

CHAPTER I

INTRODUCTION

A. Background of Research

Education is very important tool for everyone to succeed in life and get something different. It helps a lot in lessening the challenges of life difficult life. Knowledge gained throughout the education period enables each and every individual confident about their life. It opens various doors to the opportunities of achieving better prospects in life so promotes career growth. Many awareness programmed has been run by the government in enhance the value of education in rural areas. It brings feeling of equality among all people in the society and promotes growth and development of the country.

The Association of Southeast Asian Nations or ASEAN is a regional organization comprising ten Southeast Asian states which promotes Pan-Asianism, intergovernmental cooperation and facilitates economic and political integration amongst its members and Asian states. The organization's membership has Brunei, Cambodia, Indonesia, Laos, Malaysia, Myanmar, Philippines, Singapore, Thailand and Vietnam.

ASEAN has been establishing itself as a platform for Asian integrations and cooperation's, working with other Asian nations to promote unity, prosperity, development and sustainability of the region, as well as working on solutions to resolve disputes and problems in the region. While mainly focusing on the Asia-Pacific nations, ASEAN also established communications with other parts of the world, to better promote world peace and stability. The organization has a global reputation of promoting goodwill and diplomacy among nations, shutting out any biased opinion or decision, and carrying the principle of Non-Interference.

Education plays a significant role in narrowing the development gap in the ASEAN region. In a recent publication, entitled, *Narrowing the Development Gap in ASEAN: Drivers and Policy Options*, the field of education was selected as one of the main outcome indicators for measuring the size of the development gap, consistent with the UN's Human Development Index (HDI). Education need to

focus on education sector initiatives for the purposes of improving the education and training outcomes for young people and adults. It proposes also the need to improve regional education cooperation, sharing best practices to minimize dropout rates and retain students in the ASEAN education systems.

The Lao People's Democratic Republic (*Lao PDR*) or Laos is located in South-East Asia, with Myanmar to the west, China to the north, Viet Nam to the east, and Thailand and Cambodia to the south. Although the country is often referred to as 'landlocked', the Lao Government prefers to use the term 'land-linked'. In fact, as the South-East Asian region develops, the country is becoming a crossroads, a gateway to South-East Asia from China, a transit route between Thailand and Vietnam. The Mekong River, the country's border with Thailand and the main waterway, is spanned by an increasing number of bridges, opening up trade routes, boosting the economy and bringing ever-increasing exposure to the outside world. The Lao People's Democratic Republic is also coming into its own as a full participant in regional affairs, and it stepped onto the regional stage as host of the 25th Southeast Asian Games (*SEA Game*), held in Vientiane, in 2009 (*Bob McLaughlin*, 2011), 16th ASEAN University Game in Vientiane 2012 and ASEAN Chairmanship 2016.

To develop the potential of its young population, Laos will need to devote significant efforts and resources to improve its education system. These include increasing access to lower and upper secondary schools, while improving the quality of schooling overall. Furthermore, it will be important to ensure that children not only enter school, but remain in it long enough to acquire sound literacy and numeracy skills critical for life and work. Other challenges include the high opportunity cost for parents sending their children to school, gender discrimination, and a shortage of qualified teachers, poor infrastructure and lack of school materials (*Luis Benveniste, Jeffery Marshall, & Lucrecia Santibañez*).

Laos made the transition from a centrally planned to a market oriented economy during the mid-1980s. A surge in economic growth followed during the early 1990s, but sustained economic growth has not been experienced until more recently. The World Bank classifies the Lao economy as 'lower middle income'

on account of its GDP per capita level of \$1,947 (in 2015). The proportion of the population living below the national poverty line is, however, quite high at 24% in 2011. Lao PDR is a geographically large country (over two-thirds the size of Viet Nam) with a relatively small population (only 6,492,228 million in 2015). It has at least 49 different ethnic nationalities. The largest ethno-linguistic group, accounting for almost 58% of the population, is the Lao-Tai – found mainly in fertile lowland rice-growing regions of the country. Much of the country is mountainous, making agriculture and communications difficult. The ethnic diversity of the population, in combination with the remoteness of some communities, poses challenges for the delivery of education in the Lao language, following a curriculum that is relevant for the whole of the country.

Indonesia officially the Republic of Indonesia is a unitary sovereign state and transcontinental country located mainly in Southeast Asia with some territories in Oceania. Situated between the Indian and Pacific oceans, it is the world's largest island country, with more than seventeen thousand islands. The country shares land borders with Papua New Guinea, East Timor, and the eastern part of Malaysia. Other neighboring countries include Singapore, Vietnam, the Philippines, Australia, Palau, and the Indian territory of the Andaman and Nicobar Islands.

