Development of Creative Economy Learning Model: Based ICT Subject in Entrepreneurship at Vocational High School in West Java

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The purpose of this study is to solve the problem of teachers in developing learning models with the use of technology (ICT) to improve education quality, efficiency and the competence of teachers at the intermediate level (SMK). Researchers assess that the learning model used by teachers of entrepreneurship is currently lacking support in the digital era as it is now, therefore, the researchers want to facilitate improving the quality of education through developing one model of learning ICT-based creative economy. Further study to identify the learning model implemented in 11 vocational schools in Bekasi, West Java. The differences of our research with Aktaruzzaman, Aziz and Lubis (researchers before) are we want to look at the right model of learning so it can support or improve the fourth competency of teachers so that the soul of the creative economy in the students can grow and develop better. Our research has a new discussion about the use of ICT-based learning model in the school has been run. This study uses qualitative approach and survey method. From the results, it can be concluded that the actual conditions in schools are good in ICT and learning laboratory facilities but obstacles encountered entrepreneurship is still a small number of teachers who master and apply ICT in learning. Discovery learning model has been applied by teachers to raise student's creativity. Conclusions and suggestions is to develop teacher's competence, the learning model must relevance with the concept of teaching factory (TEFA), it should use project-based learning (PBL) and ICT or on-line market to sell their product or project. This new model is needed by teachers to improve their competence and develop instructional model of the creative economy is more integrated.

Keywords: Information and Communication Technology, learning model, teacher competence.

1. INTRODUCTION

Based on data from the Central Bureau of Statistics (BPS) semesters 2, September 2015, the number of poor people by West Java Province urban levels totaled 2,70652 million people. This happens because of quality or the quality of human resources (HR) is still low. A good qualified teacher competency certainly aspect to created good human resources. On the other hand it is contrary to the results of the implementation of a competency exam certified teacher (UKGB) which is conducted to see and measure the competence of a teacher. About 60 percent of teachers UKG participants get a value of less than 55, while the rest get a value of 55. Department low and middle educations (DISDIK) Bekasi City are doing a recap of value for all participants UKG 2015. Bekasi get the lowest score in UKG. Teachers who get the lowest score will be given retraining by Kemendikbud and Bekasi City Department of Education, so when UKG held these teachers are get scoring below the standard, because the default value is 55.1

The teacher should perform well, with high professionalism, thus increasing the quality of education in Indonesia. Therefore, with this UKGB re-measured their competence. If they have qualify as a good teacher and professional teachers, they are entitled to participate in the performance assessment in 2016. UKG 2015 used to obtain a picture of pedagogic competence and professional information. While measuring tool for personal and social abilities of teachers will use teacher performance appraisal. Forward UKG will be held every year, the government targets in 2019, the standard UKG score reached 8.2

Over time, which the ASEAN Economic Community (AEC) in 2015 running, our products or any of our younger generation will compete with others products and human resources from abroad. Hence the need for the development of the basic level for young people to foster the entrepreneurial spirit-based creative economy to be competitive with those conditions, and of coaching at the basic level is through the teachers of entrepreneurship at the school. In the last few years, learning models in Indonesia for the implementation of
the curriculum in 2013 are: inquiry learning model, discovery learning model, project based learning and problem-based learning but has not been conducted entirely by teachers in the classroom.

The determination of appropriate learning models needs to be done for teachers in order to implement it properly in the learning activities, because the teachers is the one of the key points to face MEA. One of the major obstacles to the implementation of the creative economy in the education world related to teachers is lack of teaching competence. In general, the goal of researchers is to help alleviate poverty in Indonesia, particularly in the city of Bekasi, West Java, solve the problem of teachers in developing learning models with the use of technology (ICT) to improve the quality, access, efficiency and relevance of education is the competence of teachers in Vocational high school (SMK).

Based on the research Aktaruzzaman (2011), that the teacher combines the application of ICT in learning such as internet, video, audio, graphics, text and images to the learning process of students. Abdul Aziz (2013) that it is better if the teacher gives the material the same time also practice to students, so that students can understand the true nature of entrepreneurship. This study also see the influence of professional competence and pedagogical both partially and simultaneously to an entrepreneurial attitude. Based on Lubis's research (2014) to determine the increase of teacher competence in implementing cooperative learning model STAD (Student Teams Achievement Division) through clinical supervision at SMK Negeri 1 Kutacane designed in the form of Action Research School.

The Differences of our research with the Md. Aktaruzzaman, Aziz and Lubis is we want to look at the right model of learning so it can support or improve the fourth competency of teachers so that the soul of the creative economy in the students can grow and develop better. We will also discuss about the use of ICT-based learning model in the school has been run. Based on the foregoing, the subject teachers should be able to apply ICT / ICT which has the advantage of the availability of information widely, quickly, and precisely, as well as the ease in learning and technology support to facilitate the learning process, because teachers have not implemented the use ICT fully. Teachers that relevant inculcate creative economy in the young generation is the teachers of entrepreneurship that directly provide materials and practice about the creative and innovative product.

