DEVELOPING HUMAN RESOURCES THROUGH LEARNING MATHEMATIC TO FACE ASEAN ECONOMIC COMMUNITY

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ABSTRACT

To enter the ASEAN Economic Community (AEC), it is needed the readiness of government and Indonesian people to develop the wealthy. The topics that are explained in this study: (1) Howdoes government regulation prepare human resources to face the AEC? (2) How is the way to develop of human resources quality through learning mathematics. The study uses qualitative approaches with descriptive theoretic approach. To face the AEC, the government has stated some regulations, which are: (a) Constitution number 20 year 2003 about National Education System, (b) Constitution number 17 year 2007 aboutNational Long Term Development Plan Year 2005-2025, and (c) President Instruction number 6 year 2014 about Improving National Competitiveness to face AEC. Policy of human resource development is to make Indonesian people with good quality, excel and competitive and also have Pancasila characteristics. Education is done by improving potency of learners. The five (5) potencies are developed: thinking, "physical", sense, intention, and spiritual. Learning mathematics is able to develop potencies of thinking, physical, sense, intention, and spiritual. Through development of inner side (feel, intention, and spiritual) they will be made of human resources who has characteristics: (1) have faith to the Almighty God, (2) obey to the Almighty God, (3) fair and democratic, (4) discipline, (5) consistent, (6) responsible and (7) independent.

INTRODUCTION

The progress of a country is highly dependent on the quality of human resources (HR). Indonesia is the country with the fifth largest population in the world. The quantity of human resources Indonesia, if it balances with good quality it will be capital development that will bring blessings and progress of the nation. Conversely, if a large quantity of human resources which is not matched by good quality then it will be the burden of the country's development.

The end of the year 2015, it has been declared the implementation of the Asean Economic Community (AEC). Indonesia as one of the ASEAN member countries should participate to welcome and implement the agreement EAC enforcement. With the implementation of EACs, the flow of goods and services among ASEAN countries becomes limitless. Foreign workers from ASEAN member can enter easily to compete with domestic labor in gaining market share jobs available. No more protection that can be done by the state to protect its citizens from competition with foreign workers. In this case only human resources who has quality that can be absorbed by employment.

The quality of human resource is owned by a nation heavily dependent on government policy in education. Superior human resources and competitive only be obtained through a process of quality education. Education policies related to curriculum, educators, and other infrastructure should be directed to produce graduates who excel and competitiveness. Development in the field of education should be given priority in order to produce a superior human resources and competitive. Livingston states (2014,p. 20)Prior studies of professionals' status and power have tended to focus on the conventional criteria of control of entry into the specific occupation.

A mathematical is basic subjects that are taught at all levels of education from primary school to higher education. Mathematics has a strategic role in developing qualified human resources. Learning mathematics can foster the ability to think analytic, critic and creative learners. Through learning mathematics, it can be developed spiritual and social attitudes of learners.

Based on explanation above, it appears some of the questions that will be discussed in this paper. How is the government's policy in preparing HR facing AEC? How to develop the quality of human resources through learning mathematics?

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METHOD

Troubleshooting used is a qualitative research approach to the type of descriptive methods theoretical. The data came from literature relevant literature. The data derived from the literature that are used to discuss the issue as it has been formulated in the introduction. Existing problems with reasoning studied theoretically by logy, analytic and that are descriptive supported by data related literature.

FINDING AND DISCUSSION

Indonesia is one of the founding members of ASEAN. At the beginning of the establishment of ASEAN in 1967, ASEAN had five member countries, namely: Indonesia, Malaysia, Singapore, the Philippines and Thailand. To further countries in Southeast Asia to join one by one in a different year. Brunei Darussalam joined in 1984, followed in 1995 Vietnam joined. Furthermore, in 1997 there were two Southeast Asian countries which joined namely Laos and Myanmar. Two years later in 1999 it was followed by the country Cambodia became a member of ASEAN. Currently there are two observer countries (prospective members) ASEAN are: Papua New Guinea and Timor Leste.

The implementation of the Asean Economic Community agreement by the end of 2015 begins with preliminary agreements. In 1992 at a meeting of the Heads of State of ASEAN (ASEAN summit) 5th in Singapore have agreed to implement the AFTA (Asean Free Trade Area) within a period of 15 years (2007). Later, they agreed to accelerate the implementation of AFTA in 2003, and accelerated again to be implemented in 2002.