Indonesia is an archipelago of over 17,000 islands – a fact that presents enormous challenges for the delivery of a comprehensive and well-integrated education system. In 2017, it has a population of 263.51 million, comprised of about 300 different ethnic sub-groups, speaking as many as 700 local languages. Its level of GDP per capita was US\$3,257 in 2017, and the World Bank classifies the economy as ‘middle-income’. In 2011, almost 32 million people (13.3% of the population) lived below the national poverty line. Indonesia is easily Southeast Asia’s largest economy, and it is the only ASEAN member country to belong to the G-20 group of major trading nations. One-half of the population lives in rural areas. The two most densely populated islands are Java and Bali, which are home to 59% of the population, yet account for only 7% of the country’s land mass.

The Education Scorecard:

Table 1: ASCC Scorecard for Education for Laos.

General					
	2008/ 2009	2009/ 2010	2010/ 2011	2011/ 2012	2012/ 2013
Youth (15-24 years) literacy rate (%), male	-	-	-	77.4	-
Youth (15-24 years) literacy rate (%), female	-	-	-	68.4	-
Ratio of student to teacher (primary)	31	29	27	26	26
Ratio of student to teacher (secondary)	24	21	20	19	18
Ratio of student to teacher (lower secondary)	23	21	20	18	14
Ratio of student to teacher (upper secondary)	26	22	21	20	18
Human Development Index: Mean years of schooling	-	4.6	-	-	-
Expected years of schooling (school life expectancy)	9.8	10.1	10.5	-	-
In tertiary (years)	0.9	0.9	0.9	-	-
Gross enrolment rate (%)					
Primary education - net	91.6	92.7	94.1	95.2	96.8
Secondary education – lower secondary	62.7	60.2	62.9	64.7	69
Secondary education – upper secondary	36.8	33.9	33.4	34.7	37
Tertiary education	16.45	16.62	17.67	-	-
Survival rates (%)					
Primary education	68.4	71.1	68	70	73.3
Lower Secondary	75	69	-	-	-
University Qualification	3	5	7	-	-
Education attainment of the population aged 25 years and older (%)					
Lower secondary	-	29.7	-	-	-

Table 1 presents performance indicator data for Laos. The net enrolment rate in primary school (96.5% in 2012/13) is very close to UNESCO's regional average of 96% in 2011 (UNESCO, 2013), and it has been improving since 2009. The gross enrolment rate in lower and upper secondary were 69% and 37%, respectively, in 2012/13. According to LSIS 2011/12, the literacy rate for males aged 15 to 24 was 77.4% and the literacy rate for females aged 15 to 24 was 68.7%. These rates are not as high as are found in most other ASEAN Member

States, but, more importantly perhaps, they point to a significant gender equity challenge. The survival rate in primary education of only 73.3% in 2012/13 suggests a relatively high loss of students from school during the primary school years. The student to teacher ratio for secondary (18:1 in 2012/13) compares favorably with rates for most other ASEAN Member States.

Table 2: ASCC Scorecard for Education for Indonesia.

General				
	2009	2010	2011	2012
Total adult literacy rate (%)	94.9	95	95.6	-
Youth (15-24 years) literacy rate (%), male	99.5	99.5	98.8	-
Youth (15-24 years) literacy rate (%), female	99.4	99.5	98.7	-
Ratio of student to teacher (primary)	16.79	18.37	19.68	-
Ratio of student to teacher (secondary)	15.43	17.24	18.49	-
Ratio of student to teacher (lower secondary)	14.5	16.78	18.34	-
Ratio of student to teacher (upper secondary)	12.15	17.82	18.66	-
School life expectancy: From primary to tertiary (years)	12.6	12.9	12.9	-
In tertiary (years)	1.1	1.2	-	-
Net enrolment rate (%)				
Primary education	95.23	95.41	95.55	-
Secondary education - net/lower secondary	74.52	75.64	77.71	-
Secondary education - net/upper secondary	55.73	56.52	57.74	-
Tertiary education - gross	22.64	26.34	27.1	-
Survival rates (%)				
Primary education	94.16	98.36	95.3	-
Lower Secondary	99.26	96.72	97.68	-
Upper Secondary	95.9	96.79	96.58	-
Education attainment of the population aged 25 years and older (%)				
Primary	30.58	31.48	30.15	-
Lower secondary	14.45	15.2	15.25	-
Upper Secondary	20.34	20.94	20.63	-
Tertiary	7.5	8.15	7.8	-

Table 2 presents the performance indicator data available for Indonesia. The adult literacy rate (95.6% in 2011) is marginally above UNESCO's regional average (UNESCO, 2013b), as are the literacy rates being achieved by young people aged 15 to 24 years (98.8% for males in 2010, and 98.7% for females). The net enrolment rate in primary school (95.55% in 2011) is almost equal to UNESCO's regional average. The net enrolment rate in lower secondary school (77.71% in 2011) is relatively high compared with the regional average, but the net enrolment rate in upper secondary school (57.74% in 2011) falls away considerably. The student-to-teacher ratio for secondary (18.49:1 in 2011) compares favorably with rates for most other ASEAN Member States. The gross enrolment rate in tertiary education (27.1% in 2011) is high when compared with rates for most other ASEAN Member States.

