Teachers’ Perceptions and Roles towards Promoting the “Virtue-Led Knowledge” in Teaching and Learning of Science: An Experience from an Islamic Secondary School of Malaysia

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Abstract

The Integrated Curriculum for Secondary School (ICSS or KBSM) of Malaysia with its principles adhered by the National Philosophy of Education (NPE) aimed at creating a holistic, balanced, integrated, harmonious and a morally sound individuals who hold a firm belief in and devotion to God. To ensure the success of the KBSM, teachers are regarded as the prime movers. This research paper seeks to discuss teachers’ perceptions and roles towards promoting the “virtue-led knowledge” in teaching-learning of science based on the KBSM in an Islamic secondary school of Malaysia. This study employed qualitative research method by using purposive sampling Al-Amin Islamic Secondary School, in Gombak, Selanggor as a case study. The major key informants were 8 administrative staff and 11 teachers in science subjects in the 2008 academic year. The study employed the qualitative approach including documentary search, non-participant observation, and in-depth interviews. The findings showed that as a whole, the teachers’ perceptions and roles towards promoting the “virtue-led knowledge” in the process of integrated teaching-learning were positive. The teachers played important roles in professional responsibilities, academic role, personal qualities and moral exemplary role. Based on the findings, teachers could preserve all the importance holistic roles in the educational system which will have an impact on students’ personalities who have holistic and integrated manner.

Keywords: teachers’ perceptions, teachers’ roles, virtue-led knowledge, teaching and learning of science, Malaysia Islamic secondary school
Introduction

Being under English colonial for about a century, Malaysia is grappling with the dual system of education as a result of “dualism” which based on the secularism. Secularization separates knowledge of sciences from that of the Divine One, and has resulted in serious epistemological problems. Thus, knowledge that is taught in most learning institutions today is fragmented and dualistic in nature (Baba, Sidek, 2000:15). Later, in 1974, the government under the Ministry of education was formed to review the aims and affects of the National Education Policy, especially in ensuring adequate manpower for national development and in achieving a united, disciplined, and skilled Malaysia citizenry. In 1979, the Committee reported that the curriculum of the primary school was compartmentalized, crammed, and with little integration among the subjects. A large proportion of the pupils lagged and master few skills (Hashim, Rosnani,1996). Realizing the problems of educational dualism in the nation, the government began a systematic drive towards achieving national unity through education. Malaysia has attempted to reformulate her educational policy, philosophy, and thus curriculum so as to be contemporary and integrated or in the holistic manner which remain faith-based.

The Malaysian National Philosophy of Education (NPE) and Integrated Secondary School Curriculum : Paradigm Based on Value System and Goddess

The National Education Philosophy (NEP) formulated in the year 1987 which is the most important document in Malaysia guides and reinforces the direction and goal of education in the country. The NEP states:

“Education in Malaysia is an on-going effort towards further developing the potential of individuals in holistic and integrated manner so as to produce individuals who are devotion to God. Such an effort is designed to produce Malaysian citizens who are knowledgeable and competent, who possess high moral standards, and who are resilient and capable of achieving a high level of personal well-being as well as being able to contribute to the betterment of the family, society and the nation at large.” (Ministry of Education Malaysia,1989)
To translate such philosophy into teaching and learning process in creating the potential individuals to be such Malaysian citizens who are in a holistic and integrated manner, the school curriculum had been developed. In the 1988 the New Secondary School Curriculum (Kurikulum Bersepadu Sekolah Menengah or KBSM) as a continuation of the New Primary School Curriculum, was launched. The planning of KBSM is meant to help students to develop their intellectual, spiritual, emotional as well as physical potentials in comprehensive and integrated manner with high moral values (Langgulung, Hasan, 1993).