Suroso (2015, p. 2) stated that in 1997 in the event of the Summit (Summit) in Kuala Lumpur - Malaysia, the ASEAN leaders agreed to form a fabric of cooperation to improve the competitiveness of ASEAN and can compensate for China and India in absorbing foreign investment. Through the ability to absorb foreign capital, investment is expected to increase employment opportunities and well-being of the peoples of ASEAN member countries. The partnership is intended to establish a community of member countries of ASEAN to integrate without boundaries and the bulkhead in the framework of the welfare of the citizens of ASEAN. The next Summit in 2003 in Bali - Indonesia, the leaders of ASEAN member countries agreed to declare the establishment of the ASEAN Economic Community (AEC) by the end of 2015.

Further Suroso (2015, p. 2) stated that the AEC aims to improve the economic stability in the ASEAN region, as well as addressing economic problems among ASEAN countries. There are four (4) hallmark characteristics of the MEA enforcement , namely (a) a single market and production base ; (b) a highly competitive economic region; (c) region of equitable economic development; and (d) a region fully integrated into the global economy. Consequences of the single market and production base, there will be free flow impact with regard to: (1) goods, (2) services, (3) investment, (4) skilled labour and (5) capital among ASEAN countries.

Enforcement of AECs should be greeted with enthusiasm and hard work. Government and society must prepare well to confront the consequences of the occurrence of a single market and production base in the ASEAN region. Through the AEC will create a great opportunity to increase the prosperity for the people of Indonesia in particular and the ASEAN community in general. With the implementation of the single market and production base in the ASEAN region, it will create many opportunities for the people of Indonesia in developing the business and looking for employment.

The flow of trade in goods and services being free, it is unimpeded and unhindered in the ASEAN region. Efforts of trading in goods or services produced by a nation that had only a limited area of the Unitary Republic of Indonesia, be free to trade in Malaysia, Singapore, Brunei and other ASEAN countries. The Barriers related to exports and imports become lost. Indonesian manufacturers can freely sell the goods of production in the ASEAN region.

This freedom conditions also happen to efforts to find employment. Residents of Indonesia can be easily and freely seek employment in Singapore, Malaysia, Thailand and other ASEAN countries. Employment opportunities for the people of Indonesia are not limited only in its country; but it is becoming more widespread in the ASEAN region.

The same opportunities can occur in the field of investment and venture capital and venture capital investment flows that once hampered by the rules of international relations, is now freely without hindrance. Indonesian people can be free to invest in ASEAN countries such as Myanmar, Vietnam, Malaysia and other ASEAN countries. Indonesian businessmen could also be easily to obtain venture capital from ASEAN countries, apart from the existing venture capital in their own country.

In addition of the opportunities as described above, with the implementation of AECs should also be anticipated about possible threats and challenges that could have happened. Along with the opening of business opportunities and employment as described above, will also appear competitors more. Competitors to find jobs and enterprises are not only just come from fellow people of Indonesia but also now to be increased. Competitors are to get jobs that areincreased by the people who came from Malaysia, Thailand, Vietnam, Laos and other ASEAN countries. Similarly, the trade, the results of goods and services from ASEAN countries such as Malaysia, Thailand, Vietnam and others can freely and to be marketed in Indonesia. Thus the goods and services produced by the people of Indonesia should be able to compete with who come from Malaysia, Vietnam, Thailand, and ASEAN countries sharing.

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In addition, another challenge faced by Indonesia to face the AEC at the end of 2015 is about the quality and competitiveness of human resources. Word (2015: p. 1-2) states that Today the Human Development Index (HDI) Indonesia was ranked 121 out of 187 countries. The rating is far below neighbour countries such as Singapore (ranked 18th), Malaysia (ranked 64th), Thailand (ranked 103), and the Philippines (ranked 114) .In addition, in terms of competitiveness, HR Indonesia also by-state Other ASEAN countries. Based on the report of the World Economic Forum (WEF, 2014), ranking the competitiveness of Indonesian human resources are ranked 38 and still lower when compared to some neighbour countries such as Singapore (rank 2), Malaysia (ranked 24th), and Thailand (rank 37). While other challenges are related to the education level of human resources in Indonesia, based on Centre Statistic Board data in August 2014, now the nation of Indonesia has a population in the age of a labour force of 125.3 million people; just from that number, 7.15 million people are still unemployed (not working). If it is the terms of the level of education, it turns out data of the labour force as much 55.31 million elementary school, junior high school education 21.06 million, 18.91 million people are high school educated, this phenomenon shows that the biggest challenge to face the AEC is the quality of the source human.

