Chemical-Science Education Integrated with Religion

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Abstract

The engrafting of divinity, honesty, justice, objectivity, and politeness values to the young generation is not only the responsibility of the government, but also the responsibility of the parents, society, and educational institutions. Firstly, parents are the first and the main figure in engrafting those values. Secondly, schools are obliged to educate the science material from all of the lessons which is integrated with the values of divinity, honesty, and good character, while the society are obliged to support those values through the utterance, attitude, and daily actions. Thereby, students will not get confused / split personality in taking steps in the society since there is values difference followed in the family, school, and society environment. If students in the society tend to choose deviated behaviour from the values of divinity, honesty, justice, politeness, and objectivity, certainly the students cannot be blamed since those deviated behaviours are the occurrences in which they usually feel in the daily life. Therefore, all of the teachers including the science teacher should implement the learning which is integrated with religion.

Keywords: science teacher, science education, values

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Introduction

A lot of corruption cases done by some men of honor shows that the formal educational institutions are less succeeded in engraving honest behaviour and good character to the students. There are also cases of deed which are deviated from the norms done by adolescents who are still studying at school or those who have just graduated from formal educational institutions, such as motor gang, sexual abuse, breaking of the traffic rules, and so on. The engraving of divinity, honesty, politeness, and good character values, all this time, is like burdened only to the religion lesson, civics, Bahasa Indonesia, history, etc. which belong to the group of social science. As the result, the condition right now shows that the honesty values do not become the society’s idol anymore. The society nowadays prefers to use instant ways to reach something quickly without considering whether it is honest or not. For example, in the general election, the candidates give some promises and some money to the society in order to choose them. Unfortunately, the society enjoys the money instead. The democratic general election is contaminated with money politic. In addition, final examination which has good intention to evaluate the learning process at school and measure the students’ comprehension is contaminated with the roguishness of some parties. As the result, when there is a student who gets perfect score for one subject, the teacher will not believe it so easily since his wonderful score is very different with his daily achievement.

The result of formal education emphasizes more on the cognitive aspect of theoretical academic which is proved with the graduate stipulation of final examination only covers the materials of some subjects. Meanwhile, the aspects of moral, character, and values do not get much attention. The proof is that there are many graduates of formal school whose moral, character, and humanity values are far from the truth. Their cognitive knowledge of the lessons does not influence their daily attitude in the society at all. Their daily attitudes do not appropriate with the cognitive knowledge they have. The corruption cases of executive, legislative, and judicative officials, the fight case between students’ groups, the case of motor gang, and the case of caustic soda pouring done by a vocational high school student towards a bus passenger in Jakarta, are the examples of society’s actions which are not appropriate with their cognitive knowledge.

It seems like the curriculum 2013 is born to reinforce moral, character, and the values of people through the formal education by integrating theoretical cognitive competence with the religious core competence. To be able to conduct a well, effective, and efficient learning process inside the classroom, at least we need teachers who do not only comprehend the learning material, but also able to conduct science learning material which is integrated with the religious values they professed. We need teachers as models, who do not only comprehend the learning material, but also
behave well in their daily life as figures, who give good example in forms of utterance, action, and attitude. Moreover, teachers should have good moral and character, and they should also apply the religious tenet.

Science education is the implementation of Lord’s order in Qur’an, but the science education right now seems as if there is not any relationship with the Qur’an. The review so far separate between science and religion, so that emerges a dichotomy between them. In the science learning curriculum at school, there is almost no competence standard, basic competence, indicator, learning material, and evaluation which is related to the moral, social, and emotional soft skills. Hence, we need teachers with the four standard competences of pedagogy, professional, social, and personality who are able to develop science curriculum and integrate each of science concepts with the soft skills, through the science learning which is integrated with Qur’an’s universe verses.

Basically, our education is aimed to produce intact man of the word and the hereafter, as well as physical–spiritual and material–spiritual. Unfortunately, we cannot deny that in reality, the educational purpose only emphasizes on the cognitive aspect which is shown by the final examination system which results in the final score (Zamroni, 2003: 154). The school’s science curriculum also emphasizes more on the cognitive aspect about natural phenomena. The science teachers also prefer to conduct the learning for science cognitive mastery of science material only. However, they cannot be blamed since the curriculum demands it. School prioritizes more on the academic aspect which belongs to hard skill beyond the moral, social, and emotional aspects which belong to soft skill, whereas education is aimed to produce intact man with his hard skill and soft skill.

