BUILD PROFESSIONALISM IN TEACHING PHYSICS IN THE ERA OF THE ASEAN ECONOMIC COMMUNITY (MEA)

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ABSTRACT

This paper aims to describe the attitude of professional educators the necessary physical science in the face of the Asean economic community (MEA). The methods used in the writing of this is the study of literature. The results of this literature review is to build an attitude of professionalism an educator is very influential in the quality improvement resources learners. In particular the Asean economic community diera (MEA) where educators play an active role as a center of education in the field of service providers in the services which play a role in the global markets of the Asean economic community. Method-based education Science Technology Engineering and Mathematic (STEM) learning is one that can be done-based technology and demand for professional and qualified educators.

Keywords: Professional educators, the Asean economic community (MEA), STEM Method

I. INTRODUCTION

The Asean economic community (MEA)/AEC (Asean Economic Community) 2015 is a project that has long been prepared throughout ASEAN member which aims to improve the stability of the economy in ASEAN economic area and forming between ASEAN countries. With the enactment of the MEA by the end of 2015, ASEAN member countries will experience a free flow of goods, services, investment, and well-educated workforce from their respective countries. In this case, you need to do is how to Indonesia as part of an ASEAN community is trying to prepare the quality yourself and take advantage of opportunities, as well as the 2015 MEA should increase its capabilities to be able to compete with other ASEAN member countries so that the fear of losing competitiveness in our own country due to terimplementasinya MEA 2015 does not occur. The impact of implementation need to estimate in towards the Asean Economy is celebrated in education that is one way to improve the quality of human resources (HR) skilled and professional.

Condition that occurs today is where learners feel burdened with subjects of science, such as physics. As a science that is quantitative and analytical, making the subjects of physics is very intimidating to students. Facing this kind of problem for a teacher in particular physics teacher should know their students ' perceptions towards the learning of physics. Rasto research results and coauthors 2013 concluded that one of the factors the causes of low achievement SKL subjects physics is the lack of apersepsi of teachers that are applicable. More teacher puts the amount of material being taught, not to put forward the nature of applicative of learning physics. If this is the case how education in indonesia is able to

compete on the global scene, while entering the year Asean economic community diera (MEA) will establish a system of free trade or free trade among Asean countries. Where is the emergence of the MEA is not just a question of free trade or industry competition, but more towards the competition service or labor. What will we do if this happened, a lot of predictions is presented concerning the liberalization of education. Where is this liberalization is an opportunity to improve education by utilizing the foreign educational institutions as a partner. If this happens then the academic strength we will be far behind under the Asean countries which have already advanced their education. Addressing a phenomenon like this one of the proper approach to be realized is building professional teacher physics education by increasing innovation, elaboration and exploration of teachers in developing learning materials with interesting teaching method-based technology so that conjures interest students with physical science.

Based on the phenomenon, the problem in this article is how appropriate teaching methods is done in realizing an increasing attitude of professional educators in physics. As for the purpose of this paper is that is, exposed: the selection of methods and appropriate learning resources in the interest of students in the physical sciences colonised.

1.1. The Role Of The Teacher In Education

Teachers as pacemakers the learning has meaning that teachers are required to have the ability to optimize a range of study skills learners to keep in top condition and are increasingly active in learning. The teacher has the role as perekayasa learning. Perekayasa learning mean teachers will design, develop, implement, evaluate and improve our learning activities according the needs of learners and the community. For a teacher, learning activities are not seen as routine, but the activity is viewed as a dynamic and innovative activities that need to be developed and updated continuously according the needs of learners (Anik Ghufron, 2006)

It had been confirmed by UNESCO in the report *The International Commission on Education for Twenty-first Century*, stating that "improve the quality of education depends first of all improvements to the recruitment, training, social status, and the working conditions of teachers; they need knowledge and skills, personal character, a professional prospect, and the proper motivation if it is to meet the expectations of *stakeholder* eduation" (Delors, 1996). The same was confirmed by Harris (1990:13)*"Without substantial continuing growth in competence in personnel (teacher) serving in our elementary and secondary schools, the entire concept of accountability has little meaning*". Harris It further asserts that teachers (pedagogues) have a very vital role and fundamental in realizing *accountability* organizing and administering a quality education service; without teachers who have high competence, educational enhancement efforts will not be achieved to the maximum. Therefore, the teacher is also known by the term *the key actor in the learning*. (Disdik Jambikota, 2015)

1.2. Understanding The Professional Educator

Based on Act No. 2 of 2005 about teachers and professors, in article 10 paragraph (1) States that the teacher's competence referred to in article 8 include the pedagogic competence, social competence, personality, competencies and professional competence. The sense of professionalism is rooted in the words of the profession which means work which is based on educational expertise. Professionalism itself can mean quality, quality and follow the Horn is the hallmark of a profession or a professional. Teacher professionalism means that is a teacher who is able to plan a program of teaching and learning, implementing and leading the teaching and learning process, assessing the progress of the process of teaching and learning and utilizing the results of the assessment of teaching and learning progress and other information in the refinement process of teaching and learning. Professional competence is the mastery of the learning material is wide and deep, which includes mastery of the material of the curriculum subjects in all schools and the scientific substance of overshadowing the material, as well as mastery of structure and methodology keilmuannya. Among them are:

- Mastering the material, structure, scientific mindset and concepts that support the professional lesson.
- Master the standards of competence and basic competence subjects or areas of professional development.
- develop learning material diampu creatively.
- develop professional on an ongoing basis with a reflective action
- Utilize ICT to communicate and develop themselves.

