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Abstract: *Research on the development of education in Indonesia has been done by strengthening the system of innovation and international competitiveness using literature methods. Aims of the study were 1) to determine the policy of education development in Indonesia, 2) to assess innovation in science and technology, 3) to determine the international competitiveness of education in Indonesia, 4) to determine the contribution of quality education to economic development. The development of education in Indonesia has been carried out with the financial support of 20% of the state budget has sufficient operational funding for education and research universities, research institutes, researchers and engineers technology. Innovation of new technologies has been able to increase productivity drive economic growth of Indonesia. International competitiveness has the advantage obtained student achievement in mathematics, chemistry, physics, biology, and English, has managed to carry out high quality research and have passed*

the examination by the National Aeronautics and Space Administration (NASA). Quality education in Indonesia has been succeeded in preparing a skilled and productive workforce has provided improvements contribute to Gross Domestic Product (GDP).
Keywords: *construction, education, system innovation, competitiveness*
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Introduction:

The theme of Indonesian educational development recorded in the Development Plan (RPJMN) is the international competitiveness in 2025. The theme is based on the study of McKinsey Global Institute (2012) stated that Indonesia would become the country with the greatest economic power the seventh position in the world in 2030. The analysis has proven that there was growing significantly macro indicator, namely an increase in the number of middle to high society of 45 million people to 135 million people, and has a workforce of skilled and productive as many as 113 million people (74%) contributed 86% of revenue Gross domestic Product (GDP) in 2012. The Global competitiveness Index (2014), Indonesia's competitiveness ranking has increased from 55 in 2010 to rank 38 in 2014. Currently, Indonesia entered the stage of transition from the state to the category of efficiency driven economy into state by category driven innovation as a characteristic group of developed countries in the world. Accelerated economic growth as a result of changes in the age structure of the population aged children into the working age population into human capital and into the supply of quality labor force (labor supply). Innovative systems and strengthening the competitiveness of a knowledge-based individuals are expected to generate new technologies as a solution to the problem of education. Problem of education in Indonesia today is the low quality of education, how to improve the quality and relevance of education appropriate high quality to be able to achieve international competitiveness. Indonesian government's efforts to overcome the problem of education has been carried out through: the development of standard school of international quality, the survey benchmarking the quality of education to international quality standards, the use of information and communication technology in education, quality assurance programmed, improvement and development of infrastructure, capacity building and modernization, competence development of teachers and education personnel, increasing the number of vocational courses, vocational, and professional, and increased creativity, entrepreneurship for students.

The Development of Education

Fraser (2007) stated that the development of education begins with the culture of school improvement and continuous learning to solve the problem through educational innovation. Cultural innovation part of systemic reforms included teachers develop classroom teaching. At the global level, the education system should be compared with other countries in the mastery of mathematics. Testing the trend internationally is being done in the arena of international math Olympics (IMO), or the International Physics Olympiad (IPhO). While the short-term educational improvements made by the government regarding improvement of curriculum, educational management and educational infrastructure. According to Sauri (2016) development strategy for education in Indonesia has been done in the following manner: 1) an increase in total quality management educational unit managers, 2) increased professionalism of educators in Contextual Learning and Teaching, 3) Increasing the welfare of teachers, 4) civilizing lesson study of teachers in the forum of Congress Subject teacher to improve the quality of the learning process, 5) compulsory 9 year basic education and the initial compulsory education to 12 years, 6) a free school for the poor, 7) the development of educational facilities, 8) commitment of 20% of the education budget and regional budgets, 9) providing free textbooks to all schools, 10) use of the information and high-quality technology. Baswedan (2015)

stated that the development policies of education starting from early childhood education (ECD), secondary basic education and higher education. Development of early childhood education (ages 3-6 years) is targeting early childhood education participation rate reached 68.10% through the motions of the village of the early childhood education and has successfully built 25 774 startups early childhood with the help of the cost of USD 45 million for the early childhood institutions. Development of basic education has been carried out by increasing minimum service standards, efforts to improve the quality of education can be accomplished with effort: 1) improvement of qualification quality of primary school teachers as much as 104 339 teachers have graduated bachelor of science S1/ D-IV 2) teachers' assessment of the implementation of the main task of the teacher , the assessment results are used for career development and promotion 3) increasing parental involvement in education.

