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Are We Islamic Young Scholars? Profiling Excellent Students at Madrasah

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Abstract: *Madrasah* as one of educational institutions under Ministry of Religious Affairs in Indonesia has been rapidly enhanced to construct civilized generations that can contribute to the Muslim transmission. One of which is through the concern on developing student's academic tenacity in some learning subjects of astronomy, physics, chemistry and biology in *madrasah*. Regarding to this growth, this article is intended to elaborate the inspiring students' profiles at secondary *madrasah* of Insan Cendekia Serpong (ICS) for their grit, independence and perseverance in education that they excel astronomy, physics, chemistry and biology. By interviewing the students, teachers, parents and peers, and documenting the management of institution, this research elucidates that the socio-cultural factors and the students' beliefs in nature can optimize the students' intrinsic and extrinsic motivations for the advancement of their academic tenacity in natural science subjects. Accordingly, the exemplary students of *madrasah* can be the agent of change maintaining tradition of being knowledge pioneer that instill a self-concept of being a scientific and religious scholar. *Madrasah* is also an appropriate institution to integrate and deepen student's spirituality and modern knowledge.

Keywords: Islamic young scholar; excellent student; academic tenacity; science identity

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INTRODUCTION

The religion and science understandings have been the main concern for Ministry of Religious Affairs to revive the Islamic civilization through madrasah education. Madrasah in Indonesia has long history in legalizing its equal status with general school in terms of the integration of general science and religious science (Tafsiri & Mujahidin, 2016). This integration is very essential for the enhancement quality of madrasah. Madrasah presents insight of Islamic pedagogy from *dar al-ulum*

perspective (house of knowledge) which requires empathy with the Islamic premise of the inseparable nature of the knowledge and the sacred (Sabki & Hardaker, 2013). Asbacher et al (2010) argue that science understanding is an increasingly precious resource throughout the world in which engaging students in learning science not only increase the talent pool but also lead to more equitable economic opportunities, wider utilization of science understandings in people's lives, and new viewpoints in the practice and teaching of science.

The equity between madrasah and general school in Indonesia are issued by official regulations that point out the aspects of the shift of definition, curriculum, management, subject and alumni output (Rahmatullah, 2016). Those regulations are set in the letter of mutual decision of 3 ministers in 1975 (SKB of 3 Ministers) encompassing Ministry of Religious Affairs, Ministry of Culture and Tourism, and Ministry of Home Affairs. It declares about how to improve education quality in Islamic school to create balance in general science in Islamic school and general science in regular school. After that, it is set in SKB of 2 Minister that is based on Ministry of Education and Culture No. 0299/U/1984 and Ministry of Religious Affairs No. 045/1984 in 1984 about management of standardization for curriculum in regular school and Islamic school. It also concentrates on the alumnus quality from Islamic school to they could be able to continue their study to regular school in the highest level and the quality of general subjects between regular school and Islamic school.

The next is disposed in legislation of the national education system No. 2/1989 or (UUSPN No. 2/1989). It is about the madrasa change definition from religion school to public school with characteristics of Islam that has full legitimating as part of the national education system. In 2003, government issued new policy about education that is UU No. 20 2003 or known as UU *Sisdiknas* 2003. In legislation No. 20/2003 article defines Islamic school as public school with religion characteristics (*Sisdiknas* no. 20/2003). In other words, the madrasah has equal chances to develop student's science skill, educates students to science mastery and graduate qualified alumni that remain globally competitive, retain good occupations, have high standard of living and contribute to Islamic and Indonesian civilization. The madrasah also gives religious instruction to children and helps family preserves its Muslim identity (Jeanne et al, 2008).

In accommodating the educational goals for competent students, Religious Affair Ministry has initiatively established State Islamic High School or known as Madrasah Aliyah Negeri (MAN) *Insan Cendekia* (IC) that is located in some Indonesia regions of Serpong, Gorontalo, Jambi, Aceh Timur, Ogan Komering Ilir, Siak, Paser, Pekalongan, Bangka Tengah, Padang Pariaman, Bengkulu, Batam, Tanah Laut, Sambas, Kendari, Palu, and Sorong. Those schools concentrate on how to equip the students with the Islamic values and science which are necessary for them to explore their academic tenacity in being a Muslim and a scientist. Besides, academic tenacity of student is trained so that the students have strong vision and mission to reach the (non) academic goals. Of seventeen schools, this research purposively selects MAN *Insan Cendekia* Serpong (ICS) because of its quality and progress in education of science and religion.

This research is aimed at revealing how the excellent students at MAN ICS can find the meaning of learning science through the academic tenacity. It can be comprehended from their capability on science and religion. Academic tenacity is about working hard and working smart for a long time. More specifically, academic tenacity is about the mindsets and skills that allow students to look beyond short-term concerns to long-term or higher order goals and withstands challenges and setbacks to preserve towards these goals (Dweck et al, 2014). Academically tenacious students exhibit certain characteristics and behavior. Dweck et al (2014) state that the students believe that they academically and socially belong in school, they are engaged in learning view effort positively and can forego immediate pleasure for the sake of schoolwork and they know how to remain engaged over the haul and how to deploy new strategies for moving forward effectively.

The excellent students of MAN ICS are attentively selected due to their strength in science that is proven from their performance in national level and their preparation for

international level. Their experiences in how science identity is manifest on their educational practice and the world beyond the academics are investigated. Science identity is the sense of who students are, what they believe they are capable of, and what they want to do and become in regard to science (Brickhouse, 2001). A situated learning framework, science identity is informed by students' lived experiences and social interactions at home, in school, and in the larger world. It is based on how students view themselves and believe others see them as they participate in scientific endeavors. Students may participate in multiple social communities where they must negotiate their identities back and forth along the rules and values set up by these communities (Furman & Barton, 2006). Thus a student's science identity likely changes and evolves overtime.

