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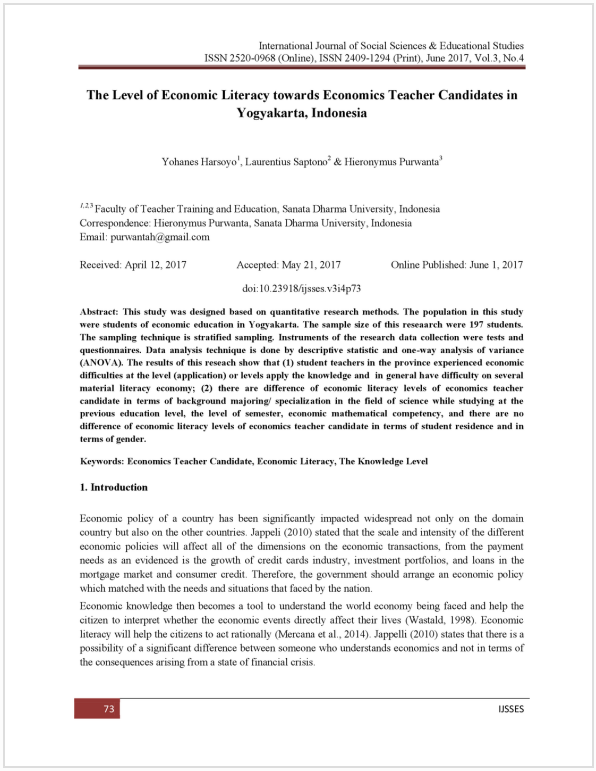

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The Level of Economic Literacy towards Economics Teacher Candidates in Yogyakarta, Indonesia

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Abstract: This study was designed based on quantitative research methods. The population in this study were students of economic education in Yogyakarta. The sample size of this reseaarch were 197 students. The sampling technique is stratified sampling. Instruments of the research data collection were tests and questionnaires. Data analysis technique is done by descriptive statistic and one-way analysis of variance (ANOVA). The results of this reseach show that (1) student teachers in the province experienced economic difficulties at the level (application) or levels apply the knowledge and in general have difficulty on several material literacy economy; (2) there are difference of economic literacy levels of economics teacher candidate in terms of background majoring/ specialization in the field of science while studying at the previous education level, the level of semester, economic mathematical competency, and there are no difference of economic literacy levels of economics teacher candidate in terms of student residence and in terms of gender.

Keywords: Economics Teacher Candidate, Economic Literacy, The Knowledge Level

1. Introduction

Economic policy of a country has been significantly impacted widespread not only on the domain country but also on the other countries. Jappeli (2010) stated that the scale and intensity of the different economic policies will affect all of the dimensions on the economic transactions, from the payment needs as an evidenced is the growth of credit cards industry, investment portfolios, and loans in the mortgage market and consumer credit. Therefore, the government should arrange an economic policy which matched with the needs and situations that faced by the nation.

Economic knowledge then becomes a tool to understand the world economy being faced and help the citizen to interpret whether the economic events directly affect their lives (Wastald, 1998). Economic literacy will help the citizens to act rationally (Mercana et al., 2014). Jappelli (2010) states that there is a possibility of a significant difference between someone who understands economics and not in terms of the consequences arising from a state of financial crisis.

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Economic literacy is the concept of multi – dimensional (Piprek et al, 2004). Literacy often overlaps with other various concepts, such as consumers' literacy, financial literacy, and also related to the broader concept of knowledge about money. According to them, the core of economic literacy is the information and education about economic decision-making and its issues such as budgeting and understanding the basic economic terms and concepts, such as profits, losses, interest, capital growth, scarcity, the interaction of supply and interest and so on. For each person, economic literacy will encourage their ability to recognize and apply economic concepts and ways of thinking to get welfare (Mathews, 1999).

According to Piprek et al. (2004) economic literacy as one of the aspects of money management is fundamental to the development of human resources. In the terminology of social development, according to them, the economic literacy will link with the development of human resources and economic, improving the quality of human beings, reducing social disparities and encouraging social development in a sustainable way. Therefore, economic literacy is important for every household in economic decision making, such as how to invest their wealth and how much amount of money had to be borrowed from the stock markets. Financial literacy levels generally have broad consequences for the stability of the overall economy (Jappelli, 2010).

