion. It tries to determine whether students hold positive perception or negative perception towards the interaction. On the other hand, Harery Instrument (2007) consists of 49 items measuring students' attitude towards science. Six constructs were tested; Value of Science in Society, Motivation in Science, Enjoyment of Science, Anxiety Towards Science, Self Concept in Science and Correlation Between Science And Religion. A total number of 74 Form Two muslim students (aged 14 years old) from various schools were choosed randomly as sample for this study. All of them are excellent students which scores A or B grade in science subject during their Primary School National Examination (*Ujian Penilaian Sekolah Rendah, UPSR).*

DATA ANALYSIS AND FINDINGS

a. Students' Perception Toward Science-Religion Interaction (PTSR)

Table 1: Mean and standard deviation for PTSR among Form Two students

Science-Religion Interaction	**Value**		**Interpretation**
	Mean	**Sd**	
Negative	2.14	0.572	Low
Positive	3.88	0.615	High

b. Students' Attitude Toward Science (ATS)

Table 2: Mean and standard deviation for ATS among Form Two students

Construct	**Value**		**Interpretation** (according to Rudzi, 2003)
	Mean	**Sd**	
Value of science in society	4.00	0.351	High
Motivation in science	3.63	0.492	Average
Enjoyment of science	3.84	0.423	High
Anxiety towards science	2.66	0.396	Average
Self concept in science	3.35	0.425	Average
Correlation between science and religion	3.69	0.344	High

c. Pearson Correlation Between PTSR and ATS

Table 3: Pearson correlation between PTSR and ATS

Correlation	ATS		**Interpretation** (according to Cohen, 1988)
	R	Sig.	
PTSR	0.334	0.004	Average

DISCUSSION AND IMPLICATION

Data analysis found that students hold positive perception toward the interaction between science and religion (refer to Table 1). This finding is in accordance with Mansour (2011), Clayton (2005) and Pannenberg (2005) which concludes that most of people nowadays holds positive perception toward science and religion interaction. Only a small number of people thinks that science and religion are in conflict, or at least cannot be integrated in any way.

Students also show high attitude towards science in (1)Value Of Science in Society, (2)Enjoyment Of Science and (3)Correlation Between Science and Religion constructs. This is not suprising since the samples are choosen among the best students from various schools. This finding also indirectly indicates that the Ministry of Education's efforts in promoting positive attitude towards science are yielding fruits, at least in few aspects.

However, students show average attitude in (1)Motivation in Science, (2)Anxiety towards Science and (3)Self-Concept in Science constructs. In Harery Instrument (2007), Motivation in Science is represented by statements like *science is easy for me, I love science, I prefer difficult tasks in science etc.* Anxiety Towards Science is represented by *I'll feel depress when people talk about science with me, science classes scares me, I don't feel good towards science, I don't want to work in science field etc.* Whereas Self-concept In Science is represented by *i'm not good in science, I still don't understand science although I've studied very hard,I don't remember lots of facts in science, I'm not good in science lab activities* etc. (Negative statements had been adjusted to be standardised accordingly with Likert scale). According to Kamisah et al. (2007), when motivation in science is at average it indicates that the instructional approach is merely facts feed and students are not encouraged to think critically. Parkinson et al. (1998) argues that when students have low self-concept towards science, the probability that they will not further their study in science will become high. An average level in Anxiety Towards Science can be interpreted as students are not too depress nor feeling too good with science subject, in other word students can control their anxiety level wisely.

Pearson correlation between PTSR and ATS is at 0.334 point. According to Cohen (1998), 0.334 lays at an average strength. It implies that there are still a lot of effort could be done to integrate science facts with

religion context. This can be achieved by providing intensive training to teachers and pre-service teachers, preparing them with instructional strategies on how to promote positive attitude towards science through religious sociocultural context.

CONCLUSION

The school children today are the leaders of our future. The success or failure of curriculum design and teachers' instructional approach will only be apparent years after they leave their alma mater. In our quest to gain success in developing science and technology, we certainly don't want to witness the production of generations that lost their contact with the Creator. Thus, they should be made aware of the existence of Allah as the creator of the Universe, by revealing them the proofs through science. Thus, teachers as well as curriculum makers should take a pro-active stance in equipping themselves with the knowledge and strategic instructional approaches that can integrate science with religion harmoniously.

IJONTE's Note: This article was presented at World Conference on Educational and Instructional Studies - WCEIS, 06- 08 November, 2014, Antalya-Turkey and was selected for publication for Volume 6 Number 1 of IJONTE 2015 by IJONTE Scientific Committee.

BIODATA AND CONTACT ADDRESSES OF AUTHORS

Azman YUSOF is a 15-years experienced university lecturer in Islamic Studies. He is currently an associate professor in Malaysian Institute of Chemical Engineering and bioengineering Technology, University of Kuala Lumpur. His research interest in Islamic History, Islamic Civilization, Malay Civilization and Islamic Education.