The notion of science identity is also informed by the realization that science is a social construct constructed by human endeavor and therefore prone to the biases inherent to any human activity (Barton & Yang, 2000). Modern science in the globalization has been mostly shaped by the ideas, experiences, and biases of European middle class males (Ascbacher et al, 2010). Western cannot be trusted to lead in the area of modern science and technology, especially when it comes to the area of value (Awang et al, 2014). Therefore, this research scrutinizes how the students at MAN ICS internalize the instructional materials of science and religion in shaping their science identity as students who are curious at scientific method and as students who represent a Muslim. In other words, this research investigates how they can internalize the values of being Islamic young scholar.

In addition, media mostly visualizes youth in Indonesia as obsessed with consumption, hedonism and individualism as the increasingly rapid growth of technology that erodes the constraints of distance and time of social organization and interactions (Nilan and Mansfield, 2013). Accordingly, it is important to highlight the roles and

contributions of youth in Indonesia, particularly the students of MAN ICS to Indonesia and Islamic community regarding to their achievement in science and religion. This also can be a new sketch to provide a solution for terrorism movement attacking youth.

Young men and women should be solution not a problem for the noble civilization that had been clearly proven by Islamic scholars in the past. In fact, radicalization of youth has recently become one of the most influential threats to national and international security in the world (Stephen, 2016). By figuring out the excellent students of secondary madrasah, it is expected to offer new perspective to the youth and schools in Indonesia to protect the students from unacceptable values. To prevent terrorism, it is necessary to foster positive youth development through concrete possibilities for realizing young people's hopes and dreams (Atran et al, 2017).

Due to the importance of portraying the excellent students at secondary madrasah, particularly at MAN ICS in maintaining their academic tenacity, finding science identity through their hands-on experiences of science and religion at instructional process in school and Islamic boarding school and inspiring other youth who are-less motivated in achievement, this research profiling the excellent students is worthy conducting.

METHOD

This research was conducted in Madrasah Aliyah Negeri (MAN) Insan Cendekia Serpong (ICS). This school was purposively selected because of its historically qualified progress for sustainable education. The initiation to build this school was firstly to provide qualified human resources with the strong mastery of science and technology. MAN ICS was firstly known as Public School Insan Cendekia in Serpong and Gorontalo built in 1996 by Agency for Technology Assessment and Application or Badan Pengkajian Penerapan Teknologi (BPPT) through Science and Technology

Equity Program (STEP). In academic year of 2000/2001, this school was bestowed from BTTP to the Department of Religious Affair or Departemen Agama (Depag). In 2001, SMU Insan Cendekia transformed to be State Islamic School (MAN) Insan Cendekia (based on Decision Letter of Ministry of Religious Affair of Indonesia Republic number 490 year 2001). It also elaborates the social phenomenon on how academic tenacity and science identity are (sub) consciously constructed in MAN ICS.

This research is focused on descriptive qualitative by firstly exemplifying the portraits of excellent students of MAN ICS. The issue of identity in science education explores what science is, how to implement the learning and teaching of science in an aspect that employs the students' understanding of self in involvement to others and how science may devote experiences that are yielded towards personal gain. The notion of identity in science encompasses the students' identity in collective, inclusive of both who the students are and who they want to become. Here, identity embedded in individual and social circumstance is created and recreated as a process of negotiation that science can mediate between science and the self is achieved.

The data of this research were gathered by employing observations and depth-interviews with four students who won medals in national Olympiad of science 2017 and prepared for the national training for international Olympiad. They are Abdullah Muqaddam as the winner of gold medal in Chemistry, Naufal Prima Yoriko as the winner of gold medal in Astronomy, Mubarak Alfa Rizqi who won the silver medal in Chemistry, and Muhammad Agil Wijaya Faradis who obtained bronze medal for Biology. They bluntly shared their preferences on science both in instructional classrooms and in extracurricular activities. Their reasons to enroll in MAN ICS as the school provide experiences on science and religion, their intimacy with their teachers and their future interests.

Additionally, the researchers interviewed the teachers of science and religion. They informed their strategies to prepare the students on how to master science and religion. They explained their expectations for the students in relation to the vigorous vision and mission of the madrasah. Besides, how to manage madrasah and Islamic boarding school and how to develop the students' soft skills and social awareness were investigated. Here, the principals and vice principals also gave details on the madrasah managements in terms of teachers' professionalism development and educational curriculum established at MAN ICS. Not only interviewing, the researchers observed the hands on activities of the students inside and outside the classrooms and Islamic boarding schools.

In other words, the researchers were passive participants and treated the phenomenon naturally without any interfere in the process of learning and teaching to gain deeper understandings on the implementation of madrasah curriculum, instructional practices and other supporting academic activities both at madrasah and Islamic boarding houses that are well-prepared for females and males, the way to build leadership and how to have social awareness.

Because this research was intended to enrich the information and reduce the subjectivity, the data were also collected from the parent's perspectives on the student's enrollment at madrasah and achievements. In this part, the parent visualized the student's experiences and activities on science and religion. The parent's strategy to bring the motivation was also recorded. Here, the researchers also collected the academic documents.