Economic literacy will improve individual competence in the way they make individual and social decisions towards various options/economic problems faced throughout their life, such as understanding and making decisions about the influence of inflation on exchange rates, how to make a right invest (Matthews, 1999; Jappelli, 2010), how much money you need to borrow from the stock market, and how to understand the consequences of economic stability as a whole. (Jappelli, 2010). Therefore, if the number of the society members who have the knowledge of economy increased, it would be very useful to improve their ability to understand and evaluate the economy problems of a nation. In an increasingly democratic nation, support and active involvement of its citizens is essential to resolve the economic problems (Wastald, 1998).

George Stigler (1970) provides an important statement about how to improve economic literacy in the community. According to Stigler, economic literacy can be start for children through the economic education in schools. Teachers must accompany the children in learning about the basic concepts of economics. If the children are able to master it, then it can help them understand about the economic world around. In the next stage of learning, the materials can be expanded and deepened gradually in accordance with the stage of development of the learners. Breadth and depth of the material received by the students will give a more complex provision abilities and the ability to make decisions of economy becoming more complex and so do the ability to take economic decisions as individuals and as citizens.

The moment when someone becomes an adult, everyone will be faced more complex economic problems and require an immediate decision.The economic decisions that were made will affect their lives and others (Meszaros & Suiter, 1988). James Tobin, the Nobel winner in 1981, stated that after graduating from high school someone has to take any decisions on economic choices that will determine their lives, both as providers, consumers, and citizens. Every time they will be bombarded with wide variety of economic information, whether true or false, and they must have the capacity to make critical decisions. Therefore, if the economy is seen as an integral part of people's lives and understanding of economics is critical in helping everyone make decisions that determine the future.

Since 1960s the economic education has undergone a resurrection (*revival*) (Lo et al., 2008). Many problems of economic education emerged and became the center of attention among the researchers, practitioners and policy makers. There are at least two reasons why it happened: first, economics knowledge required everyone to live in an increasingly complex environment. Economics knowledge needed to support their decisions making (Bethune, 2000; The OECD 2005; Jappelli, 2010); second, there is an increasing interest on how to improve the quality of economic education in all levels of education (Varum et al., 1995).

There were many researchs conducted in the field of economic education. For example the researches conducted by Johnson (1979), Marlin and Durden (1993) and also paper from Dumke (1977), Stigler (1970), Davis (2006), and Lucy & Giannangelo (2006), has contributed on the importance of economic education development, an example is on how economic literacy education accounted for more citizens which is 'maximalist' in the context of developing countries like Indonesia. Further Cloe et al. (2009) found that public's knowledge about financial products related with public participation in formal finance. Therefore making people understanding the economic literacy has become the main purpose of economic studies.

The Appendix from National Education Minister Regulation Number 59, 2014 about the curriculum for SMA / MA affirm that the substances of economic literacy as learning objectives are formulated as follows: first, the students are able to understand the concept of economics. Substantially, this law is identical with the previous laws. Nonetheless, some of empiric findings show that the result the realization of economic education is not satisfying yet. *Visa International Literacy Barometer* (VISA, 2012) survey results to the 25.500 participants in 28 countries throughout February-April 2012 shows that Indonesia was ranked 27th out of 28 countries surveyed (Indonesia achievement score 27.7) Indonesia's position is under Vietnam and is above Pakistan. Meanwhile, *Worldbank* (2011) reported on the level of public access to formal financial institutions (tubs and other financial institutions) still low, which is about 20%. These access levels are placed Indonesia in the position protruding from six Asian countries.

Economic education for young children is not limited to the various problems. From the previous studies, the problem is identified as follows: 1) the neglect of economic education in primary education due to various reasons, such as the lack sense of need to perceived the economic education, the amount of instructional time in the classroom, and inadequate teacher at the school (Bethune, 2000); 2) the difficulties experienced by the teachers in the way they should hang of things that are important in the economy (Stigler, 1970); and 3) concerns about the impact of education policy on economic education in general (Ma & Weiss, 2009).

