

Spiritual Education Development Model

ROHANA HAMZAH
KAMARUDZAMAN MD ISA
ROZIAH MOHD. JANOR

ABSTRACT

Developing and producing a holistic individual has been a major concern to Malaysian education system. Therefore, Malaysia education system was formed based on its mission to produce a balance and a holistic individual from physical, emotion, spiritual and intellectual potential based on a firm belief in and devotion to God. However, there was a gap between the current practice in education and the Malaysia's education philosophy especially in the spiritual development domain. Meanwhile, self development from spiritual potential is the basic needs of every human being because it motivates good human behaviour and how they respond to the environment. Since, man is a combination of the soul and the body, man also carries dual tendencies which are tendencies to become good (motivate by the rational soul) and bad (motivate by the animal soul). Therefore, spiritual development process is about a continuous exercise of sub-ordination the animal soul to enslave itself in submission to the power of the rational soul. Therefore, the purpose of this study is to explore the philosophy behind self-development from spiritual domain and develop the conceptual model for spiritual development process.

Key Words: Holistic, education, spiritual, holistic approach, soul, human nature.

ABSTRAK

Usaha berterusan untuk membangunkan dan melahirkan setiap individu secara holistik atau menyeluruh telah menjadi fokus utama sistem pendidikan di Malaysia. Oleh itu sistem pendidikan tersebut telah dibentuk berdasarkan misinya iaitu untuk melahirkan individu yang seimbang dan pembangunan potensi secara menyeluruh daripada sudut fizikal, emosi, rohani dan intelektual berdasarkan keyakinan dan kepatuhan kepada Tuhan. Walaubagaimanapun, terdapat jurang di antara amalan semasa pelaksanaan sistem pendidikan dan Falsafah Pendidikan Kebangsaan terutamanya dalam isu pembangunan domain spiritual. Sedangkan, pembangunan potensi spiritual merupakan keperluan asas setiap insan kerana ia akan memotivasikan manusia untuk bertingkah-laku dengan baik dan juga mempengaruhi cara mereka berinteraksi dengan persekitaran. Oleh kerana manusia adalah hasil kombinasi ruh dan jasad, manusia juga membawa dua kecenderungan iaitu kecenderungan untuk menjadi baik (dimotivasikan oleh jiwa rasional) dan kecenderungan untuk menjadi jahat (dimotivasikan oleh jiwa kehaiwanan). Maka, proses pembangunan spiritual ialah latihan berterusan untuk membawa jiwa kehaiwanan untuk berada dibawah kawalan jiwa rasional. Oleh itu, tujuan penyelidikan ini ialah untuk merungkai falsafah di sebalik pembangunan diri daripada domain spiritual dan membangunkan model konseptual proses pembangunan potensi spiritual melalui proses pendidikan.

Kata Kunci: Holistik, pendidikan, spiritual, rohani, pendekatan holistik, jiwa, fitrah manusia.

INTRODUCTION

The awareness of having holistic approach in education has been a major concern to the Malaysian education system. In 1988, the Malaysian Education Philosophy stated that;

Education in Malaysia is on-going efforts towards further developing the potential of individuals in a holistic and integrated manner, so as to produce individuals who are intellectually, spiritually, emotionally and physically balanced and harmonic, based on a firm belief in and 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 responsible and capable of achieving high level of personal well-being as well as being able to contribute to the harmony and betterment of the family, the society and the nation at large.

(Retrieved May 5, 2009, from <http://www.moe.gov.my>)

However, holistic approach in Malaysia education system is defined as broader sections and divisions, from curriculum to co-curriculum activities, from academics to the students' affairs and from administrator to the top management of a university. For example Soft Skills program and soft Soft Skills Clinic which were introduced by University Malaysia Pahang focused more on co-curriculum activities than academic activities (Muhammad Nubli, Haslina, Anita and Aini, 2006). However, according to Jan Christial Smuts, holistic education approach is defined as:

A functional, integrated and generalized model of education that focuses on the whole teaching-learning situation, and varies the teaching-learning strategy to meet the needs of the learner, the teacher and the situation in an effort to attain educational outcomes greater than the sum of their parts.

(Rinke W.J, 1985; 67)

The above definition defined a holistic approach in education as an approach focused more on the whole teaching and learning process in education. Therefore, instead of looking a holistic approach in education in broader perspective which covers curriculum and co-curriculum development, this paper concentrates on the definition of the said approach within the delivery of teaching and learning process of education. We also can look at it from the implementation of teaching and learning process or delivery process itself.

According to al-Ghazali, education without focusing on the core values of human development process will produce mankind who is imprisoned within the material world and will not achieve the true happiness (Mohd Johari, 2007). Having the same idea, Korthagen (2004) stated that the core values of human being are the sources of man's stability, through which they maintain a sense of purpose in their life. Stoddard in Korthagen (2004) identifies this process of educating as "education for greatness", that is education aiming at the development of great human beings. Hence this research focused on studying the development of human beings from the core value model which is investigating the development from their spiritual domain.