The fact now is that the science learning at school tends to be textual. Students are given certain formulas, commanded to memorize, and trained how to solve various problems/questions. The purpose is only to get maximum score in the examination. The science learning at school seems like ignoring the nation’s character and moral development. Science is purely taught as knowledge which does not have any values content but its own knowledge value. As the result, it is highly possible to appear students’ deviated behaviours at school, in which the religion teachers or civics teachers will be considered as the responsible parties. The science teacher seems like washing hands of the students’ moral problems (Mustakim, 2011: 101), whereas science is actually not only a collection of knowledge. Rohandi (1998: 114) explains that besides becoming a collection of knowledge as concept, theory, and generalization explaining about the nature, science also contains a lot of values which can be developed in the character education context. The science teacher can insert the character development with the indicators: curiosity, honest, environmental care, enjoy reading, critical, tolerant, religious, discipline, communicative, independent, and love the father land (Depdiknas, 2010: 47) through the learning process in the classroom, laboratory, and surroundings.

Science education actually has the same position with the education generally. The science education has a very important role in developing students’ personality and intelligence. In the science education, students are trained to use the five senses for observation which means develop the physical-motoric ability. The students are trained to work in a team in the experimental work, which means practicing cooperation. The students are trained to formulate problems, analyse, and conclude various natural phenomena through the experiment. Science education can help students to develop comprehension and thinking habit which is needed as people who have compromise and able to think for themselves and also for their nation (Liliasari, 2011:1). Through this kind of learning, students will be able to internalize various values in the science education process into themselves.

Hence, science education is not only a knowledge transfer from the teacher as the learning source to the students, but also contains values transfer through various activities developed inside it, such as curiosity, openness, responsibility, carefulness, and patience (Mustakim, 2011: 102). Science education can also build high level thinking ability. This high level thinking ability can be supplied to form nation’s character. If someone is able to think in high level (think critically), then he will not trust indistinct issues so that social groups’ collision as a gang fight can be avoided (Liliasari, 2011: 5).

Meanwhile, science education in the university level can be more integrated that is the unity of science and religion (Kuntowijoyo dalam Mulyohardjono, 2004: xi). It can be as far as the stage of investigating the relationship and interdependence of a material with other materials, reading as many as natural resources characteristics which is used for human prosperity by keeping the environment ability which support the development, and the most important one is awing and thensing the Lord’s power as the Creator of the universe.

The success indicator of science education in the elementary, intermediate, advanced, and society education level is when the wide society behave well in keeping the environment cleanliness, economizing the use of natural resources, preventing the environmental damage, and respecting the existence of other ecosystem components. Moreover, they believe in the existence of the Creator and Caretaker of the universe, they believe that this universe has
beginning and ending, and finally they want to thank God for all His grace and creation.

In curriculum 2013, the chemical-science subject contains some core competences such as: (1) Comprehending and applying the religion professed. The Basic Competences are (1.1) Realizing the regularity of the X MATTER as the form of God’s greatness and the knowledge of X MATTER as the human’s creative thinking result which has tentative truth. (1.2) Being grateful upon Indonesia’s natural capital in the form of X MATTER as the gift from God which is used for Indonesian people’s prosperity. The spirit of curriculum 2013 in the chemical-science learning for engraving moral, character, and religious values as the targeted competence seems very obvious. The learning model which integrates cognitive knowledge with moral, character, and religious values is a new thing for teachers. Hence, the example of learning integrated with religion and values starting from the lesson plan and learning evaluation is really needed. This article aims to give a brief description about the chemical-science learning integrated with religion. When explaining a science concept inside the classroom, teachers need to integrate the science concept with religion and reality in the society and also how people should have a certain attitude and behave by using the science concept, so that the environment will keep its ability in supporting the continuous development. That is the proof a scientist’s thankfulness.

Integrating character in the education process, especially in the learning process is very important since it is inline with the opinion of Goleman (Adisusilo, 2013:81) that someone’s success is 80% determined by the character including emotional, social, and spiritual intelligence, and it is only 20% determined by his intellectual intelligence. (Rustaman; 2010) argues that a study about character building can be observed from various aspects, such as through certain study field learning, through the thinking ability development; integrating cognitive, affective, and psycho motoric domains: focusing on the science, technology, faith, and god-fearing, and also through the scientific attitude development. Rustamanalso states the “Nine Pillars of Character”, they are: (1) Loving God and all of His creations; (2) Responsible, discipline, and independent; (3) Honest and wise; (4) Respectful and polite (5); Generous, helpful, and cooperative; (6) Confident, creative, and work hard; (7) Leadership and justice; (8) Kind and modest (9) Tolerance, peace, and unity.