Assoc. Prof. Dr. Azman YUSOF
UniKL MICET
Taboh Naning Vendor City
78000 Alor Gajah,
Malacca- MALAYSIA
E. Mail: drazmany@gmail.com

Shafiah ABDUL RASHID is a 16-years experienced secondary school teacher in science subject. She is currently a postgraduate student in Faculty of Education, National University of Malaysia (UKM). Her research involved strategies on how to boost students' motivation towards science through the integration between science and Quranic verses. She is also appointed as a trainer of trainee (ToT) in STEM Education program by the university, a joint program by UKM and New York Poly Academy aiming to promote positive attitude towards science, technology, Engineering and Mathematics subjects among school students. Shafiah received her bachelor degree with honors in Science Education (Chemistry) from University of Malaya in 1997. She is scheduled to complete her Masters study in February 2015.

Shafiah ABDUL RASHID
Lot 3301 Taman Sri Meranti,
71350 Kota, Rembau
Negeri Sembilan- MALAYSIA
E. Mail: shafiaharashid@yahoo.com

REFERENCES

Clayton, P. (2005). The religion-science discussion at forty years: "Reports of my death are premature." *Zygon. Vol. 40(1).*

Cohen, J. (1988). *Statistical power analysis for the behavioral sciences (2nd ed.).* Hillsdale, NJ: Lawrence Erlbaum Associates.

Cryton Z. (2007). *Exploring Opportunities and Challenges for Archieving the Integration of Indigenous Knowledge Systems into Environmental Education Processes.* Tesis Sarjana. Zimbabwe: Rhodes University

Harery A. S. (2007). *Perkaitan Penghayatan Akhlak, Sikap Terhadap Sains, Pencapaian dan Pemilihan Kerjaya Di kalangan Pelajar Dalam Konteks Pembangunan Modal Insan Bersepadu Dalam Bidang Sains dan Teknologi di SMKA.* Tesis Doktor Falsafah Fakulti Pendidikan Universiti Kebangsaan Malaysia.

Kementerian Pendidikan Malaysia. 2001. *Falsafah Pendidikan Kebangsaan: Matlamat dan Misi.* Kuala Lumpur: Pusat Perkembangan Kurikulum.

Kerlinger, F.N. (1986). *Foundation of behavioral research*. 3rd Ed. Orlando: Harcourt Brace Jovanovich College Publisher.

Mansour, N. (2013). Modelling the sociocultural contexts of science education: The teachers' perspective. *Research in Science Education.*43: 347-369, DOI 10.1007/s11165-011-9269-7

Mansour, N.(2011). Science teachers' views of science and religion vs. the Islamic perspective: conflicting or compatible*? Science Education.*95 (2), 281-309. DOI: 10.1002/sce.20418.

Pannenberg, W. (2005). Notes on the alleged conflict between religion and science. *Zygon.* 40(3).

Robbins, J. (2005). Contexts, collaboration and cultural tools: A sociocultural perspective on researching children's thinking. *Contemporary Issues In Early Childhood.* 6(2).

Shaharir M. Z. 2009. *Kemajuan Pendidikan Sains Terkamir di Malaysia dengan Penekanan Khas Kepada Sains Matematik.* Dlm Ahmad M.S & NasirM.M.T 2009. Pembudayaan Ilmu Membina Jatidiri Ketamadunan. Kolej Dar al-Hikmah: 206-243

Shahril & Charil Marzuki & Habib Mat Som. 1999. *Isu Pendidikan di Malaysia: Sorotan dan Cabaran.* Kuala Lumpur: Utusan Publication & Distributors Sdn. Bhd.

Siti Alia Zaharudin, Tini Vitaningtyas, Suzana Salleh & Nurul Shida Kamaruzaman. *Kesan Tamadun Islam Terhadap Perkembangan Pendidikan Islam di Malaysia.* Prosiding 3rd International Conference of ASEAN Studies on Integrated Education in Islamic Studies and Civilisation, Songhla, Thailand.

Stolberg. (2008). Understanding the approaches to the teaching of religious education of pre-service primary teachers: The influence of religio scientific frameworks. *Teaching and Teacher Education. Vol. 24.*

Vygotsky, L. (1998). The collected works of L. Vygotsky. Vol 5. *Child Psycology.* New York: Plenum Press.

Wells, G., & Claxton. (2002). Introduction: Sociocultural perspectives on the future of education. Dlm. G. Wells & G. Claxton (Eds.). *Learning for life in the 21st Century.* Oxford, UK: Blackwell Publishers.

Wan Mohd. Zahid Mohd. Noordin. 1993. *Pengisian Wawasan Pendidikan.* Kertas Kerja yang Dibentangkan Dalam Seminar Pendidikan Nasional Peringkat Negeri Pulau Pinang,

Yahaya Jusoh & Azhar Muhammad. 2010. *Kesepaduan Falsafah Sains al-Quran Dalam Kurikulum Sekolah Rendah Sebagai Asas Pembentukan Masyarakat Hadhari di Malaysia.* Jurnal Hadhari (3): 23-41.