THE NATURE OF MAN

Man has a dual nature, he is both body and soul, and he is at once a physical being and a spirit. In other words, the physical and the spirit are combined in a person (Syed Muhammad Naquib

al-Attas, 2001). These combinations have produced man with dual nature. As a result, man also carries dual tendencies which are the tendency to become good or bad. The tendency to become a good or well behaved person comes from the nature of soul which is pure submission to God since it has acknowledged God as its Creator in the spiritual world before it has been breath into man's body by God. Meanwhile, the tendency to become bad comes from man's body which is the basic instinct and impulse to fulfill his physical needs. These tendencies become two types of forces which is positive and negative (Hasan Langgulong, 1987). These two forces work in different direction in self-development process. Since the self-development process always refers as self-awareness process in al-Qur'an, the positive force to work the highest identify as self-enlightening force and negative force to the lowest is the self-narrowness force (Wahid Bakhsh Shaikh, 1999).

Therefore, in education, to understand people we have to understand their core values which are their spirituality because spirituality motivates human behaviour and how they respond to their environment. That means from the holistic self-development point of view, education system would have developed human being's spirituality dimension before the intellectual and the physical dimension (Hasan Langgulong, 1987). This theory was strengthened by Syed Naquib al-Attas, as he identifies the unifying principle of what defines man is not his constantly changing physical aspect, but the spiritual one. The soul or spiritual substance is the reality or every essence of man by which is also referred to as the perfection of a being. This entity is not measured in terms of the extent in space and time or of quantity (Wan Mohd Nor, 2005).

THE SELF-DEVELOPMENT THEORY

The Western challenge to education or human development process is scientific and technological in nature but the Muslim challenge to education is spiritual, moral and social development. Therefore the planned of genuine reform in education should reflect the spirit and the aspiration of Islam. Among the Islamic Philosophers, who are involved in the self-development theory or '*ilm al-nafs*' are Ibnu Sina, al-Muhasibi, al- Ghazali, Ibn Tufail, al-Mawardi and Ibn Khaldun (Hasan Langgulong, 1987).

Basically, Islamic philosophers agreed that human self-development process involved three dimensions with three components which are physical, psychological and transcendental. However, the essential and real (primordial) human personality is spiritual in nature. The spiritual development is about the possession of self-consciousness as well as the consciousness of the Oneness of God. Every human soul has the ability to affirm the existence of the Supreme Power and this is inborn intuitive in the primordial human nature (fitrah) (Absar Ahmad, 1992).

Meanwhile, according to Hasan Langgulong (1987) and Fazlur Rahman (1999), the spiritual development level is divided into three unseparated stages. These unseparated stages of self-enlightening converge and communicate consistently with each other. These stages consist of three energy centers which are the impulsive mind (al-Nafs al- Ammarah), the conscientious or morally aware mind or the blaming soul (al-Nafs al-Lawwamah) and the mind in peace or the rational soul (al-mutma'innah).

The al-Nafs al-Ammarah is the lowest spiritual-development level and it is also identified as the animal soul. This is a basic instinct such as man's need for food, sleep, sex, viciousness, voracity, wrathful and disgust (Hasan Langgulung, 1987). According to some Sufis, in this dimension the ego-consciousness of the ordinary man is constituted as the sensuous and sensual of big 'I' (Absar Ahmad, 1992). At this self-development level, man always believe that they own themselves and everything they have. It is really hard for them to think that in reality they own nothing.

Therefore, this is the negative power that will imprison man in his body (physical) or material needs and forgetting the Creator and the purpose of his creation. The main effect of al-nafs al-ammarah is to paralyze the cognitive processes. In other words it decreases man's ability to use his intellectual potential or his 'aql'. The characteristics of man who fall into this level can be identified as forgetting Allah, heedless of warning, negligent, thoughtlessness, stingy, bad desire, jealousy, materialistic and arrogant (Abdullah Al-Naqshabandi, 2005; Zafar Afaq Ansari, 1992).

The second stage is al-Nafs al-Lawwamah. This is the power of armies engaged in constant battles of alternate success. It relates to Qalb. Man at this level falls into confused state of mind. Sometimes, man drawn towards his intellectual powers and encounters the intelligible whereby his eternal truths cause him to affirm his loyalty to God; and sometimes the animal powers drag him down to the lowest foothills of the bestial nature. The self is in earnest struggle with its animal powers. By means of knowledge, moral excellence and good works, it is possible for man to attain to the highest level of spiritual development which is the rational soul (al-Nafs al-mutma'innah) (Syed Naquib al-Attas, 2001).

The highest stage which is al-nafs al-mutma'innah is the purest stage of the spiritual development level and can only be achieved when man inclines himself toward the right direction. In order to reach this level, man's rational soul must exert its power and rule over the animal soul. In other words, the animal soul must be rendered submissive to the rational soul (Fazlur Rahman, 1999).

