[3] Muladi, *Perumusan Tindak Pidana Kesusilaan (Perzinaan dan Pemerkosaan) dalam Rancangan KUHP Baru Ditinjau dari Aspek Kebjakan Kriminal dan Aspek Sosial Budaya*, the paper was presented in one-day seminar about the Review toward the new *KUHP* design particularly on Moralty, Faculty of Law of Soegijapranata Catholic University, Semarang, February 20, 1993, 3-4.

[4] Satori, Djam'an and Aan Komariah, 2009, *Metodologi Penelitian Kualitatif*, Alfabeta, Bandung, 103.

[5] Suriasumantri, Jujun S, 2009, *Filsafat Ilmu sebuah Pengantar Popu**ler***, Pustaka Sinar Harapan, Jakarta, 103.

[6] Suteki, *Urgensi Tradisi Penelitian dalam Proses Penelitian Ilmiah*, the paper was presented in the National Seminar themed "*Metodologi Penelitian dalam Ilmu Hukum (Perspektif Filosofis, Normatif dan Sosiologis-Empiris*" at Law Faculty of UNDIP Semarang on December 16, 2010, 1, 3.

[7] Wignjosoebroto, Soetandyo 2007, *Disertasi sebuah Pedoman Ringkas tentang Tatacara Penulisannya*, Sociology Laboratory of the Faculty of Social and Political Sciences of Airlangga University, Surabaya, 65.

[8] ----------, 2002, *Hukum: Paradigma, Metode, dan Masalahnya*, the Institute for Policy Research and Advocacy(ELSAM), Jakarta, 1.

[9] The Law Number 23 Year 2004 of The Elimination of Domestic Act.

[10] http://en.wikipedia.org/wiki/Marital_rape, acessed on Tuesday, June 9, 2014 at 11.25 am

GENDER MAINSTREAMING IMPLEMENTATION ON THE FUNCTIONAL LITERACY EDUCATION IN THE EAST JAVA PROVINCE

TRISAKTI HANDAYANI
Muhammadiyah University of Malang, Jl Raya Tlogomas no. 246.Malang, 65144, Indonesia
trisaktihandayaniwidodo@gmail.com

Abstract

The objectives of this research were; 1) analyzing the implementation of gender mainstreaming on Functional Literacy Education in East Java Province; and 2) explaining some forms of implementation of gender mainstreaming on Functional Literacy Education in East Java Province. This research used qualitative approach supported by quantitative one which was conducted in East Java Province. Analyzing the data was done using descriptive qualitative and quantitative analyses supported by Gender Analysis Pathways (GAP), Parity and Disparity Index.The result of this study showed that: 1) the implementation of gender mainstreaming on Functional Literacy Education in East Java Province has not been optimal yet; 2) the forms of the implementation of gender mainstreaming on Functional Literacy Education in East Java Province were seen from the Functional Literacy Parity Index in accordance with education and competence, the emergence of gender inequity on the side of the men which was increasingly occurring in a variety of Functional Literacy programs.
Keyword: Gender, functional literacy education

INTRODUCTION

1.1. Background

Gender gap on Functional Literacy (FL) Education in East Java Province can be seen from some aspects of education which have parity index (PI),namely the distribution between the working gain of the women compared to the working gain of the men that tend to harm women like illiteracy level (2.00), and FL tutor (0.70). It appears from the whole indicators which show that the women have lower involvement in education than that of men and this will end up with gender inequity.

Considering the condition of the gender inequity which has harmed women especially for the purpose of encouraging nine-year compulsory education program, it seems to be essential to analyze the implementation gender policy in primary education area in East Java Province. The analysis emphasized on the issue of gender in education area, namely education access and distribution and education accountability and management. The issue of education access and distribution is used to find out how good the education service is in regency/municipality/province level and also to detect how many child of which education have not been served completely for every school-aged group and every level of education. The issue of education access and distribution has qualitative and quantitative working indicators which include: illiteracy rate and FL learning people. The aspect of education accountability and management is related to justice and gender equity in managing education. The commonly used indicators are: FL tutor and FL organizer. Those issues of gender in education area became the object of analysis of policy to know the real condition whether the gender inequity occurred in FL education level in East Java Province or not. The policy of gender base which enables the emergence of gender inequity is needed to optimize so as to be able to meet the gender equity in FL education level.