In order to become a part in the era of the AEC, the Indonesian nation must equip themselves with improving the quality, competitiveness and work hard. The Government and people must work together to improve the quality of human resources. The patterns from the education policies must be geared to produce superior human resources, character and competitiveness. Nicoll&Fejesin Birbeck (2014, p. 52) stated policy arena with a push by governments in a number of countries for the formation of HE - Industry partnerships in the design, delivery and assessment of higher education programmes**.** Stated Indonesian nation must be willing to work hard and have that criticism and creative thinking. Quality through superior human resources and character, the AEC will bring welfare and prosperity for the people of Indonesia.

Government Policy in Facing Human Resource Development AEC

Human resource development is an important part in the development plan of the Indonesian nation. Government policies related to national development outlined in Act number 17 of 2007 on the National Long-Term Development Plan 2005-2025. Further Long Term Development Plan are arranged in the details of the national development plan of five (5) -year called the Medium Term Development Plan (Plan) National. Widodo (2015, p. 2) writes the Long Term Development Plan made in 4 (four) stages of it as follows.

1. First, 2005-2009: Directed to reorganize and develop Indonesia in all areas of Indonesia aimed at creating a safe and peaceful, fair and democratic, and that the level of welfare of the people.
2. Second Development Plan, 2010-2014: Intended to consolidate the restructuring of Indonesia in all fields to carry out efforts to improve the quality of human resources, including development of science and technology and strengthening economic competitiveness.
3. Third Year 2015-2019: Intended to further strengthen overall development in various fields by emphasizing the achievement of economic competitiveness based on the superiority of natural resources and human resources quality and the ability of science and technology continues to increase.
4. Four, Year 2020 to 2024: Intended to create an independent Indonesian society, progressive, equitable, and prosperous through the acceleration of development in various fields built on a solid economic structure based on competitive advantage in various areas supported by source human power quality and competitiveness.

Development of human resources is an important factor in achieving the national goals of the Indonesian nation. Indonesia independence aims to create a society that is intelligent, and prosperous. In order for this nation's ideals can be achieved then human resources with good quality. Nolda (2014, p.98) stated as well as the modern concept of govern mentality, has had a remarkable influence on empirical adult education research. For the development in the field of education should get priority. In line with this the government has determined that at least 20% of the National Budget (APBN) and regional or Budget (APBD) should be allocated for the development of education.

As the elaboration of the National Medium Term Development Plan 2005-2025 Strategic Plan further education ministry as the Education Sector Development Vision 2005-2025. Strategic Plan of the Ministry of Education is intended as an attempt to generate human resources in Indonesia is superior, character and competitiveness. Widodo (2015: 3) writes that the focus of the Strategic Plan of the Ministry of Education for each of the National Development Plan as follows.

1. Period of 2005-2010: Focus on Capacity Building and Modernization.
2. Period of 2010-2015: Focus on Strengthening Service.
3. Period of 2015-2020: Focus on Regional Competitiveness.
4. Period of 2020-2025 : Focus on International

Competitiveness

In line with the Medium Term Development Plan (Plan) 3rd Year 2015-2019 and at the same time in order to enter the era of the ASEAN Economic Community (AEC) by the end of 2015 then all national development in various fields with more emphasis on increasing competitiveness. For this purpose the government has issued instructions President (Instruction) No.

6 of 2014 on Enhancing National Competitiveness in the framework of the Economic Community Facing the Association of South East Asian Nations (AEC). Through this Instruction stipulated there are 14 strategies for the achievement of competitiveness, namely:

1. The development of national industry;
2. Agricultural Development;
3. Development of Marine and Fisheries;
4. Energy Development;
5. Infrastructure Development;
6. Development of the National Logistics System;
7. Development of Banking;
8. Investment Development;
9. Development of Micro, Small and Medium Enterprises;
10. Development of Manpower (human resources);
11. Development of Health;
12. Development of Trade;
13. Promotion of Tourism; and
14. Development of Entrepreneurship.

Workforce development strategy (human resources) focused on increasing competitiveness and improving the competence and productivity

Government policies related to the quality of human resources have also been formulated in Act number 20 of 2003 on National Education System. In this law stipulated that the Indonesian human development should be fully completed in order to produce quality human resources. The quality of human resources generated should have the advantage of being based on Pancasila character. Supardi US (2014: p. 2) writes that the Law on National Education System formulated that national education serves to develop the ability and shape the character of the character and civilization of dignity in the context of the intellectual life of the nation, aim at developing the potential of students to become human faith and fear of God Almighty, noble, healthy, knowledgeable, capable, creative, independent, and become citizens of a democratic and responsible responsibility.