The introduction of KBSM brought about major changes in terms of content and structure in the educational system. The main focus of the curriculum is on an integrated educational approach which incorporate knowledge with skills and moral values. The strategy is to incorporate moral values across the curriculum and integrate of the intellectual, spiritual, emotional, and physical development. The integration of new knowledge, skills and values was felt essential and imperative in the development of education to make it a lively and beneficial discipline (Cited in Silihah Heyesama-ae, 2009:4). The introduction of the core values in the KBSM Curriculum is aimed at eliminating the notion of value-free knowledge and building a “morally-based” educational system, thus, the inculcation and infusion of these two important dimensions, belief in god and inculcation of core values of the National Philosophy of Education (NPE) addresses the fact that character formation based on moral and religious values are deemed important besides academic excellence (Habsah Ismail et al, 2003). In addition to belief in god and moral values that specified in NEP and KBSM, virtues can be placed into a broader context of values. Each individual has a core of underlying values that contribute to his or her system of beliefs, ideas and/or opinions. Individual virtues can be grouped into one of four categories of values: 1) ethics (virtue-vice, good-bad, moral-immoral-a moral, right-wrong, permissible-impermissible); 2) aesthetics (beautiful, ugly, unbalanced, pleasing); 3) doctrinal (political, ideological, religious or social beliefs and values); and 4) innate/Inborn (inborn values such as reproduction and survival). Virtue is moral excellence. A virtue is a character trait or quality valued as being always good in and of itself. Personal virtues are characteristics valued as promoting individual and collective well being (http://en.wikipedia.org/wiki/Virtue#Virtues_and_values).

To transfer the ideals of the philosophy (NPE) into the teaching and learning process, each subject matter in the national curriculum (KBSM) must formulate their aims that reflect the NPE (Habsah Ismail 2009 et al) particularly towards developing the potential individuals in a holistic and integrated manner, who are intellectually, spiritually, emotionally and physically balanced and harmonious manner. In the context of Malaysian educational system, the school science curriculum is developed with the aim of producing such individuals. The Science curriculum had been designed to provide opportunities for students to acquire science knowledge and skills, developing thinking skills and thinking strategies, and to apply this knowledge and skills in every daily life, and also inculcate in them noble values and the spirit of patriotism. Science education has been giving greater emphasis as the aspiration of the nation to become an industrialized society depends on science and technology. It is envisaged that success in providing quality science education to Malaysian from an early age will serve to spearhead the nation into becoming a knowledge society and competitive player in the global arena (Curriculum Development Center, 2002:VI-1). The introduction of scientific and technological knowledge to Malaysia is often perceive to be purely utilitarian in nature as science and technology have been repeatedly deployed purportedly to alleviate societal woes and stimulate economic growth to enhance the country’s scientific and technological capacity as to achieve fully developed status by the year 2020 as specified in Vision 2020 of Malaysia (Choon-Lee Chai, 2008:4-6).
Realize the importance of science in developing Malaysian youth to have positive characteristics, especially the dimension of moral values as mentioned in the curriculum and the NEP. Science learning experience can be used as a means to inculcate scientific attitudes and noble values in students. The effectiveness and success of the implementation of such ideals or aspiration of NEP and the integrated secondary curriculum is depended heavily on the roles of teachers. Teacher is the pivot of any educational system of the younger students and is an important variable in the teaching situation. His knowledge, skills, attitude and model are instrumental in creating the conditions for learning so that teachers have more influence on the future of youth (Laila Hairani Bt. Abdullah Sanggura, 2002). Thus it is interesting to investigate how science teachers at the secondary school level play their perceptions and roles in inculcation of noble moral values and promoting the virtue-led knowledge in the teaching and learning science. However, no documentary evidence exists that emphasizes the perceptions and roles of teachers towards promoting the virtue-led knowledge in teaching and learning process of science subjects especially in the context of Islamic Private Schools of Malaysia where the school culture can be positively support in integration moral and religious values or virtues in the broader context.