1.3. Model of teaching and Learning

Learning is a process of making sense through experience and interaction occurrence of thought, feeling and action. According to Gagne (1984), learning can be defined as a process by which an organism changed their behaviour as a result of experience. Learning resulting from the experience and environment in which occurs the relationship between stimulus and response-response.

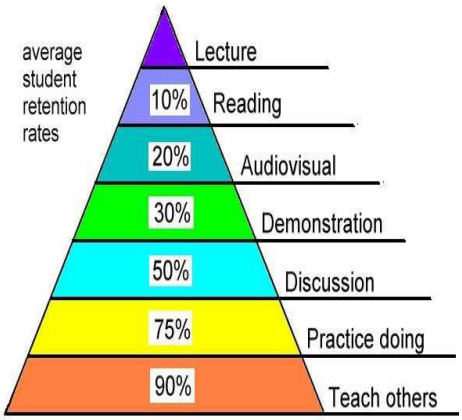


Figure 1: the learning Pyramid

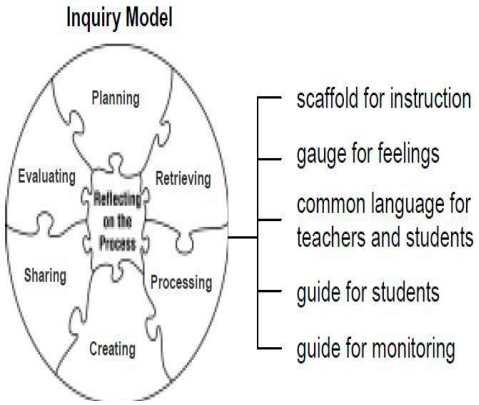


Figure 2: Model of learning Enquiries
Sumber: http://fisika –pembelajaran)

A teacher in carrying out his professional duties must have skills and deepen the learning model forms. Learning can be defined as a pattern of teaching which explains the process, mentioning a certain environmental situations and generate that causes students to interact in a way the occurrence of changes in their behavior, in other words the creation of a situation of an environment that allows the occurrence of the learning process.

II. METHODOLOGY

The authors gained and collecting data by the method of the study of librarianship, namely collecting and elaborating materials from textbooks, journals, research reports and resources from the internet. The object of this study is, the role of educator in the face of MEA, improve the quality of educators in a professional manner and approach the appropriate teaching methods in the physical sciences.

III. RESULT AND DISCUSSION

3.1. The role of educational institutions in the face of MEA

Physics education in the paper facing the Asean Community 2015 is presented in a National Seminar (2014) is mentioned, that entered the era of the Asean economic community, will provide extraordinary impact on each of the joints of human life in the world, especially Asean. The effect of the establishment of the Asean Community that demands labor competition openly is the emergence of unemployment which allegedly arose due to the poor quality of the workforce. As one of the institutions, as well as the answers to the problems of the quality of the workforce, then the Ministry of national education through the Directorate of higher education supported by the idea of Community Development Directorate instructor and Coaching Personnel of the Ministry of manpower and Transmigration has managed to construct a national qualification framework called *Indonesian Qualification Framework (IOF)* the National Qualifications Framework or Indonesia (KKNI) (Dirjen Dikti, 2010:7). KKNI is expected throughout the existence of the universities in Indonesia can be adapted to produce graduates who have the learning outcomes corresponding to the required stakeholders or users of graduates, both domestically and abroad.

3.2. Improve The Quality Of Professional Educators

Professionalism of teachers, the situation still varies greatly. It is also supported by national data teachers worth teaching in various regions of Indonesia still varies, with the percentage between 63.97% 86.67%, this indicates that the competence of teachers in the various regions of Indonesia are not the sameTherefore, according to Zuhdan. K, Praseyto, Professor of educational SCIENCE, KKNI Yokyakarta State University need to be developed beginning with the close study of learning (*learning outcomes*). *Indonesian Qualification Framework (IQF)* or qualification frameworks Naional Indonesia (KKNI) is the framework for competency qualifications penjejangan yng menyetarakan grouping, and can integrate

between education and job training and work experience, in order to give confessional work competencies, in accordance with the structure of jobs in different sectors. KKNI became reference in SKKNI packaging (standard National Qualification Frameworks Indonesia) into a level or level of the qualification.

Descriptor kulifikasi SDM level 6, as in the graduate education of physics, on the Bachelor is produced by KKNI (SI) or Diploma-4 are:

1. are able to utilize their expertise in the field of IPTEKS and able to adapt to the situation faced in solving problems:
   a. Master educational sciences and physics to do the planning, management, implementation, evaluation and development of learning-oriented life skill
   b. Mastering actively the use of a variety of learning resources and media-based learning IPTEKS to support the implementation of learning physics.
   c. able to plan and manage resources in the classroom, school, and educational institutions under its responsibility, and evaluate its activities in a comprehensive manner.