Human Resources Development through Learning Mathematics

Mathematics is a compulsory subject that should be taught to all students ranging from primary education to higher education. Mathematics has a strategic role in human life. None of the people who live normally without using mathematics, this is because no single discipline in practice and development without using mathematics. Mathematics is queen of sciences. Learning Mathematics in charge contains many positive character values as an indicator of the quality of human resources. In entering the era of the ASEAN Economic Community (AEC) will be needed quality human resources who have high-level thinking skills (higher thinking). Characteristic of human resources should have high-level thinking skills, namely those who have criticism and creative thinking abilities. Through the quality of human resources will

be a lot of criticism and creative production as a result of innovation and excellence of a nation.

In the Law number 20 of 2003 on National Education System character traits quality of Indonesian human resources to be gained through education (Supardi, 2012). In the law stated explicitly there are nine (9) the character of the quality of Indonesian human resources, namely: (1) faith and fear of God, (2) morality, (3) health, (4) knowledge, (5) capable, (6) creative, (7) independent, (8) into a democratic citizen, and (9) is responsible. Meanwhile Hasan *et al* (2010, p. 7-10) develop character values of the nation through four sources of value, namely: religion, Pancasila, culture and national educational objectives. Based on four sources of value / character is set a minimum of 18 characters that can be developed through education, namely: religious, honest, tolerance, discipline, hard work, creative, independent, democratic, curiosity, the spirit of nationalism, patriotism, recognize excellence, friendship and communicative, love peace, love reading, care for the environment, social care, and responsibility. The character is a hallmark of excellence as an indicator of the quality of Indonesian human resources. If the potential of these characters can be developed properly, it ultimately obtains Indonesian human resources are competitive and productive.

Education is a process of development or maturation of all potential learners. Broadly speaking there are five (5) human potential, namely (1) the potential of thought, (2) the potential of flavours, (3) potential intention, (4) the potential of the body or kinaesthetic, and (5) spiritual potential. A good education process must be able to develop all of this potential. Dewantara in Warli and Yuliana (2011, p. 208) states that, education is an effort to develop a character (inner strength, character), mind (intellect) and the body (body) of the children. Inner power shall include the power sense, initiative and spiritual.

Mathematics has a strategic role to develop the potential of human thought. In essence mathematics serves to improve the ability of human thinking. Good learning mathematics through the brain (brain), the participants will be trained and developed to function optimally. In the process of learning mathematics are good not only producing students who know and understand mathematical concepts. The learning process of Mathematics that will produce human resources that have: (1) the ability to make models of Mathematics as a simplification (simplification) of the problems are complex, (2) ability reasoning logic, (3) the ability to think constructive criticism, (4) the ability to think creatively productive, (5) the ability to think analytic systemic and systematic, and (6) the ability of good problem solving.

Moreover, through a learning process will either mathematics can also develop character values (inner strength) learners. Potential inner strength (flavours, initiative and spiritual) learners will be able to develop optimally through effective learning mathematics. With Math learning process will be developed character of faith and devotion to God Almighty as the embodiment of the spiritual potential of learners. Also, with an effective learning mathematics will be able to develop some of the characters in the value of the potential of a human

feeling and intention. Some of the characters as the realization of the potential of feeling and intention of learners that can be developed through learning mathematics among others ability to be: (1) fair and democratic, (2) discipline, (3) consistent, (3) independent, and (4) is responsible,

Develop an attitude of Faith Against the character of God Almighty

In one hadith narrated by Ibn Majah Atthabrani, the Prophet SAW said: *Al-Iimaanu 'aqdunbilbilqalbiwaiqraarunbillisaaniwa'amalunarkaan.*

Definition of faith is something that is believed to be in the heart, spoken with oral and performed in deeds (Syahruddin Chari, 2012). In this case, that the essence of faith that is the consistency between faith heart, word and deed. Value is an absolute consistency in Mathematics that concepts in Mathematics have a truth value.