There are three important characteristis for an effective economic education in schools (Wastald, 1998). First, teachers must have adequate knowledge about the economy in order to help students learn about how to use the basic concepts of economics to analyze personal and social problems.Second, the curriculum guides and teaching materials that fits well with the level of students. Third, economic education must have a central place in the school curriculum as other subjects, such as mathematics, science and others. The first thing mentioned above is the most important. If the economic studies in secondary schools emphasizing economic literacy, the teacher candidates should also be aware of economic literacy.

The results of teacher competency test conducted by the Directorate General of Teacher and Education Personnel Ministry of National Education in 2015 showed the average of teacher test score is on 53.05 out of a maximum scale which is 100. Meanwhile, the teachers from Yogyakarta ranked as the highest, with a score on 62. 36. Although, relatively the test score of teachers from DIY avowed as the highest, ultimately this score of is still in the category of less satisfying. The Achievement of the teacher's competence is affected by various factors, for examples are it education, experience, and other factors. From all of those of factors, the key is on the particular education, specifically along the process of a teacher candidate's study to obtain their degree as a Bachelor of education. This research was aimed to find out: (1) the level of economic literacy of the economics teacher candidates in the province of Yogyakarta in terms of the background (fields of specialization when they were in SMA), place of residence, gender, level of semesters, and mathematical score).

2. Method

2.1. Participants

The population in this research are the students of economic education program in Yogyakarta province. The total of the subjects are more or less than 650 college students. The total sample was among 242 students on different level of semester. The sampling technique is using sample. From collecting the data, it is show 197 questionnaires which are able to be the data source. The descriptions of the respondents' characteristic are shown on table 1.

Table 1: Participants' characteristics

Characteristic	Frequency (%)	Mean (SD)	Actual range
Gender			
Male	57 (29%)		
Female	140 (71%)		
Batch of			
2015	45 (23%)		
2014	59 (30%)		
2013	61 (31%)		
2012	23 (12%)		
2011	8 (4%)		
2010	1 (1%)		
Major in high school			
Natural Studies	15 (7.61%)		
Social Studies	167 (84.77%)		
Accounting	10 (5.08%)		
Marketing	1 (0.51%)		

Characteristic	Frequency (%)	Mean (SD)	Actual range
Religion	1 (0.51%)		
Administration	2 (1.02%)		
Agribusiness	1 (0.51%)		
GPA (scale 0 - 4)			
3,51 – 4,00	53 (26.90%)		
2,76 – 3,50	126 (64%)		
2,00 – 2,75	16 (8.12%)		
0,00 – 1,99	2 (10.15%)		
Mathematics Score			
A/A-	72 (36.55%)		
B+/B/B-	84 (42.64%)		
C+/C/C-	29 (14.72%)		
D+/D/D-	8 (4.06%)		
E	4 (2.03%)		
Residence			
With parents	70 (35.53%)		
With siblings	9 (4.57%)		
Dormitory	6 (3.05%)		
House rent	108 (54.82%)		
Individual	2 (1.02%)		
Mosque (praying house)	1 (0.51%)		
Office	1 (0.51%)		
Economics Literacy		27.05 (5.89)	12 - 40
Very good	10 (5.07%)		
Good	80 (40.60%)		
Adequate	42 (21.32%)		
Low	38 (19.28%)		
Very Low	27 (13.70%)		

2.2. Materials

In this research, the instrument for the test refers to the manual Test of Economic Literacy Examiner (Walstad et al., 2001). Every grain of tests provided four (4) optional answers. Meanwhile, the background of students in research fields of specialization include fields of science students while

studying at the high school level of education, place of residence, gender, level term, the score of mathematical economics.

2.3. Procedure

The data collection technique for variable levels of economic literacy economics teacher candidates conducted with the test. While data collection techniques for student background variables conducted by questionnaire (written questions) are to be answered by the students as respondents. Tests and questionnaires will be delivered directly to student researcher who become respondents of the study. Data analysis technique is done by descriptive statistic and one-way analysis of variance (ANOVA) which is started with a normality distribution test and the homogeneity of the variants. The result based on One-Sample Kolmogorov-Smirnov Test showed thet the distribution of variable data of this study is normal (*asymp.sig. (2-tailed)* = .058 > α = .05) (Table 2). Meanwhile, the test of homogeneity based on Test of Homogeneity of Variances (t-test) showed the overall score sig. > α = .05 (Table 3).