1. Statement of the problems

The general problems this research are:

1. How is the implementation of gender mainstreaming on Functional Literacy Education in East Java Province?

2. How are the forms of implementation of gender mainstreaming on Functional Literacy Education in East Java Province?

3. Objectives of the research

General purpose of this research are:

1. To analyze the implementation of gender mainstreaming on Functional Literacy Education in East Java Province
2. To explain the forms of implementation of gender mainstreaming on Functional Literacy Education in East Java Province

Literature Study

With regards to the empirical base in Widodo (2007), gender profile generally shows that gender equity occurs on most indicators of education access and distribution. It can be said that gender profile in education field for primary education level in East Java experienced a good development towards gender equity.

Education policies, especially those that have strong relation to the access and the primary education distribution issues both for those relating to the Strategic Plan of Government Area of East Java Province and Strategic Plan of Department of Education and Culture in East Java Province 2001-2005 as well as the milestones 2006-2009, have been explicitly based on gender perspective. However, in fact, the implementation of gender policies which are designed and formulated by the education policy makers is not distributed equally particularly to the primary education from one regency/municipality to other regencies/municipalities in East Java Province. It is resulted from the limited awareness and comprehension on the concept of gender, and thus gender inequity frequently occurred during the making up of the policy (Widodo, 2007).

There are some problems and challenges that are faced during the implementation of gender mainstreaming in primary education level. Those happened because of no priority and a better distribution on disseminating gender policy in primary education even though the efforts have been done through capacity building, publication and so forth. It can be seen from the large number of regencies/municipalities which still have no gender working unit (pokja), gender profile in education level especially for the primary education which also has not been completed with the selected data based on genders, as well as proper communication, information and education (CIE). Those problems arose due to the lack of funding, supporting facilities, and infrastructure as well as the vocal point of human resources at the regency/municipality level. These are all the reasons why gender inequity continuously comes about in education area (Widodo, 2007).

Material and Methods

Structure

This present research used qualitative approach which was strongly supported by quantitative approach. It was conducted in East Java Province. The subject of the research was the Department of Education and Culture in East Java Province. The sources of the data in this research were primary and secondary data. Primary data were tapped from the head of the Department or the head of division who were responsible for gender affairs in the Department of Education and Culture of East Java Province, and some heads of the Department or the heads of division who were responsible for gender affairs in the Department of Education and Culture across regencies/municipalities in East Java Province. The instrument of this research were (1) the researcher herself as the main instrument; (2) Interview guide which was in the form of open questions that enabled each question to expand in a more specific direction; (3) Field notes which were used to write down what were heard, seen,

experienced, and thought for the purpose of data collection; and (4) Recorder and handy-cam as tools to record the interview.

Data collection was done through observation, interview (including with the key informants), and documentation. The data obtained were in the form of qualitative and quantitative data. Qualitative data were mainly used to know the optimization of gender mainstreaming in Functional Literacy Education; while quantitative data were used to know the level of the implementation of gender mainstreaming policy in Functional Literacy Education. The data were analyzed through certain phases: (1) open coding; (2) axial coding; and (3) selective coding.

The data in general were analyzed descriptive qualitatively and quantitatively supported by Gender Analysis Pathways (GAP), Parity and Disparity index. The first problem was analyzed by GAP (Gender Analysis Pathways) approach model, a systematic framework in formulating gender policy issues especially in Functional Literacy Education and the second problem was analyzed by Parity and Disparity index.

Result and Discussion

1. The Implementation of Gender Mainstreaming in a Functional Literacy Education in East Java Province

Since 2004, capacity building program had been done in East Java which was fully funded by APBN (National Budget). However, this program was not designed specifically for primary education level but it covered all types, levels and units of education by the authority of Education Department in Province level (school and non-school) because the concept of education includes informal, formal, and non-formal educations.

Based on the result of a specific interview done with the head of division in education sector who is responsible for Kindergarten/Primary School/Special Education on July 27, 2012 and the head of Gender working unit for education sector in East Java Province, in general, it can be concluded that Department of Education and Culture of East Java Province tries to integrate the substance of gender mainstreaming in the coordination meeting or related programs to bring JEG (Justice and Equity of Gender) into reality on the level of Kindergarten/Primary School and Special Education.