Mathematics does not have scientific truth as well as the natural sciences or social sciences. Scientific truth is the truth based on compatibility between theoretical concepts with empirical facts. Theoretical concepts in scientific truth are also called the concept of logic or deductive who may be thinking, assumptions or prior knowledge of existing knowledge. While the empirical facts or inductive as field data that can be either factual conditions that exist in the real world. Seeing this phenomenon, can it even raise a question as to whether it is included Mathematics science or not?

Math truth cannot be proven by scientific truth, because in Math does not have a real object. Abstract mathematics object that has the form of ideas, ideas or theoretical concepts in human thought, mathematics truth can only be proven by the truth of consistency or coherence truth. Sumardyono (2008: 4) states that in the world of science there are three types of truth, namely: (1) the truth of coherence or consistency, (2) truth correlational, and (3) the truth pragmatic.

In order to obtain the truth, the learner must learn to be consistent in believing and applying mathematical concepts. Suppose that already understand that the "1 + 1 = 2", then this concept should be constantly believed and practiced in everyday life that in any condition, anywhere must believe in "1 + 1 = 2". By convention that in mathematics, if not defined else then operation arithmetic "+" is defined as an operation "sum" in the decimal system. This phenomenon may be different in the natural sciences or social sciences. Because in the natural sciences, if we enter a 1 (one) rats in a hole and then inserted 1 (one) rat tail again, then within a short time later when we open the hole could have found the number of rats numbered 2 tail or not the two tails.

Another example, in mathematics, it is stated that "five" is greater than "two". When written in Math symbols, for example: "five" = 5 and "two" = 2, then we must remain consistent that "5 is greater than 2". In this case not to say that "2 is greater than 5", because they are in this case that the "two" and "five" is the value of the quantity in human thought,

not the size of the symbols. By sticking to the consistency, then the mathematical concept will have a truth value.

Habituation learners in Mathematics understand and accept the truth then it will grow and develop evolutionary behaviour of learners who have the attitude *Istikomah* (in Arabic) means consistent. Through the attitude of consistency then it will have implications on the habits of learners are always steady and reliable. This attitude, if it implemented in the application of religious concepts that will foster a sense of belief in God Almighty. Because of the nature of a person's faith is consistency between words, actions and beliefs.

Develop an attitude of piety Character against God Almighty

According Personality "'*Takwa*", it means maintaining and preserving themselves from the punishment and wrath of Allah by way of carrying out His commands and avoid all His prohibitions, away from all disobedience and obedience to Allah. In a hadith, the Prophet was once asked by someone: "Messenger of Allah, Muhammad's family, then the Prophet, replied:" People who have fear of Allah and piety that is a collection of good deeds, while the essence is always obedient to God SWT, so be aware and avoid retribution (Mari'fatullah Part II, 2013).

Thus it can be understood that the core or essence of piety that is the obedience or adherence. Humans are cautious that is, those who always obey or adhere to all the provisions of Allah, avoid His prohibitions and carrying out his commands.

Compliance someone against a rule or existing agreement shows the commitment and attitude of the relevant discipline. Mathematics comes with charges agreement or convention. Therefore the exact value in Mathematics will take place only because of the loyalty, commitment and discipline as the embodiment of the value of compliance of human towards Mathematics. Without their adherence to conventions that already exists, it may not be an exact mathematics.

Mathematics will be exacted only because of the attitude of rigor (stiffness) in receiving and implementing. In this case the concept of set theory became the cornerstone of the development of Mathematics. With the help of set theory, the mathematical concepts become clear and will not be an overlap (overlap) between one another. So that exact knowledge of mathematics into the learner must obey to the existing conventions. Mathematics should be clear in scope or definition of the universe of discourse.

Suppose that in "addition operation", there is the question what is the result of "11 + 11 = ...?" To answer this problem should be clear limits conversation system. In Mathematics results of the above questions, there can be several possibilities, among others:

1. In the first, 11 + 11 = 22, or it could be
2. The second possibility, 11 + 11 = 10, or it could be
3. The third possibility, 11 + 11 = 110, or it could be the

Possibility of sharing

In this issue, if not clearly limit the universe of discourse, there will be a lot of questions. Why is that? If so mean mathematics is not an exact science? The answer is indeed true, Mathematics is not an exact science. In mathematics there is no definite nature (absolute). Mathematics only has inexact nature (right). The exact value (right) in Mathematics will occur because of the rigor properties (stiffness) in implementing the concept of Mathematics. The third addition operation result of $11 + 11 = ...$, all are true. The first possibility of appreciating true, if the sum is defined in the universe of discourse addition operation in Numbers Decimal System. The second possibility is true, if the sum is defined in the universe of discourse addition operation in Numbers System Clock. The third possibility is true, if the sum is defined in the universe of discourse addition operation in the System Binary Numbers.