Al Amin Islamic Secondary School or Sekolah Menengah Islam Al Amin Gombak (SMIAAG) was established in 1991 and located in Gombak, Selangor. The school has been one of the top ten among Malaysia schools which being successful in SPM (Malaysia National Examination). The school has formulated its comprehensiveness of the school philosophy which is congruent with the Islamic philosophy of education as well as the National Education of Philosophy which focuses and anchored on faith in God, featuring Tawhid, comprehensiveness, balance, integration and harmony. The implementation of such the school philosophy and mission, it greatly demands of teachers an in-depth knowledge in Islam and being able to assimilate Islam as a way of life in both their professional and personal lives (Rozainah Ishak, 2004:28). So there was a question raised that “how do teachers in an Islamic Private School of Malaysia, such as Al Amin Secondary School perceive and play their roles in promoting the virtue-led knowledge through integration in teaching and learning process of modern science subjects? To this end, this research paper was aimed to find out the answer.

Objective of Study
The main objective of the study aims at studying the perceptions and roles of teachers in an Islamic private secondary school towards promoting the virtue-led knowledge in teaching-learning process of science subjects.

Research Methodology
This study employed a qualitative research method. The study selected an Islamic Private School, namely Al-Amin Islamic Private School, Gombak District, Selangor State, Malaysia as the school philosophy. Key informants were 8 academic administrative staff and 11 teachers of science subjects (from form 1 to form 5) in the 2008 academic year. The sample was selected by using purposive sampling method. The period of data collecting was from January 2008 until January 2009. The data were collected by using observation method, in-depth interviews, and documentary study. Observations were focused on school culture, atmosphere and environment; visiting classroom activities (instructional process), laboratory classes, and teachers’ office; teachers’ routine and activities such as noon praying, lunch time at the canteen; co-curriculum activities. For interview method, each interview was taken about 30 minutes to an hour. The questions focused on the teachers’ perceptions and roles towards implementation of the educational philosophy of Malaysia, Integrated curriculum for
secondary schools, and promoting the virtue-led knowledge in teaching-learning process. Data from the interviews were transcribed verbatim and classified into themes and categories based on qualitative approaches. The data and translations were also checked and validated by the research team consisting. Triangulation techniques were utilized to authenticate the data gathered from the study. A thematic analysis method was used to analyze data of the study.

Research Findings

Based on the observation and interviews conducted, the findings described the related phenomena as follows.

Teachers’ Perceptions Towards Promoting “Virtue-Led Knowledge”

Teacher is the central pivot of Islamic educational system and plays vital roles in supporting a successful teaching and learning process (Solihah Hayeesama-ae, 2009). The teacher has been assigned a pivotal position in Muslim Society. His function is not confined merely to instructing and training Muslim youth in the prescribed subjects and skills but he has to act as a model and to inculcate among his students the norms of behavior and values prescribed in Islam. Besides, his social function, he has a vital spiritual and moral involvement and standing as well his conduct are of paramount importance for character building and training of his pupils in Islam (Watchareeya Wanglem, 1997). It is in this context that SMIAAG gives much importance to the process of selection and placement of teachers. Most of the teachers interviewed were of the view positively towards the National Educational Philosophy (NEP) and Integrated Secondary Curriculum (KBSM) as giving rooms or channels to integration knowledge or promote virtue-led knowledge in school system. An administrative staff as a teacher stated that “In fact, ...the National Philosophy of Education also emphasizes in God”.

Another administrative teacher, referred to KBSM that:

“...we have to follow the KBSM. The objectives of KBSM curriculum were in positive direction. It gives chance in integration by using Islamic approach, however, there are some problems in implementation as teachers have no background of Islamic understanding so integration (according to Islamic way)can not be fully functioned.” (Solihah, Hayeesama-ea, 2009 : 32)

Teachers’ perceptions is another theme which reflects the extent of teachers’ effort in promoting the virtue-led knowledge. Most of the school teachers interviewed perceived that integration of virtue, instilling the belief in God inculcation of noble moral values in the process of teaching and learning is importance and necessary. Some of the respondents presented and reflected their opinions that promote the principles of the virtue-led knowledge stated as the follows:

“...I think, integration of knowledge in science subjects is necessary for our students...we, thus, should inculcate Qur’anic verses or Islamic world views in to some lessons or also guide students Islamic perspective” (A male science teacher, 2008 June 27, cited in Solihah Hayeesama-ae et al. 2009:49)