This capacity building activity has been carried out many times since 2004 up to now. In the last three years (2010-2012), a number of workshops have been conducted, namely: workshop program of Responsive Budgeting Planning of Gender has been conducted twice with the target line of school and non-school and also the planning in Province and 38 Regencies/Municipalities;

The budget for gender mainstreaming capacity building program obtained from APBD (Regional Government Budget) and/or APBN (National Budget) and the budget given by the department was based on the made agreement. However, in the past, the implementation of gender mainstreaming was not on the right time, but nowadays it has been on the right time.

The result that has been achieved from the cooperation is the success in implementing capacity building program in Province/Regency/ Municipality level based on the target which will be continued to next step. So far, there has been no problem on the result of the cooperation and if there is any, it will be together discussed.

Education Department of East Java Province has created gender working unit (pokja) in 2004. The existing gender working unit can accommodate its jobs based on the functions and roles. Gender profile on Functional Literacy Education has been done previously.

2. The forms of the Implementation of Gender Mainstreaming on Functional Literacy Education in East Java Province

Generally, based on education point of view, there is gender inequity on the side of the men in Functional Literacy with 2.09 PI. Gender inequity on Functional Literacy according to education occured in every regency and municipality in East Java Province. The highest gender inequity on the side of the women was found in Trenggalek with 0.01 PI; while the highest gender inequity on the side of the men was found in Jombang 14.94 PI.

In general, viewing Functional Literacy according to competence in East Java, there was gender inequity on the side of men with 3.15 PI. Gender inequity on illiteracy for the ages of 15-24 occurred in all over regencies and municipalities in East Java Province. The highest gender inequity on the side of the women was found in Batu town with 0.29 PI. While the highest gender inequity on the side of the men was found in Blitar regency with 21.00 PI.

There is an interesting tendency that can be seen. Functional Literacy Parity Index makes gender inequity on the side of the men progressively occur in a variety of Functional Literacy programs. This showed that education seemed to be not essential for women in the past, and thus many of them did not enroll for schools even the primary school. Since many of the women were not educated, the programs of Functional Literacy nowadays are dominated by them.

Conclusion and Suggestions

1. Conclusion

The implementation of gender policies in Functional Literacy Education which are designed and formulated by the education policy makers is not distributed equally particularly to the primary education from one regency/municipality to other regencies/municipalities in East Java Province. It is resulted from the limited awareness and comprehension on the concept of gender, and thus gender inequity frequently occurs during the making up of the policy. There are some problems and challenges that are faced during the implementation of gender mainstreaming in primary education level. Those happen because of no priority and a better distribution on disseminating gender policy in primary education even though the efforts have been done through capacity building, publication, and so forth. It can be seen from the large number of regencies/municipalities which still have no gender working unit (pokja), gender profile in education level especially for the primary education which also has not been completed with the selected data based on genders, as well as proper communication, information and education (CIE). This problem arises due to the lack of funding, supporting facilities, and infrastructure as well as the vocal point of human resources at the regency/municipality level. These are all the reasons why gender inequity continuously comes about in education field.

The form of the implementation of gender mainstreaming in Functional Literacy Education in East Java Province was seen from the Functional Literacy Parity Index based on education and competence; the emergence of gender inequity on the side of the men increasingly occurs. This showed that education was seemed to be not essential for women in the past, and thus many of them did not enroll for schools even the primary school. Since many of the women were not educated, the programs of Functional Literacy nowadays are dominated by women.

2. Suggestions

In order to make the implementation of gender mainstreaming in Functional Literacy run well, there are some steps that need to be done as follows:

a. Conducting continuous gender dissemination for the policy makers of education both in province and regency/municipality level,

b. Establishing and optimizing Gender working unit (pokja) in education field, gender profile in the field of Functional Literacy based on gender, as well as communication, information and education (CIE),
c. Increasing the funding, facilities and supporting infrastructures, and human resources as vocal point in regency/municipality level of East Java Province,
d. Doing monitoring and evaluation successively and continuously in order to reach justice and equity of gender.