This research structurally and thematically analyzed the narratives of the students, teachers and parents to unveil themes that portray everyday meaning and stories (Riessman, 1993) in Kozoll & Osborne (2003). The transcripts were analyzed by exposing the perspectives of students and teachers about science and

religion, finding out the experiences of being students and teachers whose concerns are on science and religion, and understanding their expectancies on science and religion for education, nation and religious community. In this part, the lens of social practice theory was functioned. Social practice theory emphasizes the notion of cultural production, the ways cultural meanings are produced in everyday practice in ways that reflect and/or counter larger social structures (Eisenhart & Finkel, 1998) in (Kozoll & Osborne, 2004).

RESULT AND DISCUSSION

Being Islamic Young Scientist: Students' Stories

Profiling the excellent students at Madrasah Aliyah Negeri (MAN) Insan Cendekia Serpong (ICS) invites a lot of perspectives to share. In this part, the researchers take account of students' narratives on their interest in science, enrolment in madrasah, motivation to gain the insight of science, and experiences on learning science and religion in relation to the way to build intimacy with their friends and teachers. The future expectancy of the exemplary students is also uncovered.

Muhammad Agil Faradis and Bronze Medal in Biology

In the part of science identity, the students have vigorous awareness in learning science. Childhood, family and environment in previous madrasah or called as Madrasah Tsanawiyah (MTs) can be consideration to enroll the secondary madrasah. However, the students have intrinsic motivation to learn science that is not merely about highest score and prestige of being smart students but also their sense of belonging in Islam and their Muslim community. Interviewed by the researchers, Agil said that

"No one inspired me to be fascinated in science. It just flowed. When I was a child I climbed a tree and ants bit me. Then, my older brother came to me and watered the ants which bit a part of my body. He showed

me an encyclopedic book of ant at home by saying that these were ants that bit. After that moment, I was much more eager to learning science and liked reading books of science."

From this excerpt, Agil's curiosity in science is a social construct that can be unconsciously influenced by his brother and values in Islamic boarding house that creates his personality and his pride to be part of madrasah students.

"I was suggested by my big brother to pursue at MAN ICS due to madrasah accomplishments. He was an alumnus of this madrasah. Here, I learned a lot of things; not only science but also life education in Islamic boarding school by meeting friends who had various problems in life. Islamic boarding school encourages me to study more because my friends always study. I realized that this madrasah provided science, a chance to join Olympiads and religion subjects that are not taught at other schools. Other students may just understand general science and join science Olympiads but not about the spirituality strength."

This student has unique reasons to gain deeper knowledge on science until he gets involved in a national Olympiad of science.

"Science is for civilization. Tracing back to the empire and dynasty in Islamic history, Islam was civilized due to the mastery of science. Military is not the whole thing since military is usually about power and the region expansion in which the result was not eternal and less useful in the world. However, science is more beneficial for Muslim and more than a mere region expansion. It is essential for the youth to let personal interests go away and build critical thinking. Reflected in my village, people do not really understand fixed amount of fertilizer they should use for agriculture. So, science is important so as to optimize the farming and bring the society to higher civilization."

This explanation indicates that Agil is critical to identify the societal problem by his scientific investigation that he has simply obtained from madrasah. His curiosity and high perseverance on science has broadened his views on what he should do by implementing his ideas for solving problems.

However, there is challenge that he sometime faces as the student. It is about the material and instrument he needs to do in experimenting or demonstrating any biological process.

"I tended to do more experiments when the materials and instruments are available, but we had practiced analyzing the anatomy of animal, the plant system, ecology and biology of molecular."

Mubarok Alfa Rizqi and the Silver Medal in Chemistry

Similar to Agil, the boy whose nickname is Mubarok told that he was selectively tested by his previous school. He visualized his point of view on how to adjust his life in MAN ICS and the way to deeply comprehend the essence of the mastery on science and his belief on spirituality that can stimulate his awareness in learning science and doing the best for (non) academic achievement.

"I firstly knew Insan Cendekia from my brother. He said that there is a qualified madrasah in Tangsel (Tangerang Selatan, a region in capital city of Indonesia). Then, I knew that MAN IC won the science Olympiad (OSC) and my teacher supported me to pursue my study here. I enjoy studying here. I am from middle class family that I feel the dish is delicious here. I previously stayed at Islamic dormitory and found my friends unrespectable that are different from the situation here. I feel like this madrasah is the place of great people."

In this case, Mubarok shows his socioeconomic background from middle class family and gives a portrayal of the situation and condition he experienced in Islamic boarding school that was seen as intolerant circumstance. It is different from MAN ICS where he can express his happiness and comfort to mingle with his peers and teachers either in academic milieu or Islamic boarding school. It is homey to find better partners in new zone. His interest on chemistry was introduced by his brother, teacher and his understanding on an event when MAN ICS competitively became a winner in a science

competition. It indicates that environment in his family and his status in family is inextricable from his option to master science and other skills he can learn in MAN ICS. His explanation is narrated in this script below.

"Well, my chemistry interest was mostly caused by my brother. He was a private chemistry tutor that taught me how to easily surf chemistry, seemingly without counting and burden anymore. Different from Biology, I feel like we have to memorize a lot of different terms. However, I like learning science pipeline, known as MAFAKIBI (mathematics, physics, chemistry and biology) as the science club here. I actually like Biology, yet I feel that chemistry tends to the notion of its high significance in daily life. Taken example these (while pointing plastic glasses of mineral water on the table). It is polymer. Why this is created and how it is proceeded."

His consciousness on the contextual function of chemistry in daily life has stimulated him to love chemistry and its scientific process on why it is used and how the materials are proceeded to be advantageous for people's needs. Besides, his enthusiasm on chemistry is developed by the learning media, namely *Kamrate* applied by his teacher *Bu Icus*.