According to Harrison (Charles, 2011) character building is very individual and is a life-long project to pursue happiness, character is a tendency to do the right things in difficult situations and an integral part of ethics. The definition of character according to Foerster (Adisusilo, 2013: 77) is something which qualifies an individual. Character possessed by someone will be his personality identity. Meanwhile, Darmiati (Adisusilo, 2013: 77) states that character is a set of characteristics which are always aden as a sign of someone’s kindness, principle, and moral maturity. Someone’s character can be build through the education process. Therefore, the Law No. 20 Year 2003 about National Education System Article 3 gives a mandate that national education functions to develop ability and form the character and also nation’s civilization which is prestigious in order to smarten the nation’s life.

Discussion

1. Science Learning Integrated with Religion

In the science learning curriculum at school before curriculum 2013, almost there are no competence standard, basic competence, indicator, learning material, and learning evaluation which are related to moral, social, and emotional soft skills. Because of chasing after learning target to face the national examination or school final examination, then most of the chemical-science learning at school only contains concept, theory, science laws, and exercises. The purpose is to improve the students’ cognitive score. Although in the lesson plan there are the values of affective, psycho motoric, and character, it is only for teachers’ credit rate achievement or monitoring and evaluation of headmaster/supervisor, not for the need of affective and psycho motoric learning result evaluation or even values. Schools (in this case are teachers) tend to follow the demand of society which is generally so practical, that is expecting high score of final examination for the students, then the schools prioritize more on the cognitive learning result instead of affective and psycho motoric aspects. Schools prioritize more on the academic aspect which belongs to hard skill beyond the moral, social, and emotional aspects which belong to soft skill.

Therefore we need teachers who can develop the science curriculum and integrate any concept of science with the soft skill, through the science learning which is integrated with the Qur’an verses about the universe. Science teachers who teach in the classroom certainly true the curriculum applied at that time. It is okay if science teachers only teach things that exist in the curriculum, but as professional teachers, they should be able to develop curriculum which is appropriate with the learning objectives desired. The curriculum is not a dead thing that should not be changed; this is the role of teachers to develop a curriculum to accommodate the values of soft skills in the learning process.

So far learning in the classroom including chemical-science learning focuses only on the mastery of cognitive learning materials, the educational results have shown that the knowledge of science that they get at school do not provide enough values, attitudes
and skills of community life, less supportive towards the function of human Caliphate on earth. To organize the science learning integrated with religion, Religion Integrated Science Teacher is required in the implementation of any science topic learning. Science learning integrated with religion is a learning theory and laws of science which are integrated with the values to the divinity, social values, its application in everyday life that does not damage the environment and a positive benefit to the community, as well as search for the divine truth through the development of science. For that kind of science learning, we need teachers who have the knowledge, attitude and skills that are adequate, namely: (1) Teachers comprehend the concepts, theories, and laws of science well; (2) Teachers understand human function as a caliphate on earth; (3) Teachers behave as a model; and (4) Teachers are able to prove the truth of the Divine through the development of science. Some examples of science learning integrated with are as follows.

2. The Example of Science Learning Integrated with Religion

Water Science Learning; Water Science, Solution, and Human’s Gratitude to Water

Water is a compound composed of two hydrogen atoms and one oxygen atom with the molecular formula H₂O. In a free state hydrogen and oxygen in the form of molecules H₂ and O₂, to form the water they must collide. Hydrogen is a substance that has flammability while oxygen is burning, if both of them have compounds, then it will occur liquid called water. The vapor pressure of water at the temperature of 0 °C (the freezing point of water) is 4.6 mmHg and at the temperature of 100 °C (boiling point of water) is 760 mmHg. Its density in the liquid state is 0.9998 g / mL and 0.917 g / mL in the solid state. Water is a substance which is colourless, odorless, and tasteless. If the water has colour, odor, or taste, then the cause is another substance. Because water can dissolve many other substances, both organic and inorganic substances, the molecular or ionic, then water is called the universal solvent. Water has a characteristic of occupying a low place.