Some strategies to reach gender equity in the field of Functional Literacy are as follows:

a) Creating a balance ratio of men and women in obtaining education through: (a) increasing participation of women in education field; (b) providing the same and equal opportunities for men and women in education field proportionally,
b) Creating more equal opportunities of education on Functional Literacy program by paying attention to justice and gender equity as the basis,
c) Minimizing gender imbalance on Functional Literacy program of school and creating gender equity in skills/competences and professionalism based on gender,
d) Designing programs and systems of learning Functional Literacy which are gender-friendly.

References

Anonymous, 1995. **Metodologi Penelitian Berperspektif Wanita dalam Riset Sosial**. Program Studi Kajian wanita Program Pasca Sarjana Universitas Indonesia. Jakarta.

Anonymous, 1998. **Teknik Analisis Jender**. Makalah Pelatihan. Pusat Studi Wanita Universitas Gajah Mada. Yogyakarta.

Anonymous, 1999. **Teknik Analisis Jender untuk Pusat Studi Wanita**. Catatan Kursus. Direktorat Jendral Pendidikan Tinggi Republik Indonesia. Bogor.

BPS Jawa Timur, 2005. **Jawa Timur dalam Angka**. Surabaya

Depdiknas, 2004. **Profil Gender Bidang Pendidikan**. Departemen Pendidikan Nasional Direktorat Jendral Pendidikan Luar Sekolah dan Pemuda. Jakarta.

Depdiknas, 2004. ***Position Paper* Pengarusutamaan Gender Bidang Pendidikan**. Departemen Pendidikan Nasional Direktorat Jendral Pendidikan Luar Sekolah dan Pemuda. Jakarta

Dinas P & K Propinsi Jawa Timur, 2006. ***Position Paper* Pengarusutamaan Gender Bidang Pendidikan**. Surabaya

Handayani, T., Sugiarti, 2002. **Konsep dan Teknik Penelitian Gender.** Universitas Muhammadiyah Malang Press. Malang.

Pokja PUS, 2003.***Education For All* (Pendidikan Untuk Semua)**. Departemen Pendidikan Nasional. Jakarta

Pokja PUS, 2003. **Gender**. Departemen Pendidikan Nasional. Jakarta

Widodo, W., M.A. Kresno, F. Wiryani, A. Zainudin, H. Cahyono, W. Pancapalaga dan D.E. Widyastuti, 2004. Analisis Situasi Pendidikan Untuk Semua Propinsi Jawa Timur. Laporan Penelitian. Universitas Muhammadiyah Malang. Malang

Widodo, W., 2006. Analisis Situasi Pendidikan Berwawasan Gender di Jawa Timur. Laporan Penelitian. Universitas Muhammadiyah Malang. Malang

Widodo, W., 2007. Analisis Kebijakan Pendidikan Berwawasan Gender dalam Upaya Meminimalkan Kesenjangan Gender pada Pendidikan Dasar di Propinsi Jawa Timur. Laporan Penelitian. Universitas Muhammadiyah Malang. Malang

Widodo, W., Kepi S., Asri H., Arif B.W., Siti Ch. H., Sugiarti, dan Siti A., 2008. Position Paper Pengarusutamaan Gender (PUG) bidang Pendidikan **Propinsi Jawa Timur tahun 2008**. Pokja Gender bidang Pendidikan Propinsi Jawa timur. Surabaya

Matematics Educations in Era of The ASEAN Economic Community (AEC)

Turmudi
Faculty of Science and Technology, Maulana Malik Ibrahim State Islamic University of Malang, Gajayana Street 50th Malang City 65144, East Java, Indonesia

turmudi_msi@yahoo.com

Abstract.

Starting at 31st, 2015,Indonesia tied to the system of ASEAN Economic Community (AEC). AEC as part of global era deals maintaining political stability and regional security, improve the competitiveness of the region on the global trading and promote economic growth, reduce proverty, and improve living standards. Indonesia for the purpose of generating qualified human resources in order to deal global competitiveness developed a national education, including mathematics education. Mathematics has a very important role in technology as a measure of progress and civilization. Mathematics has a great influence to facilitate progress and civilization of a nation. However, the fact internationally that Indonesian student mathematics achievement is still low, is ranked lower in the PISA assessment scale (OECD, 2012, 2015). This indicates that there is something wrong about learning mathematics. Paradigm of Mathematics learning has changed to a greater emphasis on learning model that can foster problem-solving skills, higher order thinking skills, cooperative learning, and communication skills. It's intended to promote learning for understanding. In addition, it also encouraged the learning of mathematics that integrate cultural values, national character, and values contained in mathematics to developed the character building of students, thus forming a learning environment conducive to the advancement of the nation.