The process of rendering the animal soul to be under control of the rational soul related with the two forces in spiritual development process. The two forces which are the self-enlightening force work to the highest (al-nafs al-mutma'innah) and the self-narrowness force work to the lowest (al-nafs al-ammarah) will give an impact on man spiritual development level. In the following figure, the researcher illustrates the spiritual-development stages with two forces which is the self-enlightening force and the self-narrowness force. The researcher also illustrates the relationship between the spiritual development levels and intellectual potential as identified by Abdullah al-Naqshabandi (2005) and Zafar Afaq Ansari (1992).

Abdul Hayy Alwi (1992) in his further explanation on self-development based on Islamic model indicates that the entire creation obeys the laws of God. In other words, the whole universe in a way follows the true '*din*' which consists of obedience and completes submission to Allah, the Lord of the universe. Same to all the organs of man's body including his heart and brain follow the path of Islam. That means that they follow the course that has been ordained for them.

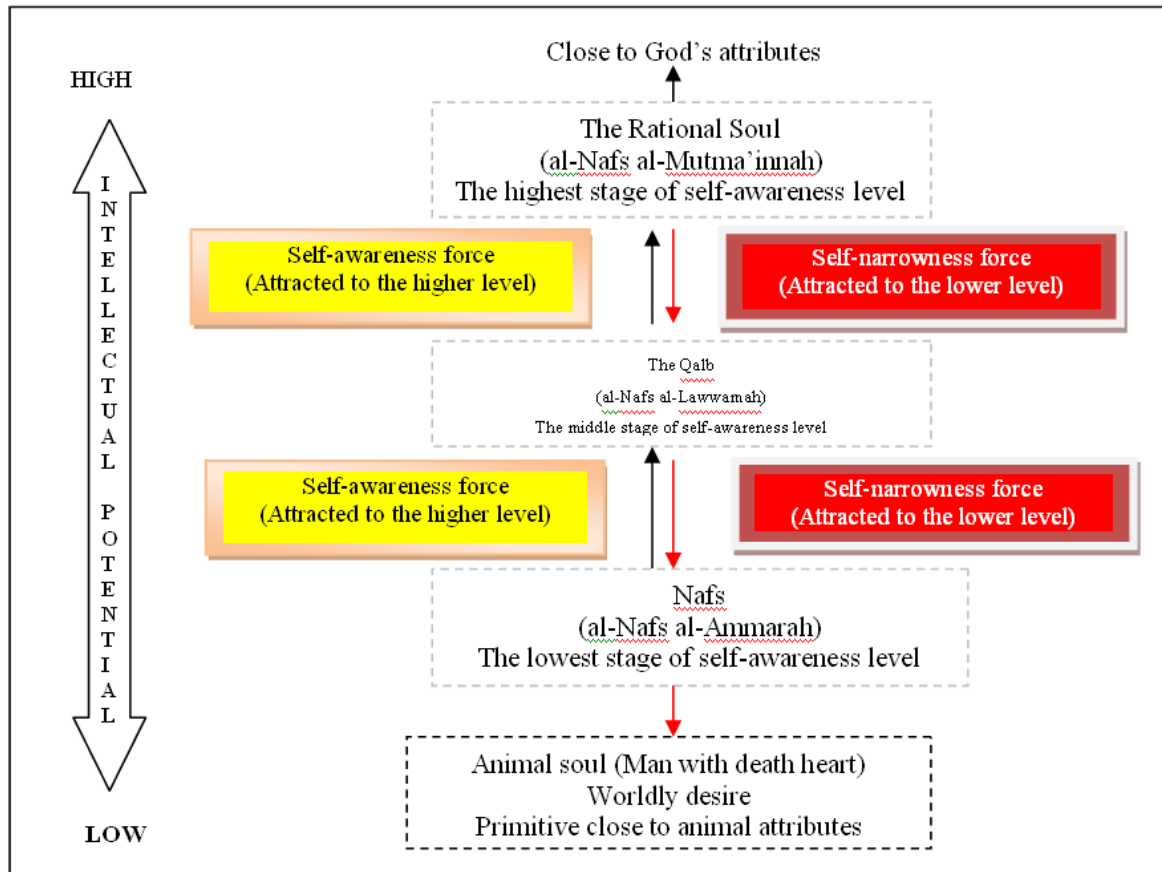


Figure 1 Relationship between spiritual-development levels, two forces and man's intellectual potential (Innovation from Hasan Langgulong, 1987)

However, man has a different position as well. On the one hand he/she is regulated by the Cosmic or Divine Law and on the other hand he/she has been given the freedom of thought, choice and action and as such he/she can chalk out his own course of behavior. Both these aspect coexist in man's life. If he/she consciously decides to submit himself/herself to the will of Allah in the domain in he/she has given freedom of choice, he/she experiences no conflict in his personality. On the other hand, those who do not exercise their higher mental functions for recognizing their Creator and misuse their freedom of choice by denying Him and not submitting to His Will, are in a state of mental conflict (Abdul Hayy Alwi, 1992).