The government has made a program of "The first school day movement" that requires parents to take the kids to school on the first day of school in order to communicate with teachers to foster students' character as the start of a mental revolution. Teachers instill the values of character education to students include: religious values, tolerance, responsibility, discipline, creative, hard working, independent, honest, fair, curiosity, love reading, love of the homeland, democratic, caring environment, caring social, peace-loving, communicative, and anti-corruption. Sudibyo (2007) stated educational development to improve the quality, relevance and competitiveness conducted by: 1) encourage the institutions of Higher Education can enter the ranking of 100 large Asian or 500 of the world, 2) increasing the number of courses of vocational and professions, 3) improve creativity, entrepreneurship, and leadership, 4) utilization of information and communication technology education, 5) survey benchmarking the quality of education to international standards, 6) the development of quality education competencies and educational personnel, 7) the improvement and development of quality infrastructure and facilities, 8) development quality international schools in every province/ district/ city.

While the long-term development strategy carried out through the program: capacity building and modernization, strengthening the quality of service, strengthening the competitiveness of regional and international competitiveness. Baswedan (2015) stated that the education development budget was increased to Rp 60.61 trillion, including the cost of research and development in the field of education. Funding for school education is channeled through the school operational costs. The magnitude of the cost of education for primary school level/ Madrasah Ibtidayah Rp 800.000,00 per student per year, for SMP/ MTs USD 1,000,000.00 and USD 1,400,000.00 for secondary education per student per year. Nuh (2014) the development of higher education has been done by 1) higher education services of high quality, relevant, internationally competitive, 2) Higher Education APK indicator targets 19-23 year age of 29.87% include the department of natural science, technology, social sciences, exacta sciences and the vocational, 3) encouraging high quality repairs College in order to include the level of Top 500 World category of world class university for the University of Indonesia and the Bandung Institute of Technology, 4) improve the quality of lecturers highly qualified graduates of master's and doctoral S2 S3 in order to produce quality scientific publications, national and international level speak English and indexed Scopus and Thomson. Nuh (2014) stated that improving the quality of education Elementary school, Junior high school and high school, and middle school vocational conducted through the Electronic System Monitoring Implementation of curriculum, assessment of the quality of educational institutions with the format Self Evaluation School by the guarantee institution quality of education, assessment test competence of teachers through a national education network online. Improving student achievement in the International Olympics in the field of mathematics and science, tarap International Student Skills Competition / World Skills Competition (WSC).

The StrengtheningofInnovation System

Smith (2009) stated the innovation is a new change cycle that has brought better results. In the cycle of education policy changes that connects the set goals and conditions to find solutions with new ideas through research. Becker (2009), to improve the quality of the innovation system, the government needs to increase research and development costs. Fraser (2007) innovation is a creative response instead of the adaptive response, so, to raise the necessary innovative creativity. In the world of education, creativity is the ability to synthesize the development of new ideas, views Albert Einstein creative emergence of the term "playing kombinatory" means creating new combinations, discover new perspectives in solving problems. Creativity of an individual requires confidence, interest, discipline, courage and self confidence to take risks. However, the need to support the quality of the environment so everyone is inspired to grow creatively. Environmental conditions are created such that through government policy. For example, the Indonesian government policy in education funding by 20% of the state budget reached Rp 349.2 trillion. This policy as a whole can finance the improvement of the quality of the innovation system in the field of science and technology by moving directing educational institutions, research institutions, individual researchers or engineers to produce new technology needed. Quality development of innovation system by building quality educational institutions formed savvy individuals in the academic and professional fields. Improving the quality of professionalism of individuals impacted the increase in labor productivity, increased revenue, increased prosperity and improving the economy of the State.

Hampson, et al (2016) innovative schools have been able to design such classrooms facilitate effective learning, the classroom was designed as "Open Learning Plaza" is divided into a set of zones of discussion, research and experimentation. Students were free to use the room, working wherever they needed. Zona experiment with a webcam monitor the activities of experimentation. Innovations of the 21st century education system was mature and independent individuals forming the face of changes that individuals can do all the things that did not exist and using technology that has not been created. Similarly, innovations in teaching methods geared towards students learn the concepts needed, with collaborative methods to solve problems, through project based using the help of digital technology. The learning process in the classroom was a teacher guide, discuss the material, assignments and measure student progress according to the quality desired.