Introduction

Since ASEAN Economic Community (AEC) started at December 31th, 2015, Indonesia tied to the system AEC as part of global era deals maintaining political stability and regional security, improve the competitiveness of the region on the global trading, promote economic growth, reduce proverty, and improve living standards [1]. AEC for Indonesia could be a good opportunity to openly demonstrate the quality and quantity of products and human resources to other countries. However, on the other hand AEC can also be a turning point when Indonesia was unable to use it properly and would be the victim and the strategic goals of other countries as the largest consumer [2]. Indonesia will be flooded with skilled workers from outside and will only be able to send out negari low-skilled labor with low value added.

Global era demanding human resources in hight quality. Therefore, in Indonesia for the purpose of generating qualified human resources in order to deal global competitiveness developed a national education specially for matehematics education.

The Role of Education and Human Resources Quality Improvement

To improve the quality of human resources can be done through education efforts. Education is able to change people's collective consciousness of Indonesia as a nation need to fight hard to achieve progress, catch up with other countries. There are some things that need to be prepared to increase human resources is closely related to the business of education, namely: 1. skill, 2. Science and 3. Experience and the environment. All three of these factors must be owned by the people of Indonesia, in order to compete with the ASEAN economic community. Because if we do not have, we will be spectators in our own country.

Science is the basis for the technologies development and is a benchmark of progress and civilization of a society. In other words, the progress of a society can be seenthe extent to which the development of science and technology. The increase in both will improve if supported by experience within a reasonable time. Experience is the best teacher for success. With the experience will enhance a better ability in problem solving, decision making, and skills.

Role of Mathematics in the Development of Science and Technology

Mathematics is often said to be an exact science by of their nature is rigid, consistent, and accurate. Math builds upon definitions, postulates or axioms and theorems are based on logical reasoning, deductive thought patterns, and organization which is based on conjectures to obtain a mathematical truth by using certain symbols and meaning [3]. Mathematical propositions written in a formal language and symbols.It contains the mathematical meaning that can be expressed in a narrative. Formulas are built to simplify a statement that a more effective and efficient.

Mathematics covers various areas such as geometry, algebra, calculus, arithmetic, and so forth. In mathematics also learn a lot about the approximation, rounding of, limit, patterns, measurement, graphical representation, and others. Therefore, the notion that mathematics as an exact science, it is not all right. Mathematics as a science that is growing and developing in mathematics itself can be seen as pure mathematics.

Mathematics has shown identity as a concept of reasoning that support the development of science and technology. The emergence of a mathematical theorem apart due to the need for problem-solving in mathematics itself, can also be due to the need to answer the problem of life or science. The problem would be too complicated, difficult, and may not even impossible, can be analyzed and solved without the help of mathematics through mathematical modeling. Certain aspects of mathematics has developed notching as applied mathematics in science and technology such as statistics, differential and integral calculus, differential equations, discrete mathematics, logic and fuzzy set, graph.

Mathematics has shown a very important role in technology as a measuring rod of progress and civilization. Eventually mathematics has a great influence to facilitate progress and civilization of a society. State advanced math, science and technology usually well advanced that they be developed countries, and vice versa un-developping countries usually mathematical achievements of the country is also not good. Obviously that Indonesia become an advanced nation in the future, inevitably there must be an effort to consistently improve the quality of mathematics education.

Indonesia's position in Mathematics Achievement

So far the average mathematics achievement of Indonesian student on an international scale is still low. It's can be seen from PISA result in 2012 conducted by the OECD, shows that Indonesia obtained a score of 371 which is at the second position from the bottom at 64 from 65 countries. This score is far below the international average score is 494. Indonesia lags far behind its neighbors, Malaysia (52nd), Vietnam (17th), and Singapore (2nd) [4]. Meanwhile, according to the PISA results in 2015, the position of Indonesia is still below the OECD average is 490. Indonesia ranks 63th out of 70 countries participating with an average of 386, while Singapore, on the order 1st, and Vietnam in order 22nd [5].