Therefore, in order Math has the exact value then it should be clearly limits the definition of the set universe of discourse every action. This further limits the universe of discourse should be followed by rigor, full commitment and discipline as the embodiment of the value of the observance of the Convention in Mathematics. In learning must always be obedient to the rules in force as a convention of Mathematics. With compliance with all the provisions of existing regulations, it will give birth to human resources have the character of obedient with dimensions such as: rigor, commitment, and discipline. The character of this kind of obedience when implemented in acceptance of the provisions as stated Allah and the Qur'an and Hadith (for Muslims) will give birth to the human resources that have the character of an attitude of piety towards God Almighty.

Develop Character Fair and Democratic Attitude

God created this world content in pairs. No day and no night, there were no men and women, there are good and there are bad, there is no cure and the disease, as well as other phenomena created by God in pairs. Facts and operations in mathematics were made in pairs. In Mathematics, the sum paired with subtraction, multiplication paired with the division, integral with differential pairs, the rank with roots, paired with the negative positive, even paired with odd, and so on.

Sumardyono (2008, p.30) states there are four objects Mathematics (1) Facts, (2) Concept (3) Operation and relations, and (4) Principle. Fourth Mathematical objects are all abstract, because it exists only in human thought. Examples facts in Mathematics, among others: "2" as a symbol of the number "two"; "3 + 2" is understood as a symbol of "three plus two"; understood as a symbol of "irrational numbers approaching 3.14" and others. The concept is strongly associated with the definition. Through the definition, one can distinguish anything including the concept or not the concept. Examples of concepts are: "triangle", "primes", and others. Operations in Mathematics consist of operations non binary and binary operations. Examples operation in Mathematics, namely: "sum", the square root, and others. Mathematics is the principle object of the complex, consisting of several facts or concepts can be stated with a relation or operation. Principle can be

"axiom", "theorem" or "proposition," nature "or" corollary ", and others.

Hasan (2010, p.10) stated it can be defined as a democratic way of thinking, acting, and acting the same rights and duties judging one and others. Operation in justice and the Democratic Mathematics is on all objects operations. Integral and differential operations have the same object, namely the function. Operations of addition and subtraction of numbers have the object or function. Operation squares (squared) and the square roots of numbers also have the object or function.

In the development of the concept of number theory known as the imaginary number it is the development of science and technology today, the concept of imaginary numbers has been no implementation. Then if it so, what does it raise the concept of imaginary numbers? Is it not mathematical concepts developed in order to solve practical problems in real life?

Mathematics is not only a science, but at the same time as the art of thinking. Therefore, in the development of Mathematics is not just simply to serve the practical problems in real life, but also in order to serve Mathematics itself. By defining the concept of imaginary number $i = \sqrt{-1}$, appeared and developed to mathematics have fair and democratic nature.

Math operating concept should be applicable in a fair and democratic to all members of the operating object in the universe set speech. Operation squares (squared) and the square root operations are two types of surgery in Mathematics paired. In the universe of discourse set of real numbers (R #), operating squares (squared) can be applied to democratic in each member R # without discriminating. Problems would occur at the square root operation. For any positive real numbers and zero, the square root operation in full effect thorough unhindered. For example:

$$\sqrt{4} = 2, \quad \sqrt{3} = 1,7 ..., \quad \sqrt{2} = 1.414, \quad \sqrt{1} = 1, \quad \sqrt{0} = 0.$$

Problems occur when computing the square roots of negative numbers. For example:

$$\sqrt{-1} = ?, \quad \sqrt{-2} = ?, \quad \sqrt{-3} = ?, \quad \sqrt{-4} = ?, \text{ and so on.}$$

Seeing this problem, then the mathematician agreed to make the convention on the concept of imaginary numbers by defining $\sqrt{-1} = i$. Through this definition, the problems of the square root of a negative number R # can be resolved. Thus will be obtained:,,, etc. This shows that the concept of Mathematics contains the values of justice and democratic. Learners must animate fair and democratic character of Mathematics. If the learner is able to animate Mathematics characteristics of this kind, it will give birth to human resources which have the character of a fair and democratic nature.