Hydrogen-oxygen bond is covalent and polar because in the oxygen part there is an excess of electrons which makes it negatively charged and the in the hydrogen part there is deficiency of electrons which makes it positively charged. Inter-molecular of water occur hydrogen bond due to its polar nature. The science of water would be more beneficial if it is understood, taught to others, and practiced for the welfare of man on earth.

(Water science material can be propagated and expanded again through textbooks, research results or from the internet)

Human as caliphate in understanding water

All living things need water. Farmers need water for plants, mothers and family members of the household need water for cooking and drinking, the factory needs water for industry process, car needs water for cooling, animals need water to drink, all humans need water for life even when they are dead, they still need water. Lord, the Almighty God has provided water for free on this earth for life. He has given the oceans, lakes and water sources on this earth.

Other substances which are easily soluble in water can be beneficial to humans but they can also be detrimental. The body of all living beings on the earth is formed by water at a ratio of 50%-95%. The water contained in the human body is not pure water anymore, but a solution. If the water does not easily dissolve nutrients present in the human body, then the process of digestion to convert carbohydrates food substances, proteins and fats into energy, the body’s cells and the rest of the food we eat, then we’re dead, that is the profitable thing. However, besides the profitable things, there are also detrimental things. Well water become coloured, taste salty, bitter or sour, and smells bad. River water for the raw material of PAM requires huge cost for processing into drinking water, because a lot of other substances dissolved in it. Teachers can assign students to look for other things about water that benefit and harm humans.

Human as a caliphate for the prosperity of the earth has a collective obligation (fardlu kifayah) to have knowledge of water science. With the knowledge of water science, human can separate other substances contained in the water by the process of coagulation, filtration, distillation, absorption, and ion exchange. Not all human beings should have the knowledge of water science, but at least there must be some people who study the science of water. If none of them has the knowledge of water science, then everyone will feel the negative effects of easy dissolution of other substances in the water, then people will have trouble in getting water for their life. In order to enable people to achieve prosperity in the earth through the use of water, then there must be some people who have the ability to manage water on this earth. That is a part of the human’s task as caliphate on this earth.

Because other substances are easily soluble in water, then every human being (fardlu ain) must maintain water quality by not throwing other substances (waste) into water sources, rivers, lakes and the sea beyond the threshold limit. If you are a chemistry teacher then you can assign students to bring clean water and dirty water to the school, ask them to discuss in a group to identify the content of other substances in the dirty water, and then practice to separate those other substances, so that they get clean water in which the physical, chemical and biological characteristics are equal with the clean water they bring from home.
Teachers act as the model of water science learning

As a model of learning, then teachers must behave economically towards the use of clean water and take part in maintaining the quality of the surrounding water. Example: teachers who drink water in one package should not be left then throw the package away correctly, or bring the remainder of the water to drink later. Turn off the water faucet when the water container is already full. Use clean water for bathing, washing and other purposes at sufficiently. Do not litter in water sources, wells, rivers, lakes, and sea. Teachers actively participate in water conservation activities by planting trees in their environment, in camping activities and so on. Assign the students to measure the use of water for themselves. How many ml each student drinks in a day, approximately how many liters each student use water for their daily bath, and approximately how many liters of clean water used for other purposes. If a teacher or student, or anyone else involved in saving the water resources on this earth, then they have functioned as a good caliphate.

Teachers prove the Divine Truth through the Water Science Development

When the weather is cold, the frozen water is not all of the water in the sea, rivers, or lakes, but only on the surface. Water reaches the toughest conditions at a temperature of 4 °C and when the water reaches this temperature it immediately goes down and sinks to the bottom. Ice formed on the water as a layer on the surface, and under a layer of ice, water continues to flow. Because the temperature of 4 °C is the temperature that still allows living organisms to survive, then life persists in the water. The unique characteristics that God has given to water make life on earth can be realized. As word of the Qur’an in Surah Annahl 10:11: “He who sends down rainwater from the sky for you, in which a part of it used for beverage and to fertilize the plants, in which on its growing places you graze your herds. and He subjected the night and the day, the sun and the moon for you by His command. Verily there really exist the signs of Allah’s power for people who understand it.”