Lakitan (2009) strengthening the innovation system in Indonesia has been done by 1) improving the quality of the relevance and quality of education, shifting the proportion of academic education-based knowledge into professional education-based skills for the world of industry, such as the policy of the proportion of secondary school vocational (60%) and Senior high school (40%) as well as higher education curriculum concentrated professional activities 2) hybridization educational programs and industry are mutualistic, 3) integration of innovation systems between institutions to facilitate access to information. Sadly (2015) stated that technology innovation system has been able to increase productivity boost economic growth in Indonesia. The statement is supported by the fact that since 2010 has generated 20 innovative new technology products are adopted by the industry and the community, among other things: 1) the innovation system inventory of marine resources and fishery products innovative technology in the form of a software tracking system where fish are called Sikbes-fish and Belfos, 2) technological innovation system to collect data on agricultural resources called HyperSRISoft namely software to predict the productivity of rice-based hyperspectral technology, 3) military communication tool called Radio Manpack FISCOR-100 is a tool for communication to coordinate anti war forces interception by the enemy.

The Enhancing of International Competitiveness

Porter (1990) stated that the nation could be superior through the development of quality education and universities by doing research innovative technologies. Increased competitiveness through the development of education was the improvement of knowledge as the driving force of the process of creation of new technologies. Quality education would produce a skilled workforce required companies to gain competitive advantage. European Training Foundation (2011) suggested several indicators to improve the quality of competitiveness as follows: 1) basic education to produce workforce can adapt to technology on a limited basis, increase productivity efficiently on a particular economic activity 2) secondary and higher education are better able to adapt to the environment creates new technologies, and develop a more competitive industry and services, 3) in-service training and on-servise workers required to produce appropriate developments and changes in the world of work, 4) the labor market is required to meet the needs of skilled workers in new economic activity. Keser (2015) competitiveness could be identified as the ability of a country to produce goods and services that conform to international market conditions, as well as the degree of increasing incomes of the population in the long term basis.

The Republic of Indonesia has been able to increase the level of welfare, the increase of productivity toward competitiveness. Atkinson (2014) knowledge and educated workforce contributes economic growth and competitiveness. For example, in 2010 the United States invested at least $ 50 billion per year, for the development of educational institutions of research and technology, including science, technology, mathematics and manufacturing skills with the aim of increasing productivity and global competitiveness.

Ministry of Education and Culture of Finland (2013) stated that a policy of investment in education, strengthening research and innovation system with the aim of improving knowledge-based competitiveness. The study was conducted by higher education, and by 18 research institutions spend more than 300 million euros per year, and 550 million euros in 2012 for the development of new business innovation. According Baswedan (2015) the success of the quality of education development in enhancing the international competitiveness shown by the medals table as much as 121 medals primary school level SD and 93 achievements to junior high school junior in international Olympiad as follows: Olympic-level SD: 1) The 17 th Edition of The Mathematics Contest The Clock Tower School in Romania, the medals as follows; 2 pieces of gold, 2 silver, 4 bronze, 2) Po Leung Kok 17th Primary Mathematics World Contest (PMWC), 2 bronze medals table of fruit, 3) Korea International Mathematics Competitions (KIMC) consists of the acquisition; 2 gold, 5 silver, 4 bronze, 4) Singapore International Mathematics Contest (SIMC) medals table consists of: 1 gold, 2 silver, 6 bronze, junior high student achievement: 1) the10th International Cultural Celesta 2014 medals table consists of; 2 gold, 1 silver, 2) The 2014 Korea International Mathematics Competition (KIMC) medals table consists of: 3 gold, 6 silver, bronze 3. According Sindo News. Com. (2016) achievement of high school students DEL Laguboti Toba Samosir excel in several areas of study include mathematics, chemistry, physics, biology, and English after successfully researched "micro-aerobic fermentation in space with micro gravity" and has passed the test by the National Aeronautics and Space Administration (NASA) to be flown into space.

Conclusion:

The development of education in Indonesia has been achieved by increased innovation and international competitiveness obtained the results as follows: the development of education in Indonesia was carried out with the financial support of 20% of the budget is adequate for the operational costs of education and research universities, research institutions, individual researchers and individual engineers technology.

Strengthening technological innovation system has been able to increase productivity drive economic growth in Indonesia, among others: a) software tracking system called Sikbes-fish where the fish. This tool was used for inventory of marine resources and fisheries have been beneficial to fishermen in fishing, b) software to predict the productivity of rice-based technology called hyperspectral HyperSRISoft.

Quality education in Indonesia has been produced students excel international competitiveness such as an achievement of high school students DEL Laguboti Toba Samosir has an advantage in some subject areas such as mathematics, chemistry, physics, biology, and English has successfully researched "micro-aerobic fermentation in space with micro gravity" have passed the examination by the National Aeronautics and Space Administration (NASA) to be flown into space.

Quality education in Indonesia has been succeeded in preparing skilled workforce and earning as many as 113 million people (74% of the workforce) have contributed 86% to the Gross Domestic Product (GDP) of the Republic of Indonesaia in 2012.

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