2. The theoretical concept of Master 2) field of deep knowledge in specific areas, as well as being able to formulate a procedural problem resolution.

3. is able to take the right decisions based on the analysis of information and data, and be able to provide guidance in selecting various alternative solutions independently and in groups.

4. Responsible on his own work and may be given the responsibility for the achievement of the Organization's work.

According to the Directorate General of higher education, for the higher qualification level, then the descriptors KKNI will increasingly characteristic of Science (science), while the lower emphasis on mastery of skills (Dirjen Dikti, 2010:19).

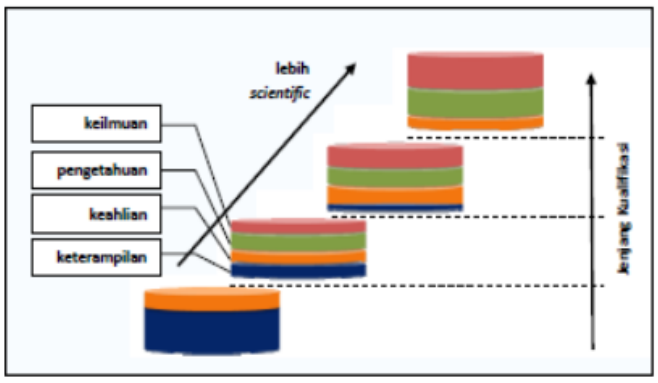


Figure 3. Academic content, knowledge, expertise and skills that vary for the different qualification level. *(Sumber: Prasetyo Z.K., 2014)*

IV. METHODS OF TEACHING PHYSICS

The education system-based Science, Technology, Engineering and Mathematic (STEM) is one of the methods that stressed the integrated learning between science-based problems that can be applied in secondary school. The habit of thinking of integrity is one of the things that need to be done. With the way of thinking of the integrity of math, science and technology so students will better understand the actual meaning of the learning of mathematics and science and technology in relation to everyday life. This is a demanding teacher to have professionalism and pedagogic competence of science which is so qualified.

One of the research-based education with regard to (STEM) ever done by Irma Rahma Suwarma, et al (2000) entitled "Ballon Powered Car as a medium of learning IPA-based STEM". On the research learning IPA-based STEM using the design engineering processes in the manufacturing process of the car, as well as integrate math concepts in calculating the displacement of the car. This is done to increase motivation, creation and innovation of students in creating a technology.

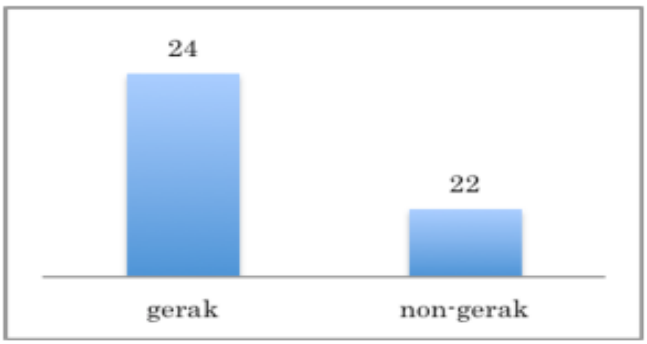
Based on the results of the interviews, all students (100%) had the pleasure of following the study, the vast majority (80%) feel they are stimulated to think actively in resolving the problem, even though only 20% of students who understand all parts of learning. Ipa-based STEM learning also gives influence to the results of student learning, where the student learning outcomes for the material better than the results of student learning on other material.

Tabel.1 Hasil wawancara siswa

Pertanyaan	Pelajaran hari ini		
	Menarik	Bosan	Jenuh
%	100%		
Pernyataan	Pelajaran hari ini membuat saya		
	Bergerak aktif	Berpikir aktif	Tidak melakukan apapun
%	90%	10%	
Pertanyaan	Saya memahami pelajaran		
	Semua bagian	Beberapa bagian	Tidak paham
%	20%	80%	

Sumber: Sumarwa I.R, dkk. 2015

Gambar.1 Diagram jumlah siswa yang menjawab benar pada ujian akhir siswa



Sumber: Sumarwa I.R, dkk. 2015

From the results of research conducted by Irma, et al. Overall, this STEM-based learning to increase student motivation and creation of students in learning the IPA. Because the technology is one indicator of the success of a nation that is why, the need to improve the professionalism of teaching science technology implications as an accompanied the benchmark of success. for the sustainability of the economy and the nation's industry is certainly in the face of the challenges of the free market of goods and services on the MEA. For that introduction of applied technology in learning science in school is a necessity to prepare superior learned society (Teguh Gumilar, 2015)

V. CONCLUSION

Professional educator's attitude greatly influences the quality and quality of students in solving problems that are not public. For that the integrity of science and learning methods based approach to technology is indispensable in learning physics. So that students and educators felt ready to compete in the face of market services non Asean economic community.

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