Water hydrogen bonds complete the remarkable properties of water that is water is more condensed in the liquid state rather than on its frozen state. Contrary to the nature of other substances, water expands when it freezes, so that ice is lighter than water. Icebergs float on the water in the polar oceans so that the life of the organism in the water still exists. Oxygen is in the group of VIA SPU, the elements of this group have a molecular structure which is similar to the water H₂O that is H₂S, H₂Se, H₂Te, H₂Po. The rule is that the boiling point of these compounds is higher to lower starting from H₂S, but the boiling point of water is the opposite of this pattern. Water or hydride oxygen according to the order of a class should boil at a temperature of 180 °C, but the reality is 100 °C, 80° less than it should. and also the freezing point, according to the order of a class, water freezes at a temperature of 100 °C, but the fact is that water freezes at 0 °C that is 100 °C under it should have been (Yahya, 2003: 73). It becomes the scientist’s question, why it is only water that violates the rules SPU? It is certainly not a coincidence; there must be forces that govern them. Muslims believe that God sets it as the Creator. The Most Holy God, it is not in vain all that You created.

As a model of the learner, the Integrated Science Teacher required to behave economically towards the use of clean water and take part in maintaining the quality of the surrounding water. Example: teachers who drink water in one package should not be left then throw the package away correctly, or bring the remainder of the water to drink later. Turn off the water faucet when the water container is already full. Use clean water for bathing, washing and other purposes at sufficiently. Do not litter in water sources, wells, rivers, lakes, and sea. Teachers actively participate in water conservation activities by planting trees in their environment, in camping activities and so on. Assign the students to measure the use of water for themselves. How many ml each student drinks in a day, approximately how many liters each student use water for their daily bath, and approximately how many liters of clean water used for other purposes.(Kasmadi, 2013: 12).

Atom Chemical-Science Learning; Amazing Creation of Allah: Atom

Atom chemical-science starts from the development of the atom theory of Democritus who provides the philosophy, Dalton who does the experiment, Thomson who introduces electrons, Rutherford who introduces the atomic nucleus, Bohr who introduces the electron shell, the Quantum theory which introduces orbitals. Atomic theory which is now understood by the scientists is that atom is the smallest part of a substance that still has the properties of that substance, composed by a nucleus and electrons outside the nucleus. Nucleus as the centre of mass of an atom contains protons and neutrons with the nucleus bonding style which is very strong. The radius of atom has a dimension of 10⁻¹⁰ meters and its nucleus radius of 10⁻¹⁴ meters.

All of the material making up the universe is made of atoms. Each atom is made of protons and neutrons in the nucleus and the electrons which are moving very far around the nucleus on its orbit. The radius of the nucleus ranges from 10⁻¹⁴ m and the atomic radius ranges 10⁻¹⁰ m, so that the nucleus volume only about 10⁻¹⁰ part of the atomic volume. However, it is very amazing that the mass of the atom centred 99.9% in the nucleus, so that most of the volume of an atom is empty space. If the size of an atom is spectacularly small, then the size of its proton and neutron is
certainly much smaller than the size of the atom, which is $10^{-15}$ m. In the creation of the universe there are seven skies, apparently in an atom also contained seven orbital electrons surrounding the nucleus. There is a similarity between the largest and the narrowest space in the universe with atom. Surely we will be even more amazed towards the discovery of the existence of sub-particles-sub-particles that are much smaller than the size of the particles forming the atom namely "quark" which is $10^{-18}$ m. Quarks in the proton will never be separated from each other because of the strong nuclear force that keeps the particles remain in the nucleus. While the size of the electron which is 1/2000 of the protons’ size around the nucleus in its orbit with surprising speed over 1000 km per second never collide with each other. It is obvious that this fascination as a result of "deliberate creation" with a unique order and complicated equilibrium by the Perfect Creator Allah. The understanding of atomic science is supposed to make humans feel nothing before God. Humans cannot be so arrogant on his intelligence after understanding God's perfect creation. The Most Holy God with His every word.

The students are made to be more amazed with the electrons which evolve and rotate around the nucleus. Those electrons evolve in a space which is so small that it is invisible even by using today’s most sophisticated microscopes, an electron traffic which is very complex, with amazing speed over 1000 km per second. Electrons in atoms never collide even a small accident never happens; they rotate on their own orbit. Are there all this happened by chance? The scientists are helpless faced with these questions, the only thing they can do is estimating the order in which events occurred. Their study, however, also evokes a reality that cannot be denied, that every phenomenon that occurs within the atom showed interference of the Owner of intelligence and the will, there is a single force that keeps all of these styles in harmony that is God the One, Allah Almighty and most worthy of praise.