Develop Character Attitude Discipline

Discipline can be defined as a person's attitude towards compliance with regulations or agreements that have been made. As has been described above, that discipline is a part or

dimension of adherence compliance. In the learning process needed discipline in rigor so that the exact nature of the mathematics can be realized.

Centuries there has been a convention that the symbol of "1, 2, 3, 4, 5, 6, 7, 8, 9, and 0" as the numbers in the Arab-Latin letters. Each symbol agreed as numbers worth "one", "two", "three", "four", "five", "six", "seven", "eight", "nine", and "zero". In addition, by convention has been agreed that the numbers that are used in the operation of Mathematics is to use Arabic numerals-Latin. Roman numerals are not used for the operation of Mathematics. This is because in Roman numerals are not known for the value of the place and is not effective for use in high value stated numbers. For example, we will have difficulties to write the number 304 627 501 in Roman numerals.

Conventions in Mathematics must be obeyed by everyone. Each one should not interpret their own against the Math facts. If everyone interprets their own against the fact that number, then Maths will not have the exact value (right). Suppose the A interprets the symbol "2" = "five" and "5" = "two" while the other numbers the same symbols as above, it will get "2 + 3 = 8". This will lead to chaos, and Mathematics is inexact.

While others, the B cling to the convention that the symbol "2" = "two" and "5" = "five", then Person B writes that "2 + 3 = 5" (instead of 8).

From the example above is very clear that the mathematics required for the loyalty and discipline of the existing conventions. Because without the loyalty and discipline of Mathematics has no meaning. A learner who is learning Mathematics indirectly already accustoms himself to always discipline on the existing rules. These conditions will give birth to human resources which have the character of discipline.

Developing a Consistent Attitude Character

Consistent constancy can be defined as an attitude or consistency someone in the act or say. People who have a high level of consistency in word and deed is the human resources that can be trusted. In learning mathematics required consistency attitude. Only the consistency of Mathematics has a truth value.

As described above, that the attitude of consistency essence a concrete manifestation of a form of Faith against God Almighty. Because the essence of faith is the assurance of consistency or compatibility between the heart, words and deeds. People can behave consistently will be the human resources that can be trusted. Human resources will be steady and consistent in behaviour and opinionated.

The consistency of one's attitude can be developed through learning Mathematics. As already explained in advance, that truth in Mathematics happen because the truth consistency or coherence. In Mathematics, something that has been agreed upon will continue to be followed and used forever. Unlike the natural sciences or social sciences, in mathematics there is no

theory that was replaced. In Mathematics all theories have been agreed remain valid despite the emerging new theories.

Suppose, already agreed by convention that to symbolize the value of "five" using the symbol "5", then this symbol will be used continuously anywhere and anytime. Everyone will also be loyal to use the symbol "5" as the understanding of the value of "five", because only through the use of a consistent basis, then the symbol "5" has a value of truth as the 'five'. Through habituation Mathematics interpret strictly abiding and in every moment, it will produce human resources that have the character of a consistent nature.

Develop Character Attitude Self

Sumardyono (2004,p. 28) stated of experts describe mathematics is based on the viewpoint different. There are six (6) a description of Mathematics, namely: (1) Mathematics as a structure that is organized, (2) Mathematics as a tool (tool), (3) Mathematics as a mind-set deductive, (4) Mathematics as a way of reasoning (the way of thinking), (5) Mathematics as an artificial language, and (6) Mathematics as an art of creative thinking. For an overview of Mathematics as an art of creative thinking, then it shows that mathematics has a divergent nature. Mathematics includes the results and the process. Sumardyono (2008,p.5) stated that Mathematics is the result (product) of human intellectual thought. Besides, as the product of thought, Math can also be seen as the process of thinking itself. In the capacity of Mathematics as a process, then the mathematics is diverging. Mathematics provides the opportunity for each individual to make the process of mathematics in order to solve a problem in their own way. Through a process of divergence nature of mathematics it will produce the value of self-reliance for people who are learning Mathematics.

For example, a mother has 27 candies and will be distributed in 3 children. How can I share the candy? Then distributing the candy can be done in several ways.

1. The possibility of the first way, the candy divided one by one to each of his children. This is done continuously until candies are completely distributed.
2. The second possibility, the candy was taken 3 pieces, then taken again 3 pieces and so on until the end. Assuming if taken three pieces mean every child will be assigned to each 1 fruit and so on.
3. The third possibility, the candy immediately divided into 3 groups of the same number. From each of these groups, be obtained by how many candies were obtained each child.