“...surely, it’s the necessity to integrate knowledge from Islamic perspective...science can not be separated from religion...as to open students’ world views” (A male physic teacher, 2008 June 27)
“...(I) think that integration of knowledge from Islamic worldview will help us to know how to use knowledge for what purpose. If we know (its propose) that it will bring happiness in studying... but if we study through integrated Islamic knowledge, the knowledge searched can be applied both in this world and the Hereafter. This thing (concept) if we teach to students, they may be felt that studying science is valuable that it will motivate them eagle/keen to learn more...” (A male science teacher, 2008 June 27, cited in Solihah Hayeesama-ae et al. 2009:49)

Teachers’ Roles in Promoting “Virtue-Led Knowledge”

Besides, their positive perceptions, the teachers’ roles in carrying out the principles and application of the virtues-led knowledge are paramount valuable in any education system. In Al-Amin Secondary School, the teachers played their roles in promoting the virtue-led knowledge and these can be summarized as follows:

1. Professional Responsibilities

With reference to professional responsibilities, most of the teachers interviewed and observed they were among those honor degree graduated students whom were funded by the Malaysia government to study abroad such as England, Canada, Australia, and some of them were graduated from well known universities in the country. Most of them had taken a diploma program in education. They played vital role in supporting the school ethos and culture by reinforcing school rules and routines for example, encouraging students to develop self-disciplines. They had good attitude towards teaching profession, an evidence confirmed was from one of the school teachers who said that “…the fact that teaching and learning is as a form of submission in Islam” (Ruzainah Ishak, 2004:54).

In teaching planning and preparation, they planned and prepared lesson thoroughly and specified some Islamic world views related to lessons by recording clearly in their lesson plans. An example of lesson plan of biology subject of form 4 which included Islamic values and can be shown as below.

<table>
<thead>
<tr>
<th>Topic</th>
<th>Islamic value (theme)</th>
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<tbody>
<tr>
<td>-understanding enzymes.</td>
<td>-discussion on the Prophet’s behavior in eating and related to digestion system of enzymes.</td>
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<tr>
<td>-importance of controlled mitosis.</td>
<td>- discussion the topic “cloning from Islamic perspective.”</td>
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<tr>
<td>-the application of knowledge on mitosis in cloning.</td>
<td></td>
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<tr>
<td>-significant of meiosis in the correct order.</td>
<td>- discussion variation that the Prophet didn’t encourage marriage among to the close relatives.</td>
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In teaching activity stage, most of the subjects had incorporated Islamic and noble values in class, teaching approaches, activities and interaction between the member in class, and act in a professional manner without breaking the rules of secondary level education. Firstly, entering the classroom by practicing Islamic value and greeting in order to be blessed by God and establishing good rapport with members of a class, all the teachers greeted the students “Assalamualaikum” (Peace be upon you), while the students responded to them”Wa’alaikum salam” (And also Peace be upon you). After the warm and peaceful greeting, they began the classes by reciting Du’a (praying and asking help from God in giving guidance and blessing...
in teaching and learning). In the same way, at the end of any discussion sections or classes, they practiced reciting Du’a and expressed thanking to the teachers.