Science studies the nature material based on natural law (sunatullah). Sunatullah applies in exact, objective, and does not change throughout the period (Imad, 2002: 17). Exact means uncertain, the exactness of natural law expressed in the Qur’an Surah Alfurqaan verse 2: "He has created everything, and He determined its size". Objective means applies to anyone, not favoritism, the causal is obvious, and the truth can be traced by any human being who understands. Objectivity of natural law expressed in the Qur’an Surah Al-Anbiya verse 105: “after (We write in) lauh mahfuzh, shall this earth is inherited by My servants who are righteous.”

Colloid Science, the Most Holy God, the Almighty Controller; Dialyzer for patients with kidney failure

Blood contains many types and sizes, shaped in a colloid such as blood cells, proteins, ions and residual substances in the form of organic compounds. A particle like proteins, including hemoglobin, is essential for the human body. Similarly, the dissolved ions are also required by the body although in certain concentrations. Meanwhile, the residual substances such as urea as the result of protein metabolism should be excluded because it can disrupt the metabolic processes. Although the body has many ways to control the composition of the blood, but the ultimate responsibility is on the kidney. So, kidney functions to separate the harmful particles, besides maintaining the essential particles and simultaneously adjusting the concentration of ions in the blood. This is important related to the function of the blood to carry residual substances of the body’s cells. If the kidney cannot work properly, as experienced by the patients with kidney failure, then the residual substances will accumulate in the blood and this may be harmful. In this case, blood washing machine or dialyzer can replace the kidney function. The work mechanism of dialyzer described as follows. Blood from in the patient’s artery goes into the tube (bag) dialysis soaked in dialysis fluid which flows slowly. Dialysis fluid used is a solution of salt and sugar. It is intended to maintain the ions concentration in the blood. During the process, the particles of urea from the blood will go out through a semipermeable membrane tube and go into the dialysis fluid. Meanwhile, the colloid particles are suspended in the blood. Once the dialysis process is complete, the blood that has been purified is returned to the patient’s body through a vein. The Most Holy God, the Most Sustainer Alwakil, The Most Leading Alqabidh, everything is in His control.

Chemical-Kinetics Science

The chemical reactions that occur in this nature are so various, there is a very fast one, there is a fast, some are slow, and some are even very slow. Gasoline burns very quickly, but the burning of wood and paper is not as fast as gasoline. The formation of tape from cassava is slow; while the formation of stalagmites and stalactites are very slow, as well as the formation of petroleum and fossil. In the human body there are chemical reactions which are relatively slow that are not as fast as the burning of wood and paper, but they are not as slow as the formation of stalagmites and stalactites. The food we eat; rice, meat, fish, fruits, vegetables is a chemical that undergoes a chemical reaction called metabolism. Rice as a carbohydrate source in metabolism is converted into energy, fish as a protein source in metabolism is converted into body cells, meat as a fat source in metabolism is converted into energy reserves, as well as fruits and vegetables can be a good source of protein, carbohydrate, minerals and vitamins needed for the body health through metabolic processes. Metabolic process is a chemical reaction that occurs in the body and is called biochemical reaction. If the metabolic process is so
rapid, certainly the body cells are not able to accommodate the energy, and the energy cannot be stored for a long time in the body cells, then humans cannot survive for a long time. Give thanks Allah, God the One who has created the human body system so perfectly. If the biochemical reactions take place quickly, then a dead animal or a human being can decay quickly in the human body there is a number of two-thirds water. Water functions as a solvent in the metabolic process and also regulates body temperature. Chemical properties of water are very suitable and appropriate for human life. Yes, because the water temperature is not rising fast when the temperature in the environment up and it is not going down fast if the temperature in the environment dropped quickly. How if the properties of water quickly accept and release heat? Certainly the human will get fever quickly when his body temperature is high and become frozen when his body temperature is low. The Most Holy God, it is not in vain all that You created.

Conclusion

So far the science learning at school prioritizes more the cognitive aspect of theoretic academic. The purpose is to get high final examination score for the students. Although in the lesson plan is written the affective and psycho motoric aspects, it is just an administrative requirement to fulfill the standardized format and money necessity of the headmaster and supervisor. The educational and cultural ministry has applied curriculum 2013 which determines that each subject should have core competence which contains the values of divinity, honesty, good character, and so on. The teacher who usually just conducts learning with learning material oriented, is now demanded to conduct learning of values. It is not enough for teachers to only master the learning material and learning implementation, but they also must be able to motivate the students and act as the model in integrating the science, faith, and deed in the society, nation, and state life.

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