Table 2: One-Sample Kolmogorov-Smirnov Test

		Economic literacy
N		197
Normal Parameters[a,b]	Mean	27,1574
	Std. Deviation	5,77827
Most Extreme Differences	Absolute	,095
	Positive	,058
	Negative	-,095
Kolmogorov-Smirnov Z		1,329
Asymp. Sig. (2-tailed)		,058

a. Test distribution is Normal.

b. Calculated from data.

Table 3: Test of Homogeneity of Variances

Faktor	Levene Statistic	df1	Df2	Sig.
Gender	2,352	1	195	0,127
The level of semester	1,411	4	191	0,232
Residence	1,168	4	190	0,326
Majoring in previous levels	0,596	3	190	0,618
Mathematics score	0,787	4	186	0,535

3. Result

3.1. Cognitive Levels and Material of Literacy Economics of Economics Student Teacher

According Walstad et al (2014, p.6), economic literacy only has three cognitive levels, namely knowledge or remember, comprehension or understand, and application level. This study shows that in

the level of knowledge or remembering, there are 6 questions with the average percentage of correct answers by students 65%, the level of comprehension there are 14 questions with the average of, the percentage of the application levels apply there are 25 items of questions with the average percentage of correct answers amounted to 55.6%. It shows that in terms of materials, economic education students face difficulties in 6 types of economic literacy material as follows: a) the failure of the government (government failure) and groups of special interest (special interest groups) (in average only 10% of students answered correctly of a maximum of 100), b) economic institutions (economic institutions) (in average only 25% of students answered correctly), c) entrepreneurship (entrepreneurship) (in average only 30% of students answered correctly), d) the economic role of government (economic role of government) (in average only 45% of students answered correctly), e) the labour market and income (labour markets and income) (in average only 50% of students answered correctly), and f) decision-making and analysis of the marginal (decision-making, marginal analysis).

3.2. Economics Literacy from the Background of Economics Teacher Candidate

3.2.1. Gender

The result is F = 1.116, $\rho > .05$ (Table 5). From the statistic test, there are no different levels about economic literature knowledge in the economic education students based on gender.

3.2.2. The Level of Semester

The result is F = 6.449, $\rho < .05$ (Table 5). From the statistic test, there are no different levels of economic literacy according to the level of economic education students' semesters

3.2.3. Tempat Tinggal Calon Guru

The result is F = 1.052, $\rho > .05$ (Table 5). From the statistic test, there are no different levels of economic literacy according to the residence location.

3.2.4. Background Major While Studying at the Previous Education

The result on different level of economic literacy in economics education students in terms of background major while studying at the previous education level is F = 2.328, $\rho < .05$ (Table 5). The statistic test shows that there is different level of economic literacy in economics education students in terms of background major while studying at the previous education level (high school).

3.2.5. Score of the Mathematics Competition

The result on economic literacy terms of economy mathematical grade is F = 3.239, $\rho < .05$ (Table 5). The statistic test shows that there are different levels of economic literacy of economy education students seen from the grades of mathematical economics scores.

Table 4: Materials and cognitive level of economic literacy of students

No	*Standard with selected key concepts*	(*Knowledge*)		(*Comprehension*)		(*Application*)	
		Item numb	% correc r	Item numb.	% correct	Item numb .	% correc t
1	*Scarcity, choice, productive resources*			2	80	1	70
				3	90		
2	*Decision-making, marginal analysis*					4	50
3	*Economic systems and allocation mechanisms*			5	70		
				6	80		
4	*Economic incentives – prices, wages, profits, etc*	7	90			8	80
5	*Voluntary exchange and trade*					9	80
						10	50
6	*Specialization and comparative advantage*					11	80
						12	30
7	*Markets and prices*					13	80
						14	50
8	*Supply and demand*					15	60
						16	50
						17	80
9	*Competition*			20	60	18	20
						19	30
10	*Economic institutions*	22	20	21	30		
11	*Money and inflation*	25	70	23	90	24	60
12	*Interest rates*					26	90
						27	60
13	*Labor markets and income*			28	60	29	40
14	*Entrepreneurship*			30	30		
15	*Physical and human capital investment*			32	60	31	50
16	*Economic role of government*			33	50	34	40
17	*Government failure, special interest groups*					35	10
18	*Output, income, employment, and the price level*	36	50	38	80	40	50
		37	80	39	60		
19	*Unemployment and inflation*			41	90	42	60
20	*Fiscal and monetary policy*	44	80			43	60