They used Islamic-based instructional resources and materials to facilitate learning activities in certain lessons such as Harun Yahya’s VCD on “the creation”, Dr. Danail Zainal Abidin’s VCD on “Islam and Science” and also his book, titled “Qur’anic Scientific”, and Abdul Majid Aziz Az-Zindani’s book related to the Islamic faith and scientific facts, and also internet homepages. They applied a variety of teaching techniques, strategies and skills that suit students’ needs and subject matter. Moreover, they provided virtue-led knowledge and value-based learning experiences which enable students to transfer principles and generalizations to relevant situations inside and outside the school. Besides, integration of the disciplines from the perspective of subject matter, the concepts of knowledge referring in lessons were related to the relationship to God, Islam, man, knowledge, values, this world and the Hereafter the relationship between human beings themselves, the relationship towards environment, and so on. These concepts of knowledge are in according to knowledge as uphold in the light of NPE’s interpretation is seen in the following perspectives: (1) knowledge of man and his Creator; (2) knowledge of man in relation with his fellow beings and (3) knowledge of man and his interaction with his environment (Habsah Ismail and Aminuddin Hassan, 2009:233). An example from classroom observations, integration of Islamic values into teaching and learning, can be noticed in teaching of science form 2 in the topic related to “conservation and preservation”. In this class, a female teacher encouraged the discussion of the problems highlighting the reality humans have to face in the depletion of natural resources such as petroleum. The teacher emphasized the natural resources are endowed by God as the Creator of the universe for the benefit of mankind. The students had to play their roles in administration the natural resources to be useful for the benefit and advancement of mankind. Another example was the observation in teaching of biology in form 5 related “animal life cycle”. An experienced female teacher taught the topic and explained her students that “Allah is the God who creates and controls all animals”.

2. Academic Role

Both in the Western and Islamic perspectives, the academic qualifications which entitle one to an appointment are considered. Most of the teachers were selected based on their academic excellence and involvement in useful activities. In addition to the specialization in the subject taught, as a Muslim teacher of this school, he or she has to be able to recite some of the Qur’anic verses and know its rules of reading and recitation to a certain satisfied level, and also possess comprehensive Islamic knowledge.

2.1 Possess of Foundation of Islamic Knowledge and Understanding

The school has a clear policy in selection and appointment of a teacher who has a good personality and is able to recite the Quran to a certain level. These criteria for admission are required for a teacher as Al-Amin teachers have to teach at least one of the many Quranic courses offered to students at all levels. Besides consideration on academic achievement and university activities involvement, deep understanding about Islamic teachings will enhance teachers in implementing the KBSM successfully (The school headmaster, 2009, February 21st).

In developing Al-Amin teachers’ personalities, the school plays vital role in organizing school programs such as weekly group discussion for all teachers in searching and acquiring
knowledge concerning Islamic teachings. Some of teachers in science subjects reflected that they gained knowledge concerning Islam and science from the program which enlightened them better to apply the knowledge for integration in teaching science subjects.

2.2 Understanding Aspect of Integration of Knowledge from Islamic Perspective

Teachers’ understanding of the process and strategies relevance to integration or Islamization of knowledge is considered valuable factor in promoting teaching learning successful. The school administrative staff have realized the importance of such aspect which is stipulated in school mission. The school had organized various kinds of activities. The most influential project which gave valuable experience in application integration or Islamization process was the MERKURI Project implemented in 2002. MERKURI is an acronym for “merubah kurikulum” (curriculum change). The project proposes revision and changes in the school curriculum. The proposed changes revealed that KBSM and KBSR subjects are to be presented within the Islamic perspective (Islamization of contemporary knowledge). (Nor Zalimiah Jahidin, 2002)

Based on the objectives of the project, teachers were trained in series of workshops and exposed to key ideas as means to instill readiness in implementing the new curriculum. Among the issues and topics highlighted were history and philosophy of Islamic education, IT, analytical and critical thinking, Tasawwur Islami (Islamic worldviews) as a discipline, postmodernism, Islamic metaphysics, Islamization of contemporary knowledge, and products of Islamic education system. The success of the program can be identified, by a 36-years old female teacher who mentioned in the interview said that

"I always integrate the Qur’anic verses in the content of lessons, for instance, when related to buying and selling or borrowing I mentioned that Allah(God) emphasizes (man) on doing an account in doing such activities, in Surah al-Baqorah (-a chapter of the Qur’an)...”