In other words, the self-development process is the transformation process of the soul. If a person goes down the path of sin, his penalty gathers momentum, just as goodness brings its own capacity for greater goodness. In other words, when a person persistently adheres to false beliefs and refuses to listen to the voice of truth, he gradually loses the ability to perceive the truth, so that finally, he falls into the lowest level of the self-development process. Sometimes this level of self can be call as man with a 'dead' heart but surely it happened as a consequence of man's free choice and not an act of 'predestination' (Absar Ahmad, 1992).

The submission of the animal soul to the rational soul is the only true meaning for man in his life. Self-enlighten can only develop through religion. In other words, man has to lead his life based on religious orientation. Without religious orientation, modern man increases the chances

of agony and existential anxiety. Moreover, God consciousness and self-enlightening are interdependent. A true knowledge of one's deeper self necessarily leads to awareness of the Ultimate Self or God and vice versa (Absar Ahmad, 1992). That is the reason why education should aim at inducing man an attitude based on God-consciousness and heightened self-enlightening.

Therefore, man in his existence in this world has been given two choices which are to turn his attention to the divine unity and order prevailing within the self and the universe at large or to remain stuck up with the gross multiplicity of the apparently random stimuli around. If the heart (qalb) is predominantly engrossed in these sensory stimuli, the animal soul overrides the rational soul and makes human personality a slave of sensuous pleasures, prompting it to pursue merely sensuous goals like other animals.

Man has to overcome *al-nafs al-ammarah* (the animal soul) not by denying and shedding it but by understanding and controlling it). Therefore, the whole process of self-development is about the exercise of subordinating the faculty of the animal soul to those of the rational soul. This process requires man to exercise his freedom of choice or divine trust that God has given to him. Therefore, the researcher illustrates in the following figure the spiritual development process and stages of the human mind.

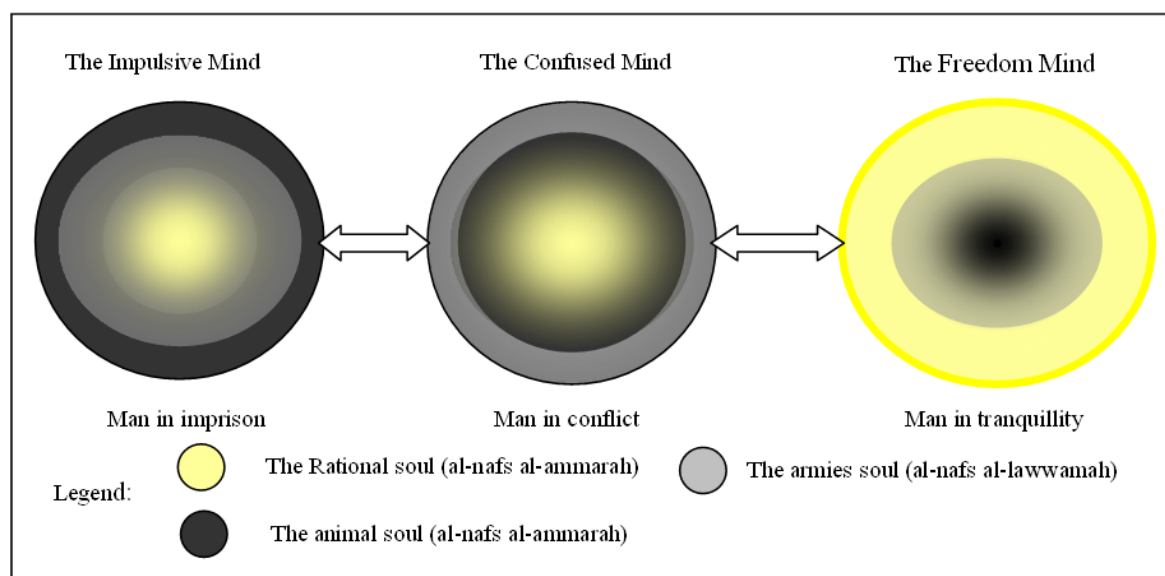


Figure 2 The spiritual development process and the stages of mind

The Self-Narrowness Force; The Internal Motivation Factors The Motivate Spiritual Development To The Lowest

Self-narrowness force is a negative force like gravitational force toward lowest self-development level which is the animal soul. Man who is imprisoned within this level leads their life based on basic instincts of physical need just like animals, such as man's need for food, sleep, sex, viciousness, greedy, wrathful and hatred (Hasan Langgulung, 1987). The characteristics of Man who fall into this level can be identified as forgetting Allah, stingy, bad desire, jealousy, materialistic and arrogant (Abdullah Al-Naqshabandi, 2005).