Indonesia ranked do not show increased from PISA 2012 to 2015 and far behind its neighbors. Though based on the research findings of the TIMSS-R that the number of hours of teaching mathematics in Indonesia is much more than Malaysia and Singapore. Within one year of Eighth Grade Indonesia students, on average 169 hours of math. While Malaysia, only had 120 hours, and Singapore, obtaining 112 hours. Time

spent Indonesian students in school is not comparable to the performance achieved. It gives an indication of the cause, possibly related to mathematics teaching methods. The majority of questions were given a mathematics teacher in Indonesia too formal. Generally, students in Indonesia more answered questions are expressed in language and mathematical symbols defined in the context that is far from the reality of everyday life [6]. This means, that the Eighth Grade Indonesian students lacked understanding of mathematics, learning strategy, and mathematical thinking skills.

The findings of the research of learning mathematics at a Junior High School in Malang shows that students have difficulty in the problem solving. If students are given a problem-based problem solving, the average achievement of the performance is still low, at 65, is still far below the minimum passing criteria is 78 [7]. In addition, the National Examination Scores of mathematics courses in 2011, Junior High School of Malang students that the highest average mathematics NUN is the lowest compared to subjects National Examination (UN) to another, namely Indonesian Language, English, and Natural Science [8]. This indicates that math is a difficult subject.

Mathematics Learning Challenges

View of educational psychologists that learning is usually defined as a lasting change of behavior of an individual potential caused by the experience or practice [9]. However, from a cognitive perspective, learning is a structural change that makes a person's mental ability to exhibit different behaviors [10]. Learning can occur without any change in behavior directly, as evidence of mental structure changes can occur in a long time periods. Altered mental structure including schema, beliefs, goals, expectations and other components in the head student.

Learning is not just the acquisition of materials or contents through the transfer of knowledge from teacher to student. Learning can be described as a process of change a person's behavior is relatively permanent, caused by information and experience. Changes in a person's behavior was not merely referring to the results that can be observed, but also the attitudes, feelings, and intellectual processes that may not be so obvious is observed. These changes should ideally allow an individual acquire a new concept, the notion, see or understand the phenomenon under study, could see the new features and the relationship between each other and the whole, and the wider world.

Learning aims to help students to learn well. Learning math has its own characteristics related to the nature of math that put more emphasis on aspects of thinking. Learning math undergoing a paradigm changed from teacher centered to student centered [11]. Math teacher role changes from transform knowledge into student learning, they are not considered as an empty vessel, but were given the opportunity to acquire and construct knowledge based on experience and their learning environment. Therefore, provide a conducive learning environment constitutes one part of the dutie and responsibilities of a teacher of mathematics.

In addition, the learning of mathematics has changed towards giving support to students for meaningful learning, understanding, and based to problem solving. Meaningful learning refers to the Ausubel views, with emphasis on two aspects of learning, namely the meaningful information from verbal to formal and prior knowledge that affect learning [12]. While learning for understanding refers to the relational understanding ([13],[14]), mathematical and knowledge understanding as a mental activity [15], and demands of thought [16]. Understanding refers to the acquisition of knowledge that accompanied the reason.

Mathematics learning based-on problem solving can be a variety of model, strategies, and support. Using metacognitive scaffolding model with questioning can improve mathematics attainment in mathematical problems-solving, improve metacognitive awareness, and decresing the mental effort of students and in turn can improve the efficiency of learning [17]. Learning condition is said to be more efficient if

for higher student achievement invested lower mental effort [18]. Efficiency index is calculated using the formula:

$$E = \frac{z_{achievement} - z_{mental\ effort}}{\sqrt{2}}$$

With z is the z-score for achievement and mental effort students ([19],[20]). In addition to these models, Husna et al. also observed an increase in the problem solving and mathematical communication at Junior High School students through cooperative learning model Think-Pair-Share [21]. The results of the research has not shown the use of high order thinking skills, due to the excessive dominance of the teacher, but this method has been able to improve the problem solving and mathematical communication.

Some of learning model based metacogntive also been studied. Metacognitive-based learning using cognitive strategies have succeeded in improving metacognitive behavior, which in turn also increases students metacognitive behavior in math problems [22]. Some research of learning mathematics based problem-solving has also managed to increase the ability to solve problems [23], Mathematical model of problem-based learning that oriented to students [24], Types of metacognitive scaffolding used to solve mathematical problems, [25].