No	*Standard with selected key concepts*	(*Knowledge*)		(*Comprehension*)		(*Application*)	
		Item numb	% correc r	Item numb.	% correct	Item numb .	% correc t
						45	60
	Number of Questions	**6**		**14**		**25**	
	Correct answers' Average		**65**		**66,43**		**55,6**

Table 5: Oneway Analysis of Variance – ANOVA (F-test))

Economics literacy

		Sum of Squares	df	Mean Square	F	Sig.
Gender	Between Groups	38.721	1	38.721	1.116	.292
	Within Groups	6763.868	195	34.687		
	Total	6802.589	196			
Level of	Between Groups	945.239	5	189.048	6.449	.000
Semester	Within Groups	5598.883	191	29.314		
	Total	6544.122	196			
Residence	Between Groups	210.507	6	35.084	1.052	.393
	Within Groups	6333.615	190	33.335		
	Total	6544.122	196			
Background	Between Groups	465.941	6	77.657	2.328	.034
Major	Within Groups	6336.648	190	33.351		
	Total	6802.589	196			
Score of	Between Groups	418.066	4	104.517	3.239	.013
(competence of)	Within Groups	6001.149	186	32.264		
mathematics	Total	6419.215	190			

4. Discussion

4.1. Cognitive Levels and Material of Literacy Economics of Economics Student Teacher

Based on the three cognitive level above it appears that economics education students in Yogyakarta face difficulties at the level application. Application level is the level of cognitive ability to apply information in real situations. Thus, if at this level a person has difficulty it meant that he lacked the ability to apply ide procedures, methods, formulas. This is similar with the findings of the international study, TIMSS (Trends in Mathematics and Science Study) conducted by the IEA (International Association for the Evolution of Education Achievement), about students' cognitive ability

Indonesia in 2011 which showed that the high-level thinking skills (especially reasoning) in Indonesian students still low.

Low ability to think critically means students difficulties in applying new information or previous knowledge and manipulate information to reach possible answers in new circumstances (Heong et al., 2011) from all the time, education in Indonesia generally put more emphasis on reproductive thinking, memorization, and looking for the right answers to the questions given. Instead, what should be expected is more active and creative students who construct the learning experience. They are no longer enough to simply a recipient of information from teachers, but should be active in constructing knowledge, capable of logical thinking/reasoning.

Following is the explanation on the sixth difficulty faced by students above. First, on the subject of government failure and special interest groups, the given problem is intended to measure student understanding on rates. Rates are applied with the purpose of protecting young industry, but in effect the consumers have to bear higher prices. In this context, the rates policy does not tend to encourage industrial efficiency. Many students understand that the rates policy is able to create an efficient industry whereas in this context the domestic industry is magnified not conditioned to compete in creating an efficient industry. Secondly, on the matter of economic institutions, questions that are related to one feature of the company, which is the owner's responsibility is limited to models that is deposited. Many students assume that this is a partnership characteristic. This is most likely due to the student's understanding of the concept of partnership (partnerships), companies (corporations) and ownership (ownerships) are inadequate. While in terms of the characteristics/traits people have an incentive to produce and exchange goods, most students seem less able to understand the main incentive society in the production and exchange. The main incentive for production is private property protected. Third, the material looked largely entrepreneurial students do not understand the role of businessmen and entrepreneurship. Entrepreneurs are people who take the risks associated with running a business. Meanwhile more students see the intended role of entrepreneurs is the motive of employers in running the business, which is to benefit or provide dividends to investors. Fourth, the government's role in the economy of materialmost students do not understand that the national defence service given by the state can be felt by all citizens participate even if the person does not pay taxes. Residents with low income or poor people still get the services of national defence, it differentiates the services produced by private company which is only given to those who pay it. Most students also do not understand the concept of a progressive tax. Progressive tax is a tax whose value is based on the percent rate increases with the increase in the value of tax object. Fifth, on the material of the labour market and income, many students do not understand the concept of a derived demand. In this context labour costs will be determined by the demand for the products made by the labour force. Most students also do not understand the concept of scarcity and its relation to the price of goods and services. Increasingly scarce goods and services, eat the higher the value of goods and services. Sixth, on the material of marginal analysis decision-making and some students are less able to distinguish between an economic viewpoint and other viewpoints. Economic standpoint always departs from comparing costs and benefits. In this context, some students are less able to distinguish it.