The possibility of other ways

Another example, suppose given two linear equations as follows. There are two (2) pieces of linear equations: $x + 2y = 6$ and $3x + 2y = 10$, what is the value of x and y that satisfy both equations?

To resolve this problem, each person can do in a way that is different. Those problems can be solved by means of a graph or by elimination or by way of substitution or by way of matrix or

other means. Everyone can do with their own way in accordance with the rules, assumptions and theorems apply.

The two examples above show that the process may occur Mathematics art creative thinking of each person. In the process of Mathematics above indicate divergent nature as a manifestation of a dimension of independence. Therefore, with this in mind, people are accustomed to having freedom in the thought process as is possible will be formed of human resources who coined the character trait of independence.

Develop Responsibility Attitude character

Ruseffendi (1982, p. 3) stated that in the process of Mathematics learners have to answer the question "why" is not just a "how to". In Mathematics, the understanding of the sense is more emphasized than just arithmetic or memorizing skills. In the process of Mathematics learner must understand every step and procedure has done. Provided that each step or procedure that is done to understand the reasons allows such a procedure can be done, then it shows the responsibility of every action.

For example, suppose the students were asked to complete the equation: x + 2 = 5. Then the students write: x = 5-2 and x = 3. Results of the settlement correctly, only the question arises, why the number "2" which had been on the road to the left moved to the right and to "-2". Does each number when switching segment change value, from positive to negative or vice versa?

The process of settlement of the equation is actually done by following the rules in Mathematics as follows.
Step 1: x + 2 = 5 (problem / question)
Step 2: 2 + x + (-2) = 5 + (-2) (inverse nature in the sum)
Step 3: x + 0 = 5-2 (properties summation identity)
Step 4: x = 3 (result of completion)

Through the process of Mathematics as above, then indirectly to train students to get used to be responsible for every act, responsibility in every step and act urgently needed in order to obtain superior human resources in the face of the AEC. Learners who are accustomed to act with the understanding the reasons for its action, it is very possible will be produced by the human resources that have character trait is responsible.

Exposure above only part of positive character values the quality of human resources that can be developed through Mathematics. Thus showing mathematics has an important role in the development of human resources which is superior and competitive. The quality of human resources excellence and competitiveness are needed to enter the ASEAN Economic Community (AEC). With qualified human resources are expected to be able to enter the era of f AEC with proud and full of confidence that can bring well-being and prosperity for Indonesian people.

CONCLUSION

Based on the above description can be delivered a conclusion as cover. Exposure above is supported by the facts presented by the theoretical expert based on problems in the introduction the following conclusions can be delivered.

First, Facing enforcement of AEC at the end of 2015 the government has established several policies, among others: (1) Act No. 20 of 2003 on National Education System; (2) Act No. 17 of 2007 on the National Long-Term Development Plan 2005-2025 (3) numbers Presidential Instruction No. 6 of 2014 on Enhancing National Competitiveness in the framework of the Economic Community Facing the Association of South East Asian Nations (AEC). Law number 17 of 2007 on Long Term Development Plan (RPJP) National 2005-2025 is the general policy of development which further elaborated in four stages RPJM namely: (1) 2005-2009 (2) 2010-2014, (3) Year 2015-2019, and (4) Year 2020-2024. While in Instruction No. 6 of 2014 on Enhancing National Competitiveness in the framework of the Economic Community Facing the Association of South East Asian Nations (AEC) is determined there are 14 strategies that should be undertaken by the Indonesian people for the achievement of competitiveness. While in Law number 20 of 2003 set up specifically on the development of human resources.

Second, through effective learning mathematics can be developed human resource quality superior and competitive. Learning Mathematics serves to develop the potential of thought (brain) human. The potential ability of the human mind that can be developed through learning Mathematics, among others: (1) the ability to make models of Mathematics as a simplification (simplification) of the problems are complex, (2) ability of reasoning logic, (3) the ability to think constructive criticism, (4) the ability to think creatively productive, (5) the ability to think analytic systemic and systematic, and (6) the ability of good problem solving.

In addition, effective Mathematics lesson can also serve to develop the potential of the inner (spiritual, sense, and intention) of human. In the development of spiritual potential, learning mathematics can be used to develop character (1) Faith, and (2) the devotion Against God Almighty. Characters in the potential of feeling and intention which can be developed through learning Mathematics, among others: (1) fair and democratic, (2) discipline, (3) consistent, (4) independent, and (5) is responsible.

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