Education System Overview

Formal education in Laos is provided at 5 levels: kindergarten education (3 years), primary education (5 years), lower secondary education (4 years), upper secondary education (three years), and college/university (2-5 years). Specialization starts in upper secondary where three programs are offered (general/academic, vocational, and teacher training) and extends at tertiary level. The education system is administered by the Ministry of Education and Sports (*MoES*) through eleven departments. Management of functional responsibilities is distributed to Provincial Education Services (*PESs*), District Education Bureaus (*DEBs*), and schools. At the village level, communities participate in school development through school management committees and school principals. The main vehicles of financing education are the central, provincial and district authorities. During the last decade, Lao PDR has made advances in several areas, including economic and educational growth. Communities are encouraged to become involved in school affairs by contributing funds, providing labor for construction, and less often participating in local educational planning and monitoring school governance and teacher behavior. The integration of higher education under the National University of Laos (*NUOL*) has provided a single

framework for further development of tertiary education. The teacher training system has also been reformed. Nevertheless, the education sector remains inadequately planned and financed. Most children acquire some schooling but in some areas attendance is sporadic. The quality of achievement is low, and nearly half of those who enter do not complete the primary level. School attendance, literacy, and other indicators of educational attainment vary greatly among different ethnic groups. Lao, the official and instructional language, is the first language of over 60 percent of the population. Children from homes where Lao is not spoken enter schools with a significant handicap, a condition partly accounting for the high dropout rate. The quantity and quality of schooling are influenced by demographic structures and are highly sensitive to the size of the school-age cohort. The extremely young population of Lao PDR puts a heavy financial burden on schooling and, at the same time, the high dependency ratio contributes to the relatively low national productivity. Moreover, large families force choices as to which children go to school, tending to suppress female enrolments and indirectly reducing the number of subsequent opportunities for girls in education and in the labor market. 31% of the Lao population is under 10 years of age. This clearly places additional constraints on adequate funding levels for educational expenditures. If, through family planning or other population policies, dependency rates in Lao PDR decline, then more resources would be available to concentrate on improvements in access and improved quality of schooling (*Leuangkhamma, 2000*).

In conclusion, the development of Lao education in terms of quality, efficiency, access and equity is to be done in a relatively difficult context. High demographic growth; ethnic cultural and linguistic diversity; scattered habitat; economic and financial constraint and low institutional capacity constitute a big challenge to the country.

As shown in table 3, Lao PDR's public school structure conforms to a 5-4-3 pattern, that is, five years of primary, four years of lower secondary, and three years of upper secondary studies. Attendance at primary school is compulsory. In

parallel with the formal school system, but not shown in table 3, is a non-formal sector.

As shown in table 4, Indonesia's public school structure conforms to a 6-3-3 pattern, that is, six years of primary, three years of lower secondary, and three years of upper secondary studies. Indonesia's school system is the fourth largest in the world. It has over 50 million students, about three million teachers and more than 300,000 schools. Private schools account for 8% of all primary enrolments, 19% of all lower secondary enrolments and 32% of all upper secondary enrolments (*World Bank, 2013*). Over one-half of all private schools are madrasahs (*Islamic school*). At all levels there is a higher incidence of more expensive international schools, and of private 'national plus' schools, meaning that they go beyond minimum government curriculum requirements, especially in the use of English, or they have an internationally-focused curriculum.

Table 3: Overview of the Public School System in Laos.

Age	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
Grade				1	2	3	4	5	6	7	8	9	10	11	12
Level	Kindergarten			Primary				Lower Secondary				Upper Secondary			
Access	Voluntary			Compulsory				Voluntary							
Cost	Frees			Free								Frees			

Table 4: Overview of the Public School System in Indonesia.

Age	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
Grade				1	2	3	4	5	6	7	8	9	10	11	12
Level	Kindergarten			Primary				Lower Secondary				Upper Secondary			
Access	Voluntary			Compulsory								Becoming Compulsory			
Cost	Free (small)			Free								Free (small)			

In education, a curriculum is broadly defined as the totality of student experiences that occur in the educational process. The term often refers specifically to a planned sequence of instruction, or to a view of the student's

experiences in terms of the educator's or schools instructional goals. In a 2003 study *Reys, Reys, Lapan, Holliday* and *Wasman* refer to curriculum as a set of learning goals articulated across grades that outline the intended mathematics content and process goals at particular points in time throughout the K–12 school program. Curriculum may incorporate the planned interaction of pupils with instructional content, materials, resources, and processes for evaluating the attainment of educational objectives. Curriculum is split into several categories, the explicit, the implicit (including the hidden), the excluded and the extra-curricular.