"So the teacher gives Kamrate and we are asked to do it by ourselves and search it independently. So, I think Kamrate is good. Then, another challenging is when we get difficult test of chemistry. When the test is easy, it is rarely studied."

In his preparation for national Olympiad of science held in Pekanbaru, he shared his belief on religious spirituality. Some examples are given about his recognition on what so called as the divine power. He strongly believes that it can optimize his academic tenacity and success although there are many qualified opponents during science competition, such as Semesta school and other Christianity schools. Here, it can be argued that Mubarok's mindset momentarily changes that tend to be shaped by his environment.

"I was failed in national Olympiad of science when I was in the tenth grade. I was the sixth, but there were five seats. I, then, learned from my friend whose name is Abid that he won bronze medal at that time. I realized that I prayed less and trusted my own capability only without the God power. The next semester, I changed my intention not only achieving medal but also as a means of dakwah and worship. Praise be to Allah that I could surprisingly defeated others that are basically smarter than me. So doing worship for dakwah for Muslim is highly recommended though there are more limitations. There is a person that surrenders to God and he can simply reach his goal, but there is a man who is smart and struggles hard but failed because of his reluctance on the power of prayer. Many factors."

Again, Mubarak's future prospect is environmentally constructed. He still needs his family's point of view to decide which university and what occupation attracts his social life and intrigues his science mastery.

"My carrier prospect seemingly does not lie in chemistry, yet my brother suggested medical subject. I am afraid that my work is monotonous. Factories look monotonous but being doctor is scientific and we can communicate with the patients in order to not be monotonous."

Naufal Prima Yoriko and the Gold Medal in Astronomy

Riko's willingness does not also come from himself. It was his parent who has encouraged him to focus more on education in MAN ICS. He found it hard to adjust with difficult materials at instructional classrooms. During the process, he realized that he has to be able manage his learning time at madrasah and dormitory. Additionally, his schemata on encyclopedic book of astronomy also bring him to the science competition of robotics, science Olympiad in 2016 and science Olympiad 2017. He is mostly enthusiastic in science pipeline of *MAFAKIBI*, but less in biology. The school facility helps him accentuate his potentials.

"I was initially asked by my parents to join the test. First adjustment was challenging

but now I am steady. The materials were complicated here. Well, being favorable in astronomy was initiated by buying and seeing encyclopedic books. Astronomy is common in science materials, so I have known it before here. The momentum was due to the learning science club (KBS) and joined the test entrance for KBS. I feel pleasure here because of the mentorships of astronomy comprehension. We are facilitated and trained here to deeply gain the insight of astronomy by the teachers and mentors. The alumni are also informative for us."

Riko's recognition in astronomy is also much more influenced by al-Quran, the holy book of Muslim that contains nature facts. In so doing, he can enlarge his imagination about outer space, cultivate his love of nature, and deepen his motivation to master science. In addition, he keeps motivated by the Islamic values that give impacts on his science perspective. He can argue that science and Islam are indispensably linked.

"More kauniyah verses are well-elaborated in al-Quran that mentions the power of God into the nature. I am usually attracted to imagine and be curious at the explanation. Moreover, outer space is widely explored. Beside earth, sky is also mostly mention that it can unconsciously motivate. Accordingly, the sense of love to science can grow. Additionally, Allah increase people in their knowledge."

In deciding his future carrier, Agil wants to profoundly focus on computer science. He is actually keen on that subject and succeeded to test selection of KBS, but his tendency at that time in choosing KBS was learning astronomy.

Abdullah Muqaddam and Gold Medal in Chemistry

The fourth research subject is a student that has got involved in Olympiad of national science (OSN) of chemistry for two periods, intimately called by his friends Abid. He won bronze medal in the first competition that was continued in 2017 by accomplishing gold medal. Interviewed by the researchers, he was notably motivated to pursue his study at

MAN ICS from his seniors at his previous madrasah. It implies that not only intrinsic motivation that is used by Abid to determine his choice but also he observed seniors and the MAN ICS itself for his science understanding.

"The reason is I firstly wanted to learn in madrasah. Other reasons are such as the popularity of this school as the best madrasah, the son of my mother's colleague who studied here and my seniors who pursued their academics here. So I was more motivated. I feel lucky to be part of MAN ICS that I can strengthen my independence in all aspects"

Interviewed by the researchers, he stated that his science interest was not from his environment but emerging from his personal concern and passion. This concern is then thickened and broadened by the influence of the educational environment where he gets involved in.

"I like science because of personal encouragement. I like reading books. Then I can understand a lot of things in this world. It brings enormous contribution in this life. I actually like social science but I do not know why I tend to choose nature science and I feel like this is my passion. I unconsciously perceive the process on how the willingness on science firstly emerged. When it is sought thoroughly, it comes from my curiosity that makes me continuously curious at and wants to think. In solving math, I will solve it by myself without checking the key answer. So, it is started from the willingness to be able to do something. "

There is a transformation of Abid's personal awareness and self. It appears that his identity is reflected to his way in defining the meaning of science for his country, community and himself. His definition on Islamic scholar can reshape his expectancies on science and religion that can be integrated for positive aspects of human life.

"Another side that motivates me is the recent condition of the Muslim that enormously need Islamic scholar. An Islamic scholar that I mean is a person that is genuine in noble science and technology (IPTEK) and has mastery on religious

knowledge that is supported by strong faith, but it is not obligatory to be the expert of fiqh. The Islamic scholar here has been the pioneer on why MAN ICS was built and some arranged programs are attentively directed to reach that objective. As the result, It supports me to critically think that the goal of science is to advance the Muslim, enhance the Indonesians and many more."