Previous researcher identified six factors that will motivate spiritual development toward the lowest level which is the self superior, self hypocrite, bad desire, self sufficient, self suspicion and weak willed (Ari Ginanjar Agustian, 2005; Harun Yahya 2003; and Abdullah Al-Naqshabandi, 2005). Therefore, the researcher developed the following figure to illustrate the self narrowness factors.

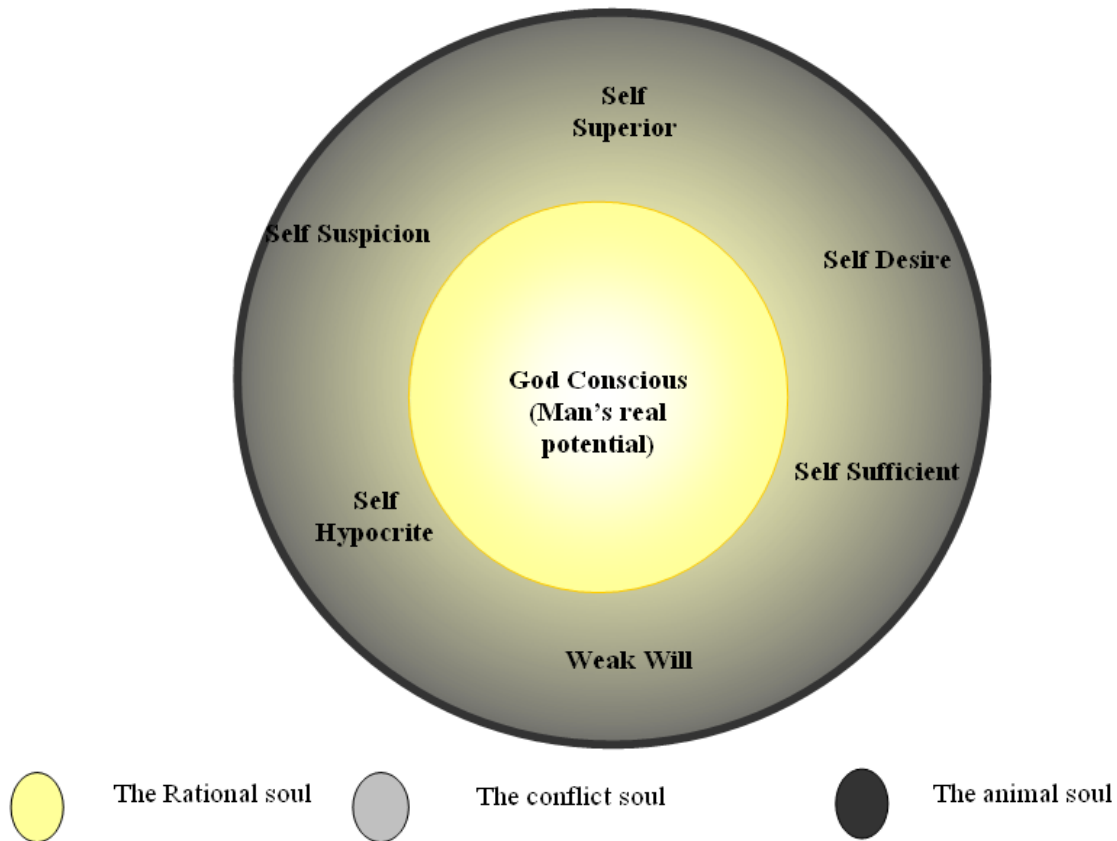


Figure 3 The self-narrowness factors in spiritual development process

The above figure shows that the self-narrowness factors are precisely what block the realization of man’s potentials or self-enlightening factors in spiritual development process.

The Self-Enlightening Force; The Internal Motivation Factors The Motivate Spiritual Development To The Highest

There are six self-enlightening factors which is belief in Oneness of God principle, slave principle, leadership principle, genuine, learning principle and vision principle. Since man has dual nature, man also carrying dual visions in their life which is; as a servant to only One God and as God’s khalifah (Syed Muhammad Naquib al-Attas, 2001; Wahid Bakhsh Shaikh, 1999; Harun Yahya, 2003; Muhammad al’Mahdi, 2004).

Man’s visions of life are the original purpose of education process. Therefore, Syed Muhammad Naquib al-Attas (2001) indicates that man’s vision of life as the aim of self-actualization through education. In other words, self-actualization through education means the realization

of the original purpose of his creation, his 'fitrah', which means, ultimately, to know and acknowledge God as the Lord and Creator and to arrange his life as God's servant (from spiritual dimension) and to play our role as khalifah (from physical existence dimension). The following figure illustrates the self-enlightening factors in spiritual development process.