3. The Personal and Moral Exemplary Role

Al-Amin school recognizes the role of teacher assumed high importance in the school system. Unsurprisingly, a sentence written "respect to your teacher" is one of the school rules, and it is recorded in various school documents as well as school board notices. Most of the teachers were good model for their students. They were kind, sincere, friendly, and take care of their students very well. In an extra classroom activities such as a study group, one could observe that a teacher and students sat on the ground in a cycle, making discussion warmly and friendly among themselves. During the students’ experiment in a laboratory science class, a science teacher and her assistant approached each group of students in a friendly and warm manner. The relationships between teachers and students were positive. Unsurprisingly, the students themselves respected and honored their teachers. An impressed event happening in a laboratory class was when the assistant teacher helped a group of students who were doing an experiment was a male student expressed his gratefulness to the assistant teacher: “Terima kasih, Ustaz (Thank you teacher). May Allah(God) bless you the best one” (Abdul Hakim, 2551 June, 2008 cited in Solihah Hayeesama-ca et al, 2009:55). Other evidences were the expressions of the senior students (who were going to leave the school-form five level) which were written down on some pieces of their group photographs which were in the teachers’ offices. Their words of graceful expressions were as below:
“Thank you teachers for helping us to learn what we need to know. We’ll remember you no matter where we go.” and “Teacher, thank you for you care& guidance lots of us wonderful stuff for all.”

From the above description, it can be concluded that a Muslim teacher is not just a professional worker but is also a mu’addib who concerns himself with instilling adab, (manners) in their students. He is also a guide leading students to the righteous path. Consequently, the excellence of a teacher in Islam is not only measured by his or her faith, beliefs, character and conducts (Hashim, 1997:58). There is also the point that ‘the most important quality of a Muslim teacher is not what he knows but what he is’, (Baloach & Affendi, 1980:157). Thus the personal and moral exemplary role of teacher is essential as he is a model to be emulated. He is expected to treat his charges as impressionable human beings, he was required not only to be a man of learning but also to be a person of virtue, a pious man who conduct by itself could have an impact upon the minds of the young. It was not only what he taught that mattered; what he did, the way he conducted himself, his deportment in class and outside, were all expected to conform to an idea which his students could unhesitatingly accept (Husain, Syed Sajjad Husain and Ashraf, Syed Ali, 1979:104). Ismail, Shaban (1997:45 cited in Fawzia Gilawi-Williams) explained that the call is for a Muslim teacher to have moral values and professional knowledge and to be able to actualize these in daily life routines. They must be honest and sincere, and cultivate ‘faith in absolute values such as justice, mercy, truth, charity, love and righteousness, all of which are enshrined in the names of God.

Conclusion

This study had shown that Al-Amin Islamic Secondary School teachers’ perceptions towards the virtue-led knowledge can be considered as a main factor underpinning the successful of promoting and practicing the virtue-led knowledge in the school context and the society at large. Teachers’ perceptions were positive towards the virtue-led knowledge in the teaching and learning process. This result of the study was confirmed by Ruzainah Ishak (2004:83) that Al-Amin English teachers had a high level of commitment towards Islamization of knowledge and they realized the need to incorporate the Islamic worldview when teaching. The school teachers’ positive perceptions effected and influenced on the teachers’ roles in promoting the virtue-led knowledge in the school context especially, in the integrated teaching-learning process. The teachers played their various roles in promoting the virtue-led knowledge: professional responsibilities, academic role, as well as personal and moral role. The findings of this study supports the findings of research conducted by Habsah et al (2003) which showed that secondary school teachers in Malaysia held a strong belief in God. However, promoting and practicing the virtue-led knowledge in the integrated teaching-learning process are preferable to be implemented by all the teachers as to effectively and successfully obtain the aim as explicitly stated in the Malaysian National Philosophy of Education and the aim of Integrated Curriculum for Secondary (KBSM).

The results from this study can be applied into the context of education system that emphasis moral or virtue-based values. For example, in the case of Thailand, the results are useful as to fulfill the present Thai educational policy that emphasized on the integration principle based on the “virtue-led knowledge”, institute principles of 3 D. It is preferable to give an advice that all teachers should organize teaching-learning activities by inculcating virtue, moral values in all subjects or courses taught, supporting positive and conductive value-based classroom atmosphere as well as environment school culture. Presenting value-based
instructional media is another important factor. Most importantly, teachers themselves have
to play moral exemplary as “good model is worth than saying”.

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