Education is one of the manifestations of human culture that is dynamic and full development (*Trinto, 2014*). Education that can support the future development is education that can develop the potential of students, so that students are able to face and solve the problems of life issues that it faces. Therefore, the need to equip students the ability to be subject to some disciplines that must be dominated. One of the subjects that must be mastered students is math.

Mathematics is a very important basic science to be learned. Even when considered math lessons taught throughout the world. Especially, mathematics is one of the subjects that must be made at every level of education, from elementary school through college or university. Therefore, mathematics plays an important role in human life and knowledge. There are many ways in order to improve the quality of mathematics education, including the reform of curriculum, provision of devices supporting the provision of props, and provide training for teachers of mathematics. But these efforts have not yielded disappointing results towards improving the quality of mathematics education in Laos (*Ministry of Education, 2010*) and Indonesia.

Future challenges are always changing at the same time growing competition need you chelate graduates who are not only skilled in one area, but also visual ability in developing the occupied areas. This needs to be applied in each subject in school, especially math. Therefore, in 2010 competency standards curriculum states that students are expected to have competencies consist of

competency aspects attitudes, knowledge, and skills (*Ministry of Education, 2010*).

Competence is intended has been described in the content standards for units of primary and secondary education mathematics courses already mentioned that the mathematics courses should be offered to all learners from primary schools to equip learners with the ability to think logically, analytical, systematic, critical, and creative, as well as the ability to cooperate (*Depdiknas, 2006*). So, the curriculum content should always follow the development of science, culture, technology, and art, build curiosity and the ability for learners to follow and utilize appropriately the results of science, technology and art.

Mathematics as a science, has a characteristic, namely: 1) the object of study abstract form of facts, operations, concepts and principles; 2) rests on an agreement or convention; 3) deductive thinking patterns; 4) consistent in his system; 5) had a symbol that is void of sense; 6) note the universe of discourse. While mathematics as mathematics school has four bacon that presentation, pattern, thought, the universe of discourse, and the level of abstraction (*Hendriana & Soemarmo, 2014*). Learning school mathematics content standards which involves five concepts and number operations, measurement geometry, algebra and data analysis and opportunities (*NCTM, 2000*).

From the background, education system overview, challenges and importance of the issues mentioned above. The researcher is interested “*Comparison between Mathematics Educations in Laos and Indonesia*”. In order to achieve the compare objectives of the course. As a result, students' attitude toward compare of mathematics education next and guide the teaching-learning. Effective and encouraging to study mathematics by developing potential further.

B. Problem of Research

Pursuant background described above, the problem in this research is *Comparison between Mathematics Educations in Laos and Indonesia?* Furthermore, the problem of research had broken down into several sub problems of research as follows:

1. What is the difference between education system in Laos and Indonesia?
2. What is the difference between curriculum system in Laos and Indonesia?
3. What is the difference between mathematics education in Laos and Indonesia?
4. What is the difference between teaching and learning process of mathematics education in Laos and Indonesia?

C. Aim of Research

Based on problem of research above, the purpose of this study are as follows:

1. Describe the difference between education system in Laos and Indonesia.
2. Describe the difference between curriculum system in Laos and Indonesia.
3. Describe the difference between mathematics education in Laos and Indonesia.
4. Describe the difference between teaching and learning process of mathematics education in Laos and Indonesia.

D. Benefit of Research

The benefits of this research are expected to provide input means for comparison of mathematics education between in Laos and Indonesia. These are as follows:

1. For the students: to know difference the process of thinking of the students to teaching and learning in Laos and Indonesia.
2. For the teachers: to know difference method and model to useful for teaching and learning in the school in Laos and Indonesia.
3. For the schools: to write guided, input, and ideas that are useful for schools to help improve system education and curriculum in schools.
4. For the researcher: to answer the research institute and curiosity about between system of education, curriculum and system teaching and learning in Laos-Indonesia.

E. Operational Definition

Operational definitions in this research are as follows:

1. Comparison is there any difference between compare with and compare to, and is one more correct than the other? There is a slight difference, in that it is usual to use to rather than with when describing the resemblance, by analogy, of two quite different things, as in critics compared Ellington's music to the music of Beethoven and Brahms. In the sense 'estimate the similarity or dissimilarity between', with is often preferred to, as in schools compared their facilities with those of others in the area. However, in practice the distinction is not clear-cut and both compare with and compare to can be used in either context.
2. Mathematics Education is referred to as the practice of teaching and learning of mathematics in a way of solving solution involving learning the algorithms and formulas necessary for computations. It is a platform to learn and teach mathematics with better way.