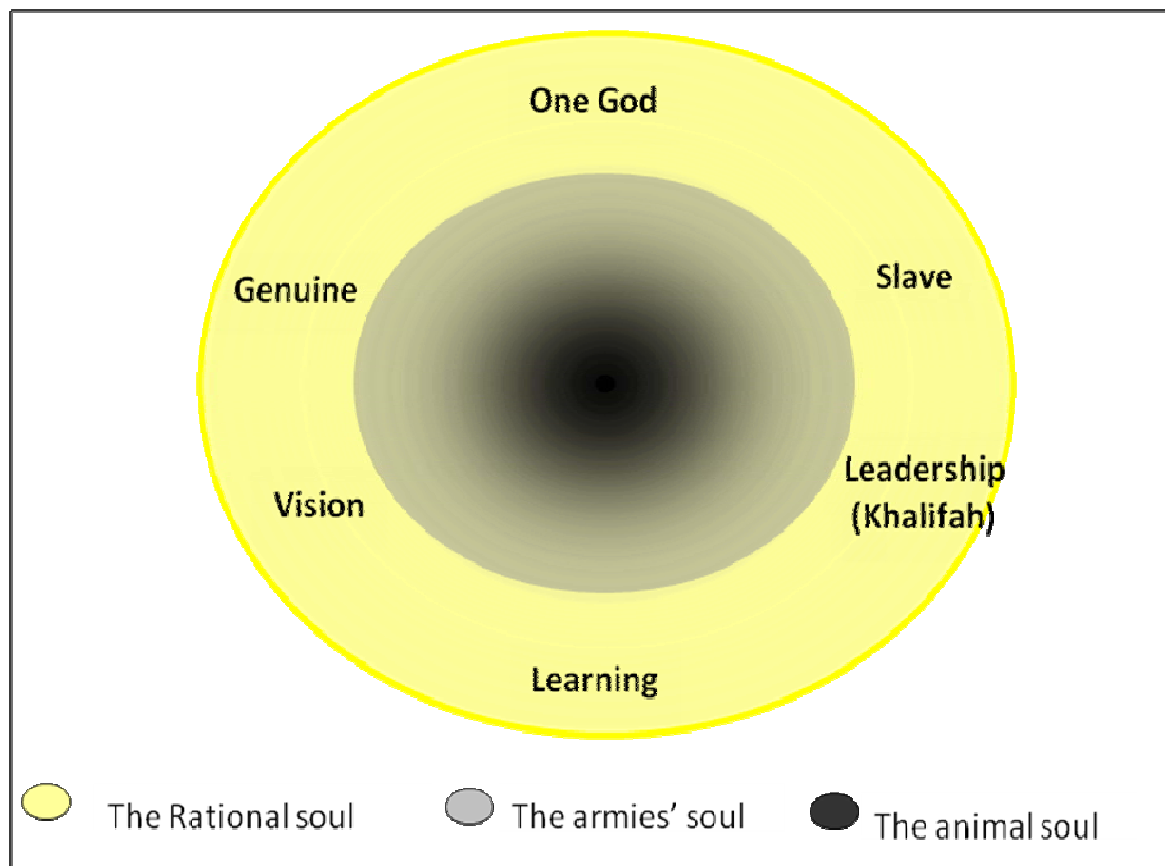


Figure 4 The self-enlightening factors in spiritual development process

The Conceptual Interrelation Between The Laws Of Nature And The Spiritual Development Process

Science and technology development in 20th century has shown us from the beginning to end, from top to bottom; the universe is an elegant harmony of interdependent opposites. We have learned a lot about nature in this century, now we have to learn from nature. Nature is not structured as a hierarchical Great Chain of Being; it is rather, a Great Network of Being, in which all share in equal measure (Mahon, 1997). Without any doubt, the researcher suggests that there is interrelation between the law of nature (science technology and art) and the law of morality. For example Newton experiments with a thin sunbeam into a darkened room. He puts a glass prism in the path of the light to break it apart, and then the white sunlight split up into the different wave frequencies. In short, he created a rainbow in his lab. Then he put a second prism in the path of the rainbow and brought all the colours back together again to create coherent white sunlight as shown in the following figure (Chong Kum Ying et. al. 2006).