In choosing university and carrier pathways, Abid does not want to be careless. Although it seems to be conflicting but he is in the process of being who he is with his interest, passion, background of knowledge and other considerable things related to science and religion that are instilled by MAN ICS.

Teachers' Lens of Being Islamic Young Scientist

The teachers must give more attentions and contributions on how to make their students successful in learning and help them find their identity that instills a self-concept of being a scientific and religious scholar. They believe science identity can be constructed by activities that stimulate their academic tenacity in mastering knowledge and values that are well-set in the curriculum of State Islamic High School/ Madrasah Aliyah Negeri (MAN) Insan Cendekia Serpong (ICS).

To begin with, the curriculum of MAN ICS combines the science and religion with the proportional share one hundred percentage for each. The Islamic values are widely taught through Islamic dormitory that familiarize the students with prayer together, Islamic discussion and other Islamic rituals that are adequate. It is highly expected that the students and alumni have robust vision and mission in knowledge and worship to be Islamic leader like the founding father of Professor Bachruddin Jusuf Habibie as the former president of Republic of Indonesia who is an Islamic scientist. Some educative programs are well-prepared for students' mastery on science that is projected to students' future career.

- a. Response: It is the activity on how to strengthen concept and enrichment on regular hour.
- b. Learning Clinic: It is a program of remedial instruction for the slow learners that is done not in regular schedule
- c. Science Club: Program of mentorship for competition and Olympiad program, encompassing math, physics, chemistry, computer, astronomy and economy. It is well-known as MAFAKIBI.
- d. Intensive Program for National Examination (UN) and University Entrance Test (SPMB). It is program of reviewing and preparing the students for national examination (UAN) excluding in regular schedule

Besides, the students can engage in extracurricular activities for health, leadership, culture, science and language. Those are intra-school student organization (OSIS), football, volley ball, basketball, taekwondo, *Paskibra*, first aid (PMR), *Saman* dance, debate club, journalism, robotics, *hadrah*, *marawis*, environment and nature activity, and mechatronics.

Another necessary factor that activates and optimizes the growth of the science identity of the students is the role of the teacher. It is highly supposed that the teacher innovatively apply instructional strategy and have reliable commitment in training and guiding the students for their (non) academic achievement in national and international level. Interviewed by the teacher, the chemistry teacher explains that

"Teacher is potential to grow the science identity of the student. The first thing to do is stimulating the student's motivation into build self-motivation. This intrinsic motivation is what we hope. So, they do not need the demand of the teacher. I usually use chemistry posters and show them about the use of chemistry for fun like science for burning money but the money is not burnt. So, it is interesting with simple magic that uses chemistry principle."

It is also expected that the teachers can provide examples of integration between science and religion into their instructional classroom.

"There are many things in chemistry that can be related to religion and piety. For example electron can orbit the atomic nucleus or planets orbit the sun that can signify surah yasin."

The teacher's commitment is also necessary. The principal argued that without the solemnity from the teacher, the students cannot be inspiring and brilliant.

"The teachers' commitments to educate and train students become crucial aspect. Consequently, we selectively recruit the candidates of teachers by some measurements like cognitive test, psychology and microteaching. When they have been accepted, they should be a teacher assistant that has to observe the way of the instructional strategy and classroom management."

Based on the teacher's narratives, it can be seen that the synergy of the management of madrasah and Islamic dormitory along with the teacher's role is necessary to socially construct exemplary students that can be a social agent.

Parent's Talk on Children's Motivation

Parent's narratives are important to analyze. This part reveals the mother's voice of Abid that glaringly tells his son's willingness and motivation to search knowledge in MAN ICS. The explanation of Abid is in agreement with his mother that his enrollment in MAN ICS is because of his preferred choice in which the entrance information was obtained from his previous madrasah.

"As a parent, basically, we do not let him study in another city. When he informed his willingness to pursue study in Insan Cendekia, his father tried to forbid with the reason that his father cannot be far away from his son. When asked by his father why Abid chose that madrasah, Abid replied to his father with a question what is the best school other than MAN Insan Cendekia."

As a mother, she has recognized that Abid has been very fascinated to read encyclopedic books and used to do simple experiments after reading. She kept Abid's emotional growth to do trial and error processes many times. She said that it normally happened for child to show their anger when they failed that she automatically used a prudent suggestion for her son.

"He used to being attracted by science books. One day he asked me to bring him balloon, string and brick for a balloon train. Unluckily, he could not control his emotion after his failure for his demonstration. I saw it occur many times and I convinced him that he could do it. I told that Thomas Alfa Edison was persistent and tenacious to create lamp by doing trials around two hundred times. After that, he was motivated and successful. After that moment, he can momentarily change his behavior. He could control his emotion when he failed again until he was happy for his success trial."

His mother exemplified that parent's support can assist their children's growth and potentials in finding the meaning of science and religion. Furthermore, the sense of learning competitiveness can be taught since childhood. The family educations by keeping the harmonic interactions with the children needs greatly maintaining so as to the children have freedom to be themselves that is inseparable from educational and religious values. The interview shows that parent's involvement can construct the self-identity of their children.

"Abid can recite al-Quran and finished reading it since grade one in elementary school, but he is lazy to study. After I asked him to study he said that my score and rank remained number one although I did not study. Consequently, I asked him to join competition and his position was number twenty. So, he realized that he had to learn a lot. When interviewed by the committee of student's admission in MAN ICS, he did not think about practical work like I want to be a doctor or others, but he was trying to describe his interest in complex like conceptualizing or finding theory. It then made the committee write that he wants to be a scientist. His father also intensively used to invite him to discuss that the

inventors of science are Muslims who memorized al-Quran. By understanding religion they advanced their science. By this discussion, I think that it has been embedded in his mind. He is a nationalist because MAN ICS always teaches the students with the nationalism. I like the motto 'learning is worship, achievement is for dakwah'."