4.2. Economics Literacy Based on the Background of Economics Education Student

4.2.1. Gender

Generally, students of economic education in the Province of Yogyakarta are dominated by women. This tendency seems to also occur in students of economic education in other areas in Indonesia. Teacher personality characteristics such as patient, attentive, and others more associated to the characteristics common to women than men, but in the context of economic knowledge turned out to be both no significant differences.

This finding is not relatable with the result of the study by MacDowell et al. (1977), and Siegfried (1979) stated that the majority of studies have found that men have better economic knowledge than women.In the following years, Robb and Robb (1999) found that male students have more knowledge about economy than women. Likewise, Philip and Clark (1993) also discovered the different research findings about the attitudes of men and women to the economy aspects.They found that men are more interested in economics than women do. On the contrary, in Albania, female high school students tend to perform better than men do (Bushati, 2010). Saunders et al. (2004) found similar results on the students in the country and also on three of the four other eastern European countries they studied.Therefore, Bushati suggest the need for further study on the economic study and review of the literature on gender in other countries to to provide deeper insight on this problems.

4.2.2. Level of Semester

Based on the curriculum, students take their studies on economic education for 4 years. The curriculum is designed in such a way by considering various aspects.The courses are offered in every semester with the order / sequence of logical and competencies which are expected to achieved by students. At the first level the subjects have basic content knowledge / skills, on the second level of knowledge / skills of middle level, and so on. At the end of the study, the economic education students are expected to have numbers of competencies (knowledge / skills / attitudes) that sufficient to be able to be functioned as an economics teacher in the middle school years.

This finding is relatable with the study by Palmer et al. (1979) found that the initial level of training / learning economy has no significant impact on the economic knowledge of students. Therefore, they recommend the research is held when they go through the training / learning to the next stages.About this, Dale and Allen (1999) find the training positive impact on the economy as measured by the economic literacy TEL. In Albania, Bushati (2010) found that there was a significant improvement of the economic knowledge of the students after they have complete the training / learning the economy materials. College students have a good understanding of the knowledge of economy and get the benefit on what they have learned for their future (Mearman et al., 2010).

According to the findings by Mearman et al. (2010) find out about students' perceptions about the economy, what makes them want to learn economics and the extent to which the study will be useful for their future is important information to form of the curriculum and teaching pedagogy. Although the research in this area is relatively little, we can assume that educational institutions have been deeply thought about it. Institutional economics education providers will certainly think of the best way in their

administration of education. The hope is that they can manage the education students gradually so they will have better economic literacy due to the higher levels of the semester they are take.The higher levels of the semester are taken makes the students aware of why they are learning economy and what the use of the study itself.

4.2.3. Students' Residence

The students of economy teacher education which studying in Yogyakarta province are originated from many various residences. Most of them are coming from distant places and some of them are coming from near the campus area. The students who originated from distant places, usually live in around the campus area on the boarding houses, renting a house for themselves, live in a dormitory or even live with their family in Yogyakarta. The other students who originated from near the campus usually stay with their parents. There are no different levels of economic literacy on the students of economy teacher based of where they live. This finding is not relatable with the previous study by Reid (1983) shows that the environment of the students also gives a significant influence to the levels of economics knowledge of the students. According to him, the living environment of students on one side will be a barrier to learning, but on the other side it can be an opportunity for the students to practice the economics act.The state will have an impact on the level of economic literacy which vary in each individual. Luksander et al (2014) finding showed that those who living in renting rooms by themselves facing some financial work and therefore they have the higher financial knowledge level also not relatable with the result from this present study. While the persons who live in the dormitary and the persons who live together with their parents have no differences in terms of knowledge about finances.

According to Sabri et al. (2008), for most student, college is the first time when they have to manage their own finances without the supervision of parents. Students have to face some new problems in their new environments. Inevitably, the student must be able to organize their own finances and responsible for the decisions they make. It is true that the students are still dependent on their parents, but more than that generally they are being wasteful in managing their finances.Thus, logically, there are different levels of economic literacy on the students of economy teacher based of where they live.