Mathematics Learning and Student Character Building

Education of national culture and character is part of the strengthening of the methodology and the curriculum in the national development priorities in Indonesia. This business is in the form of curriculum improvement and active learning methods based on cultural values form the nation's competitiveness and national character. Math teacher in learning at school is expected to not only be able to manage learning math very well, but it can also integrate cultural values and national character, both in mathematics learning activities as well as in the development of self-esteem, activities and school culture more broadly.

The subjects of mathematics is one of the subjects in the curriculum structure 2013. Math subject should be given to all students from elementary schools to equip students with the ability to think logically, analytical, systematic, critical, and creative, as well as the ability to cooperate [26]. The competence for students to have the ability to acquire, manage and utilize information to survive in a state that is always changing, uncertain, and competitive.

The facts show that learning in many schools have not been held in an interactive, inspiring, fun, challenging, motivating students to actively participate and provide enough space for innovation, creativity, and independence according degan talents, interests, and physical and psychological development of students. On the other hand, in the learning process many educators have not been able to give example to the students. This is impacting on mathematics learning objectives that are not quite achieved optimally.

The success of the students graduated from an education unit is much influenced by the description of the aspects of cognitive and / or psychomotor; affective aspects have not so much influencing of their success during the completion of the education program in the school. Learning mathematics is an integral part of the education system in the school. Certainly, mathematics has an important role and function in the effort to realize the achievement of national education goals.

This paradigm change has implications for the management of mathematics learning. It's just simply charged mathematics teaching material and a lesser role in developing students' character. In fact, one of the goals of mathematics learning is that students have an attitude appreciate the usefulness of mathematics in the life, curiosity, a tenacious attitude, and confidence in problems-solving.

Math teacher, which should support the learning paradigm change, the fact remains there is hegemony by values that reinforce its image as indoctrinative teacher, authoritarian, haunted, stingy. So that learning mathematics is still "poor value", not become a fun learning, motivate, and bring students into "love math". Instead the opposite occurs, phobia, fear, and mathematics considered as a difficult subject, 'bogey' and other negative images that are less well.

Math teachers are required to be able to face any challenges and problems encountered in mathematics at school and turn it into a positive and productive opportunities within the framework of mathematical learning paradigm change. They are required to be skilled in developing learning models, selecting and applying, approaches, strategies, methods and techniques of management of learning, researching and developing as professional teachers. In addition, mathematics teachers are also required to be able to design and manage learning mathematics 'poor value' by emphasizing the importance of the values of positive culture and national character (like an honest, curious, creative, critical, tenacious, diligent, thorough, trust self, unyielding, confident, responsible, consitent) in learning activities. So that the professionalism of teachers not only as a slogan that impact towards the welfare of the teachers, but their needs and demands at the same time.

Conclusion

Commencement AEC since 2015 is a new momentum in the regional competition of Southeast Asia. Indonesia should see the opportunities that are open to improve the quality of existing human resources to enhance competitiveness, to provide an adequate education. Mathematics education contribute and play a role in developing the society through the development of science and technology. But in reality, mathematics achievement in both the national and international levels are still low compared with neighboring countries. This gave rise to the challenge and responsibility of the heavier both the government and society.

Learning mathematics has undergone a paradigm shift toward student centered learning.. Student should be able to build characters that further highlight the independence, creativity, logical thinking, innovative, encouraging their ability to solve problems that are useful in life is more complex. In this case, the government has a big role to promote the progress of the progress of the quality of mathematics. However, without an awareness of each component of society as part of the AEC in 2015, would be very difficult to achieve the targets to be achieved by Indonesia. AEC 2015 should be a momentum for Indonesia to learn to compete at a higher level, namely the level of Southeast Asia.

References

1. The General Directorate Cooperation of ASEAN. Economic Optimism Indonesia Occupy Top Ranking Compared to Other ASEAN Countries., Bulletin of the ASEAN Community, March, p. 17, (2014)

2. The Habibie Center 2014, *Daya Saing SDM Indonesia Menghadapi Era ASEAN 2015, APEC dan WTO,* accesed on 15 February 2017, http://habibiecenter.or.id/detilurl/en/277/news/Daya.Saing.SDM.Indonesia.Menghadapi.Era.ASEAN.2015,.APEC.dan.WTO

3. Johnson & Rising, Math on Call: A Mathematical Handbook. Great Source Education Group: Inc. Houghton Mifflin Co. (1972).