In profiling the excellent students at State Islamic School/ Madrasah Aliyah Negeri (MAN) Insan Cendekia of Serpong, this research finds out that the student's science identity is (sub) consciously shaped by the academic tenacity and socio-cultural factors. Dweck (2014) argues that academic tenacity has transformative effect on student's experience and achievement in school. It is also about the mindsets and skills that allow students to concern to higher-order goals and withstand challenge and setbacks to preserve toward these goals. Research argue that non cognitive factors embracing students' beliefs about themselves, their goals in school, their feelings of social belonging and their self-regulatory skills are critical for on-going academic success (Khine & Areepattamannil, 2016; Dweck, 2014; Nagaoka et al, 2013).

In relation to the socio-cultural context, the students' science identity in terms of how to maintain the academic performance is influenced by many factors that are inseparable from the institutional context. It includes the social learning skills, the learning process, and learning strategies that are mutually linked to the growth of mindset, academic mindset, affective learning skill, productive academic behavior and academic performance. The institutional context is divided into the instructional classrooms at the madrasah that teaches students' science awareness and the interactions at Islamic dormitory that underlines the students' spiritual strength and social awareness. The illustration is presented in Diagram 1 as adapted from Key Learner Characteristics that Produce Academic Success by Apple et al in (2006).

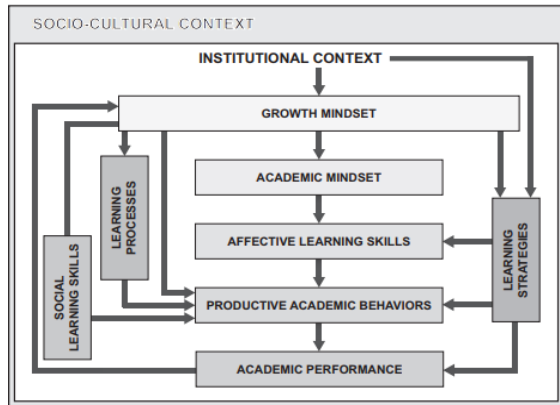


Diagram 1. The Relationship among the Learning Performance

The student's mindset in engaging themselves in academic achievement at madrasah and other chances, such as in Olympiad of National Science (OSN) is widely influenced by the self as a Muslim. It also insinuates the Occidentalism spirit as a counter-productive of Orientals paradigm that spreads Western hegemony and deems the Eastern as the subordinate (Faruq, 2015). Abid contended that Islam needs more Islamic scholars in globalization era.

"Another reason that motivates me is the recent condition of the Muslim that enormously need Islamic scholar. An Islamic scholar that I mean is a person that is genuine in noble science and technology (IPTEK) and has mastery on religious knowledge that is supported by strong faith, but it is not obligatory to be the expert of fiqh."

Referring to Abid's explanation, Islam can be deemed as a minor community in this rapidly changing world of science. More scientific advancements are adopted from Western power. It is contradictory to the zenith of Islam in the era of Europe Renaissance. Rashid (2010) opines that although Muslim has the sense of pride with the contributions of their forefathers, they must face the bitter truth to currently lack behind the rest of the world with regards scientific advancement. In medical research, additionally, he stated that Muslim still lag behind the non-Muslim nations, for example over the same period in 2009, the Netherlands has increased their output by 6 fold (to 220,123) and Israel published more than all

the six Muslim countries put together (111,842).

Similarly, Agil has a certain purpose in learning science that is related to his awareness on the history of Islam for science advancement. His schemata about Islam has (sub) consciously supported his way to search the meaning of learning and the underlying reason for science mastery. Considering his concern on Biology, consequently, he can observe and contextualize the learning of Biology with its practical use for the society's needs, particularly in agriculture aspect. Science is a part of knowledge that encourages researchers to gain various latest creation and results from various area such as agriculture, medicinal and communication to promote a better life for the human (Rahman et al, 2016).

"So, science is important so as to optimize the farming and bring the society to higher civilization."

Mubarak who won the Chemistry competition glaringly told his educational achievement that is inevitable from his spiritual journey. He strongly considered that his success is much more influenced by the power of worship and the way to keep close to God's power. His story on his failure and a memorable experience related to his position as a student staying at Islamic dormitory have stimulated the growth of piety and intrinsic motivation.

"The next semester, I changed my intention not only achieving medal but also as a means of dakwah and worship."

The term dakwah or Islamic call means the call of Allah to everyone to believe and has fear of Allah SWT with honesty, sincerity, truthfulness, righteousness and steadfastness (Shah & Aung, 2016; Khoseleva, 2013; Don et al, 2012). This implies that dakwah and *iman* (belief) are equal as a duty for Muslim. Reflected to the story of Mubarak, he has willingness to master science for the sake of dakwah. It indicates that his identity to master science is

underpinned by his spiritual motivation or value orientation of Islam. This motivation can greatly support him to do positive things for spreading the Islamic messages with logical approach, sincere advice and effective strategy (Shah & Aung, 2016).

For Yoriko, his concerns in astronomy are influenced by his habit to read encyclopedic books and al Qur'an as the holy book or guidance for Muslims that contain natural facts. A lot of astronomical events or process that are stipulated in al-Qur'an, for instance about universe, physics, chemistry, meteorology and motion of celestial objects. Studying Astronomy in the Islamic universities can assist in resolving disputes associated with moon sighting for the months of Ramadan and Shawwal, many students have shown interest in studying Astronomy among others (Ladan, 2015). He is motivated by the demand of Allah in al-Quran about the duty to search knowledge.