4.2.4. Major in High School

During their 1st grade high school, the students get economy material weighs as the same as the number of hours.On 2nd and 3rd grade high school students are directed to the field of scientific specialization as follows: science, social studies and languages.There is a difference on the amounts of economic material on each of these majors. Therefore, students' backgrounds also differenciate the level of their economic literacy when they are in the advanced education level especially in economy teacher department.

The result shows that there are different levels of economic literacy on economics teachers' department students in terms of background majors as they take in high school education. This result is supporting the result of the research by Myatt and Waddel(1990) show that learning / training in high school economics significantly correlated with the values achieved during his student lecture material economic principles at the college level. Those can be happen because students already have an idea of macro and

micro previously, so they are prepared when taking lectures of economic principles compared with a person who doesn't have previous economic background (Lopus, 1997).

Students who have earned a learning / training materials on the economy high school level will have better understanding at the current economic material in college (Becker et al., 1990). However, some other research indicate a different situation. Palmer et al. (1979) and Reid (1993) show that students who have earned the economics learning / economics courses in high school level is not more knowledgeable about economic than the others. The reason to this problem is because the approach used in economics in high school are generally lack in terms of analysis. Even in their findings, students who get the lesson from lecture / courses got lower score than those who without. The findings of Shipley and Shetty (2008) also concluded that the learning / training in the previous school did not have a significant impact on the economic literacy of students. Therefore, they suggest a need to do the test again whether the time period that has elapsed since learning / economic training given had any effect on these conclusions.

4.2.5. Mathematics Score

In the curriculum, the students took numbers of economic education courses. In general, the minimum amounts that the students must take are 144 credits of courses. There are various economics courses taken by students, such as the principles of economics, micro economics, macro economics, etc. Quite a lot of the courses require the support of the students' ability in mathematics.This means that competence in mathematics will make it easy for students to study economics.

The result of this research shows that there is different economics literacy based on the mathematics score. In the curriculum, the students took numbers of credits. Generally, students should pass 144 credits. There are various economics courses taken by students, such as the principles of economics, micro economics, macro economics, etc. Those subjects need the students' competence in mathematics. This result is similar with the result from Bushati that said the mathematical knowledge has a positive impact on the learning economy (Bushati, 2010). Bushati's findings in Albania provide the evidence to that the students who have mathematical competence obtain better results in learning the basic concepts of economics. Her findings are also supported by Epsey 1997 who shows that students who have a mathematical competence are significantly better in the economy class and findings Colander and Kramer (1987) states that the learners of economy are dominated by peoples who understand about mathematics and statistics. Furthermore, they claimed that the majority of students choose a dissertation on S3 program (Ph.D) to understand some of the economic phenomena and to answer the wishes and see the degree of relevance of the studies. The economics concepts on economics literacy is a basic concept that should be understood by everyone.

5. Conclusions and Implications

The result from this study shows that the students of economy teacher education in Yogyakarta province have difficulty in the application level or the level on applying the knowledge, and there is found differences in terms of background majoring/ specialization in the field of science while studying at the previous education level, the level of semester, economic mathematical competency, and there are no

difference of economic literacy levels of economics teacher candidate in terms of student residence and in terms of gender.

In line with these results, it is suggested: (1) the need to be considered by stakeholders about the background of the department/specialization science students studying economics during the previous education level. It said that prospective teachers be more successful in education in higher education and they have a good professional competence for education in secondary schools; (2) the need to re-evaluate curriculum in higher education for prospective teachers of economics. A review of the curriculum can be reordering sequences of subjects, updating the syllabus and content of teaching materials, integration courses, and others. In line with these results the following materials should get attention: (1) the failure of the government and groups of special interest, (2) economic institutions, (3) entrepreneurship, (4) economic role of government, (5) the labour markets and income, and (6) decision-making, marginal analysis. The learning for such materials need to be designed and paid more attention to aspects of the application in just a cognitive knowledge. Hopefully, economic literacy economics teacher candidates become better over time; (3) the need for reinforcement in the subject of mathematics for prospective economics teacher. In many economics courses it helps students in terms of logical thinking when they resolve the economic problems encountered.

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