4. OECD. PISA: Programe for international student assesment. OECD education statistics

(database). DOI:10.1787/data-00365-en (Accesed on 20 September 2014) Paris: OEC

(2013).

5. OECD. PISA: Programe for international student assesment. PISA 2015 Result in focus (Accesed on 15 Februari 2017) Paris: OECD (2016).

6. Leung, F.K.S., *Mathematics Teaching in Indonesia,* report of a Video Study for the BERMUTU project, World Bank, June 2009.

7. Turmudi. Pengembangan Model Pembelajaran Matematika SMP berbasis Skafolding Metakognitif. Disertasi tidak diterbitkan . Malang: UM, (2016).

8. NUN SMP 2011 Malang Kota Jeblok. http://mekong7.blogspot.co.id/2011/06/nun-smp-kota-malang-jeblok.html

9. R.E. Slavin. *Educational Psychology: Theory and Practice* (6th ed.). Boston, USA: Allyn & Bacon, (2000).

10. P.D. Eggen & D. Kauchak.. *Educational Psychology: Windows on Classroom*. Upper Saddle River, NJ: Merrill Prentice Hall, (2004).

11. S. Tahmir. *Model Pembelajaran Resik sebagai Strategi Mengubah Paradigma Pembelajaran Matematika di SMP yang Teachers Oriented Menjadi Student Oriented*. Jakarta: Dirjen Dikti Depdiknas, (2007).

13. R. R. Skemp. Relasional Understanding and instrumental understanding. *Mathematics teaching*, 77, 20-26 (1976).

14. R. R. Skemp. *The psychology of learning mathematics* (2nd Ed.). London: Penguin Books, (1986).

15. T. A. Carpenter, and R. Lehere. Teaching and learning mathematics with understanding. In E. Fennema and T. A. Romberg (Eds), *Classroom thatpromote mathematical understanding.* Mahwah, NJ: Erlbaum, (1999).

16. D.N. Perkins. Teaching for understanding. *American Educator: The Profesional Journal of the American Federation of Teachers*; v17 n3, pp.8,28-35, (1993).

17. Turmudi. Pengembangan Model Pembelajaran Matematika SMP berbasis Skafolding Metakognitif. Disertasi tidak diterbitkan . Malang: UM, (2016).

19. F.G.W.C. Paas & van J.J.G. Merriënboer *The Efficiency of Instructional Conditions: An Approach to Combine Mental Effort and Performance measures.Human Factors*, 35: 737-743, (1993).

20. R. Clark, F. Nguyen, & J. Sweller, *Efficiency in Learning: Evidence-based Guidelines to*

Manage Cognitive Load, San Fransisco: Pfeiffer, (2006).

21. Husna, M. Ikhsan, S. Fatimah, Peningkatan Kemampuan Pemecahan Masalah dan Komunikasi Matematis Siswa SMP Melalui Model Pembelajaran Think-Pair-Share. Journal of *Peluang*, (1), 2: 14-20, (2013).

22. A. In'am. *Pembangunan dan Validasi Model Pengajaran dan Pembela-jaran Matematik Berasaskan Metakognitif.* Disertasi tidak diterbitkan. Tanjong Malim: Institut Pengajian Siswazah UPSI Malaysia, (2012).

23. I.Yuwono. *Pengembangan Model Pembelajaran Matematika secara Mem-bumi.* Disertasi tidak diterbitkan, Surabaya: UNESA, (2006).

24. S. Tahmir. *Model Pembelajaran Resik sebagai Strategi Mengubah Paradigma Pembelajaran Matematika di SMP yang Teachers Oriented Menjadi Student Oriented*. Jakarta: Dirjen Dikti Depdiknas, (2007).

25. Awi. *Jenis-jenis Scaffolding Metacognitif yang Perlu Diberikan dalam Pemecahan Masalah Matematika Siswa Kelas XI IPA SMA*. Dissertation Not Published. Surabaya: Universitas Negeri Surabaya, [2010].

26. Regulation of the Minister of Education and Culture, number 81A 2013 Appendix IV of the General Guidelines for Learning.