"Allah increases people in their knowledge"

Riko's narrative exposes that searching knowledge is in agreement with the demand in al-Quran, such as surah al-Mujadila 58: 11

يٰۤاَيُّهَا الَّذِيْنَ اٰمَنُوْا اِذَا قِيْلَ لَكُمْ تَسَحَّرُوْا فِى الْمَجٰلِسِ فَلْتَخَرُوْا
يَفْسَحِ اللّٰهُ لَكُمْؕ وَاِذَا قِيْلَ اَنْشُرُوْا فَاَنْشُرُوْا يَرْفَعُ اللّٰهُ الَّذِيْنَ اٰمَنُوْا
مِنْكُمْ وَالَّذِيْنَ اُوْتُوا الْعِلْمَ دَرَجٰتٍ وَاللّٰهُ بِمَا تَعْمَلُوْنَ خَبِيْرٌ ﴿١١﴾

Meaning: *O ye who believe! when it is said unto you, Make room! in assemblies, then make room; Allah will make way for you (hereafter). And when it is said, Come up higher! go up higher; Allah will exalt those who believe among you, and those who have knowledge, to high ranks. Allah is informed of what ye do.*

This verse can highlight and refer to the notion of *Ulul Albab* or knowledgeable human that can be envisioned in educational curriculum of madrasah. In the context of leadership, Supriyanto and wan Mamat (2014) reveal that the structure of akhlaq of

leadership *Ulul Albab* is based on four styles (a) the depth of the spiritual as a source of encouragement or motivation to do good, (b) doing good as the springboard in building workplace relationships, (c) the extent of knowledge as a result of efforts to understand the concepts of Islam, and (4) professional maturity resulting from the expected understanding and mastery of managerial skills.

The concept of *Ulul Albab* has been spread by some Islamic educational university and madrasah either in private or state realm. It is characterized by their supports in the philosophy of human development that integrates faith, science, technology, practice and theory with the results of research that are based on al-Qur'an and al-hadith. In so doing, it is expected to thoroughly prepare the students with facing the challenge of 21st globalization. In Malaysia, almost all of Islamic educational institutions combine religious knowledge studies with contemporary knowledge that some of them insert special program of memorization of al-Quran to construct generations of *Ulul Albab* with three noble characters such as Qur'anic, encyclopedic and *ijtihad* (Salleh, 2013).

Other aspects that contribute to the science identity and student's success are emerged from parental involvement and their educational environments that are highly supported by Ministry of Religious Affair. Asbacher et al (2010) state that the students' motivations to find the meaning of what science is, how important it is for them, how well their performance, and whether they are good in science or not are influenced by interaction of communities of practice at home, at school, and outside of school characterized by different counseling, science courses and teaching, peer academic attitudes, access to real scientists and their work, and family support for science. Lyster (2013) reveals that parental involvement found in Latino communities can boost the educational socialization and academic success. As cited from the statement of the parent of the excellent student, it illustrates that parent has

to encourage the strong vision and mission of their children.

"When I was talking with his teacher in MTsN 2 (State Islamic Junior High School 2). She said that if Abid had high motivation to pursue his study in MAN Insan Cendekia, as a parent I had to allow him. It was a reality that when the child just obeyed his parent's willingness, he followed his parent's interest but he got stuck in education."

The implementation of curriculum at madrasah and Islamic dormitory helps the students reshape their concept of being self. The intertwine between science, technology and religion that are learned and adventured by the students through instructional setting in regular classrooms or at science club training the students' competence on Mathematics, Physics, Chemistry and Biology (MAFAKIBI) makes the students persistent in academic success and spirituality. Spirituality is a kernel of African American culture in which every aspect of Black life is influenced and or shaped by spirituality and religion (Wood & Hilton, 2012).

MAFAKIBI is designed as meaningful association of science for students that they can enhance their self-accentuation and build interactions among peers who have similar ideas on science. In this part, students unconsciously can find the meaning of learning science and religion for noble significance in daily life. In broader context, it can engage the students with scientific inquiry learning model. This is one of the learning models to enable students through group learning in class and conduct discussions, exchanging opinions and questioning (Rospitasari et al, 2017). Most of students can refer the essence and significance of science with the demand of Islam that is stipulated in al-Quran. They are trying to define and find the meaning of Islamic scholar from their engagement in science and Islamic values that are internalized through instructional classrooms or Islamic dormitory.

In Islamic dormitory, the teachers familiarize the students with understanding

their obligation as a Muslim. They learn not only about the religious perspectives but also social activities. The schedule varies in reading al-Quran, reading *kitab*, *qiyamul lail* (praying at night as a *sunnah*), *dakwah* (Islamic speech either in spoken or written communication), and other religious activities. Beside student organization of intra school (OSIS) provided by the madrasah, the Islamic dormitory also arranges any activities that involve the students to be committee, peer tutor, *imam* of five prayers, members of social program and others. The tangible programs of Islamic dormitory of MAN Insan Cendekia are illustrated in Diagram 2.