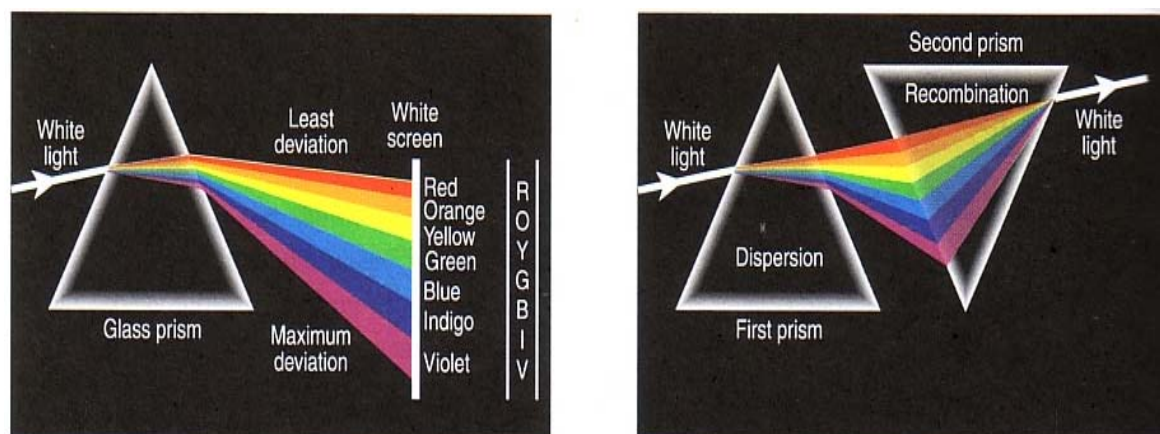


Figure 5 The Newton's experiment on sunlight with two prisms (Source:Chong Kum Ying et. al, 2006; Focus Excel Science; Form 4; pg 170)

Newton's finding shows that when the sunlight went through Prism 1, it creates a rainbow but when it went through Prism 2, it re-creates sunlight. His finding has inspired the researcher in the development of conceptual model for spiritual development process through education. Prism one is the symbol for learning process whereby whenever people really want to understand something, they first take it apart. Meanwhile Prism two is a symbol for wisdom whereby it allows people for the integration of knowledge for the sense of coherence and to grasp integrity.

According to Johnpaily (2001), we have so much time in taking things apart, now we need to get better at putting things back together again. We are surrounded by science or knowledge but with little sense of conscience. We know a lot about the how of things, but we're starved to know the why of things, beyond the second prism. So we are desperate to look through Prism 2, to coherence again.

Newton also has built the foundation for gravitation theory which is the force that always direct to the centre. However, according to Johnpaily (2001) there is also an anti-gravity force. The simplest way to discover anti-gravity is by observing nature and we note that all biological systems by their nature are anti-gravitational. They by instinct strive to expand in nature against the gravitational force. These gravity and anti-gravity forces have a very close relationship to compare with the spiritual development theory. Fazlur Rahman (1999) indicates that man who becomes a slave to the material and temporary existence world is the man who imprisoned with 'gravities down to earth' force. He cannot effectively listen to the voice of truth and is irritated by being constantly reminded of the truth. Therefore, man has to struggle and develop his self-enlightening to the heights of purity. In other words, the self-enlightening force is similar to anti-gravitational force in the spiritual development theory.

Another concern of self-enlightening development theory is not to eliminate all the narrowness force but to put it under control of the self-enlightening force. In other words, the self-development process means to put the animal soul motivated by the self-narrowness factors that enslaves itself in submission and service to the power and authority of the rational soul which motivated by the self-enlightening factors (Al-Ghazali translated by Mohd. Sulaiman, 1993 and Syed Muhammad

Naquib al-Attas, 2001). Therefore, the self-enlightening development theory can be simplified according to the following formula:

Self-development theory = Self-narrowness force < Self-enlightening force @ The animal soul Î (subset to) the rational soul

Based on Islamic metaphysics the essence of things or the reality of existence is “Absolute” Existence’ and it is not other than the Truth. The truth is the Real Existence Who is eternal and everlasting and the reality of existence referring to the “Absolute” as it manifests itself in all the planes of existence. God has described Himself according to His Beautiful Names and Sublime Attributes. Therefore the unity of existence upholds that the Ultimate Reality is God (Wan Mohd Nor, 2005). Since God as the Absolute Existence is the fundamental Reality, spiritual education must strive to inculcate the true and proper recognition and acknowledgement of God both as rabb and illah.

However, according to Abdulaziz (1988), faith without moral and religious commitment was considered hypocritical. In fact, the Qur’an views faith as generating moral social behavior which ought to be translated in the creation of justice and peace on earth. As a result of pure submission in the heart and manifestation through pure submission in action will transform the individual into a righteous person. Therefore, the ultimate vision in man’s life is to enslave and submit himself to God. Meanwhile, man’s vision in his existence in this physical world is to play his role as God’s khalifah means to exercise his manifestation of real submission in word and action (Syed Muhammad Naquib al-Attas, 2001). Therefore, the researcher develops a conceptual model for spiritual development through education as illustrate in the Figure 6.

CONCLUSION

Malaysian education awareness of having holistic approach in education has brought a real big challenge to our education system. However, there is a lot of research on self-development from outer level to the inside level but very little research on self development from inside which is from spiritual level to outer level (Korthagen, 2003). Therefore, the purpose of this study is to identify a conceptual model for self-development from the core values which is spiritual domain through education, which is to emulate the behaviour of Prism 2 in the Newton’s experiment earlier cited.

Since man has been created with a combination of the soul and body, man also has dual tendencies which are the tendency to become good or bad. These tendencies have become two types of forces working in different direction within spiritual development process. The forces are the self-narrowness force and the self-enlightening force. Therefore, education process is a process to put the animal soul which motivated by the self-narrowness factors that enslaves itself in submission and service to the power of the rational soul which motivated by the self-enlightening factors.