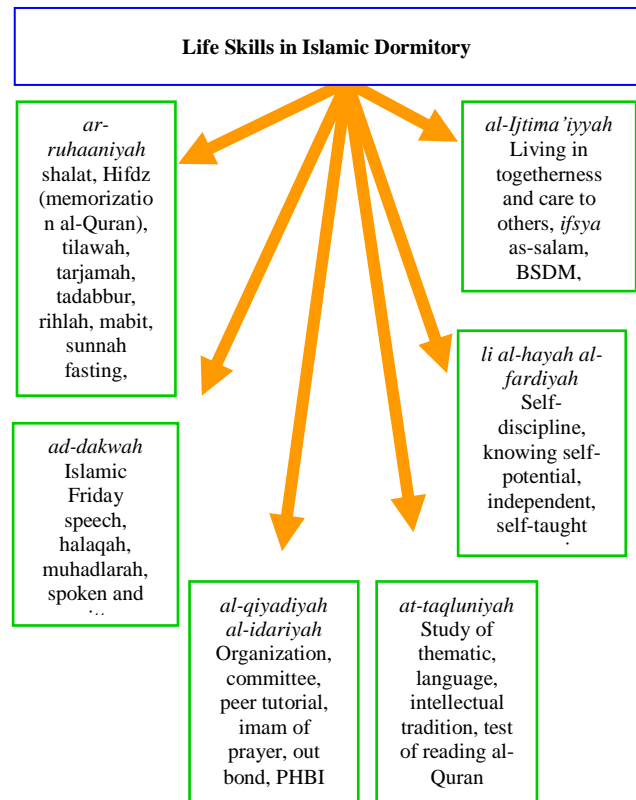


Diagram 2. Programs at Islamic Dormitory of MAN Insan Cendekia Serpong

From the Diagram 2, it can be seen that the programs are inherent with the spirit of *Ulul Albab* and vision of the Islamic dormitory comprising three things. Those are enhancing the knowledge and professionalism of educators in line with the advancement of education, thriving MAN Insan Cendekia as a model of madrasah, preparing the future leaders that master science and technology, has high competitiveness, creativity,

innovations, and activeness, and possess faith and piety foundation.

The environment at Islamic dormitory also perpetuates the motivations to competitively study and become persistent in extracurricular programs. Ascbacher et al (2010) opine that positive interactions and environment stimulate good achievement and positively affect the success of students. Therefore, the madrasah management always considers the number of students for every academic year that is mostly not more than 160 students. The quality of facility and educational milieu in relation to students' outputs are the main concern rather than the quantity of the students. Therefore, although the students' concerns at MAN ICS are basic science knowledge, the materials and instruments are necessary to provide. The students' stories on the lack of the materials and instruments need catering to increase their chance in discovery learning. The teacher stated that the laboratory instrument of the madrasah is qualified.

"We use high quality of microscope for learning science. The students usually learn science from any laboratory of some universities."

The quality of MAN ICS, its dormitory and student's achievement is inextricable from the government, particularly the commitment of the Ministry of Religious Affair (Kemenag) in optimizing the roles of madrasah in Indonesia. This ministry has endeavored to bring the Indonesian and Muslims for brighter education and for adjustment in globalization. The policy of Ministry that supports the integration of science and religion can innovate and improve the performance of madrasah to sustainably maintain the educational goals and competitively strengthen the students' competences and teachers' professional development through the competition of science madrasah (KSM), scholarships and others. The rewards of this Ministry for the excellent students are respectably appreciating.

Simply said, the government keeps motivating the students' accentuations and preparing them to be the best leaders that can create the best civilization for Indonesian and Muslim. One of Kemenag strategies through its motto "*Lebih Baik Madrasah, Madrasah Lebih Baik*" can convince parents to trust education of madrasah and make youth optimistic for their better future that are successful in their studies and in future careers. Parker and Nylan (2013) assert that young people in Indonesia today want to be popular and pious, modern and moral. Unlike the "folk devils" of the moral panics in Britain, young people in Minangkabau broadly give their consent to the authorities, displaying a striking commitment to social conservatism, local culture, and Islamic values (Parker, 2014). In the aspect of the nationalism construct for the youth, Kemenag has a demand for the madrasah to avoid radicalization. As the result, MAN ICS has given the students future trajectories of Islamic movements they can engage in or not when they graduate, pursue their study, work or socialize with the society. These are explained by the principal.

"Of course, we enrich the students' understandings about which Islamic movements they should participate in. It is done to prevent radical movements. It is not expected that they hate their family or nation due to that."

To conclude, the potential connection of self-belief, educational environment, family involvements and the government of Ministry of Religious Affair that shape the science identity embedding spiritual motivation is presented in Diagram 3.

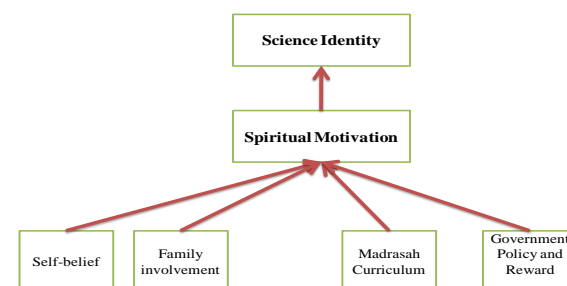


Figure 3. The Nexus of Student with the Aspects for Science Identity

CONCLUSION AND RECOMMENDATION

Every youth is potential to find their meaning or identity in education realm, particularly dealing with science that is relatively deemed challenging. In the portrait of State Islamic High School (MAN) Insan Cendekia Serpong (ICS), the identity of excellent students can be influenced by the students' experiences and preferences in a particular scientific subject through their cognitive skills and non-cognitive factors of academic tenacity. Those factors can unconsciously direct the students to the long-term goal of education that is being an *Ulul Albab* or knowledgeable and religious person. Broadly speaking, the recognition to do something worthy is intended to solve societal problems and develop the resurgence of Islamic civilization.

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