In addition, man also carries dual vision in their life. Therefore, the purpose of education process is to develop self-awareness towards these visions. As such, the sole aim of education process is to bring human beings close to Allah (SWT) and to develop self-awareness towards man's responsibility as a vicegerent.

Finally, this conceptual model has the potential to provide clearer direction for our efforts in designing holistic approach in our education system. This is because educating people from their spiritual potential means that we are preparing our next generation for greatness.

BIBLIOGRAPHY

- Abdulaziz A. Sachedina (1988). Unity through diversity: the Shariah vision. *The American Journal of Islamic Social Science*, Vol 5.
- Absar Ahmad (1992). *Qur'anic Concepts of Human Psyche*. Pakistan: The International Institute of Islamic Thought and Institute of Islamic Culture.
- Abdullah Al Naqsyabandi (2005). *Mencapai Ma'rifat; Satu Pendekatan*. Kuala Lumpur: al-Hidayah Pub.
- Abdul Hayy Alawi (1992). *The Qur'anic Concepts of Mental Health*. Pakistan: The International Institute of Islamic Thought and Institute of Islamic Culture.
- Ahmad Sabri Osman. (2003). Konsep Pendidikan Islam. *Jurnal Intelek*. First Edition: (Julai-Disember), 22-37.
- Ary Ginanjar Agustian (2005). *ESQ: Emotional Spiritual Quotient*. Jakarta: Penerbit Arga.
- Chong Kum Ying et. al. (2006). *Focus Excel Science Form 4*. Bangi: Pelangi Sdn.Bhd.
- Fazlur Rahman (1999). *Major Themes of the Quran*. Petaling Jaya: Islamic Book Trust.
- Hasan Langgulung (1987). *Asas-asas pendidikan Islam*. Jakarta, Indonesia: Pustaka Al-Husna.
- Harun Yahya (2003). *Beauties for Life in the Qur'an*. New Delhi: Millat Book Center.
- Johnpaily (2001). *Secret of Nature:Unification Theory and Perpetual Universe*. Retrieve April 30, 2007, from [http:// www.geocities.com](http://www.geocities.com).
- Korthagen, F.A.J. (2004). In Search of the Essence of a Good Teacher: Towards a More Holistic Approach in Teacher Education. *Teaching and Teacher Education*, 20, 77-97.
- Muhammad Nubli et al. (2006). Program Soft Skills dan Klinik Soft Skills: Konsep dan Kaedah Pelaksanaan ke Arah Membentuk Sikap Graduan Berdaya Saing. Paper presented at National Seminar on Science Technology and Social Sciences, Kuantan; 30-31 Mei 2006.
- Muhamad Al-Mahdi (2004). *Understanding the Concept of Khalifah; Khalifah Series No.1*. Ampang Selangor: The Kalifah Institute.
- Mohd Johari Ab. Hamid (2007). *Falsafah dan Kritikan Seni*. Tanjong Malim: Universiti Pendidikan Sultan Idris.
- Mohd. Sulaiman Yasin (1993). *Antara Falsafah Islam dan Falsafah Moden Barat: Suatu Perbandingan Antara Al-Ghazali dan Descartes*. Kuala Lumpur; Dewan Bahasa dan Pustaka
- Naumana Amjad (1992). *Psyche in Islamic Gnostic and Philosophical Tradition*. Pakistan: The International Institute of Islamic Thought and Institute of Islamic Culture.
- Rinke, W. J. (1985). Holistic Education: an Answer? *Training and Development Journal*, (August), 67-68.

- Syed Muhammad Naquib al-Attas (2001). *Prolegomena to The Metaphysics of Islam: an Exposition of the Fundamental Elements of the Worldview of Islam*. Kuala Lumpur : ISTAC.
- The International Institute of Islamic thought (1988). *Islamization of Knowledge; General Principles and Work Plan* (3rd ed.). Virginia: The International Institute of Islamic thought.
- Wahid Bakhsh Shaikh, (1999). *Education Base on the Teaching of Holy al-Quran*. Delhi: Adam Publishers and Distributors.
- Wan Mohd. Nor Wan Daud (2005). *Falsafah dan Amalan Pendidikan Islam; Syed M. Naquib Al-Attas: Satu huraian konsep asli islamisasi*. Kuala Lumpur: Universiti Malaya.
- Zafar Afaq Ansari (1992). *Qur'anic Concepts of hHman Psyche*. Pakistan: The International Institute of Islamic Thought and Institute of Islamic Culture.

Rohana Hamzah, Faculty of Education, Universiti Teknologi Malaysia, Skudai, Johor, Malaysia.
e-mail: anahaiqal@yahoo.com

Kamarudzaman Md Isa & Roziyah Mohd. Janor, Universiti Teknologi MARA, Shah Alam Selangor, Malaysia.