2. LITERATURE REVIEW
Teacher Competence Concept

According to the Law of the Republic of Indonesia Number 14 Year 2005 on Teachers and Lecturers stated that competence is a set of knowledge, skills, and behaviors that must be owned, lived and ruled by a teacher or lecturer in performing the duties of professionalism.

According to the Regulation of the Minister of National Education of the Republic of Indonesia Number 16 Year 2007 on Academic Qualification Standards and Competencies Teachers, as for a variety of competencies that must be owned by teachers, among others: pedagogical, personal, professional and social obtained through professional education. The fourth competency integrated in teacher performance, namely pedagogic competence, personal competence, social competence and professional competence.

Pedagogical competencies include understanding the teacher to the learner, the design and implementation of learning, evaluation of learning outcomes, and the development of learners. Competencies personality that reflects the personality of a solid, stable, mature, wise and dignified, become role models for students, and noble. Social competence is the ability of teachers to communicate and interact effectively with students, fellow teachers, staff, parents, and the community. Professional competence is the mastery of materials which include mastery of curriculum subjects at school and substance of knowledge.

Concept Learning Model

Sofan Amri (2013), the learning model in the 2013 curriculum is a pattern used as a guideline in planning classroom learning or learning in tutorials and for determining learning tools including books, films, computers, curriculum, and so on.

Inquiry Learning Model, the steps in the inquiry model consists of observation / observe the share of natural phenomena, ask questions about the phenomena encountered, filed allegations data, data collection and formulate conclusions based on the data that has been processed or analyzed. Discovery Learning model, includes the steps Stimulation, Problem Statement, Data Collection, Data Processing, Verification and generalization.

Problem Based Learning Model, this learning model aims to stimulate students to learn through a variety of real problems in daily life associated with the knowledge that they have learned through the steps of learning as follows: Oriented learners on issues, organizing learning activities, guides independent inquiry and groups, to develop and presents the work, analysis and evaluation of problem-solving process. Project Based Learning Model, the learning model is aimed at learning that focuses on the problems of complex required learners in doing this and understand learning through investigation, guiding learners in a collaborative project that integrates a wide range of subject in the curriculum, provided an opportunity for students to explore content (material) using collaborative experiments.

The concept of ICT (Information and Communication Technology)

According to the State Ministry of Research and Technology (Asmani, 2011), Information and Communication Technology (ICT) or in the Indonesian language known as information and communication
technology as part of science and technology are all technologies related to the collection, collection, Storage, dissemination and presentation of information. According to Anatta Sannai (Asmani, 2011) information and communication technology is a medium or tool in obtaining knowledge between someone to others. By using ICT the student is expected to be able to nurture creativity. Students with high creativity will certainly be able to resolve the problem quickly and respond to emerging issues. Thus, the goal of ICT will be in line with the purpose of education itself when used in learning. The use of ICT is not a barrier to learning, but will give more benefits in learning.

The concept of Creative Economy

The concept of the creative economy is an economic concept in the new economic era that intensifies information and creativity by relying on the ideas and stock of knowledge from the Human Resources (HR) as the main production factor in their economic activities. According Howkins (2001), the presence of a wave of creative economy after realizing the first time in 1996 the export of works of copyright USA has sales of US $ 60.18 billion, which far exceeded the exports of other sectors such as automotive, agricultural, and aircraft. The new economy has emerged surrounding the creative industries controlled by the laws of intellectual property such as patents, copyright, trademark, royalties and design. Dos Santos (2007), the creative economy is a development concept based on creative assets potentially boost economic growth.

3. RESEARCH METHODOLOGY

Types and Sources Data

This research used descriptive quantitative survey method. For the purpose this research uses primary data through observation with interviews and distributing questionnaires to respondents.

Population and Sample

The population in this study were 31 teachers, 8 headmasters and MGMPs chairman entrepreneurship subjects from 11 schools in Bekasi. The sampling technique used purposive sampling method and was selected according to the criteria.

Research Methods dan Research Approach

This research approach is qualitative approach and method used in this study is a survey method to identify the conditions SMK in Kota Bekasi, SWOT analysis, identifying learning model that has been used in the vocational school in Bekasi, and provide information and feedback learning models can be used by teachers in teaching ICT-based entrepreneurship subjects.

4. RESULTS AND DISCUSSION

Characteristics of Respondents

The characteristics of respondents will be described and classified based on gender, job functions, ages, educational level and length of work. The profile of respondents are listed in the table below.

<table>
<thead>
<tr>
<th>No</th>
<th>Characteristics</th>
<th>Criteria</th>
<th>Total</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Gender (headmaster)</td>
<td>Male</td>
<td>6</td>
<td>54.5%</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Female</td>
<td>5</td>
<td>45.5%</td>
</tr>
<tr>
<td>2</td>
<td>Gender (teacher)</td>
<td>Male</td>
<td>5</td>
<td>20.8%</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Female</td>
<td>19</td>
<td>79.2%</td>
</tr>
<tr>
<td>3</td>
<td>Job Function</td>
<td>Headmaster</td>
<td>11</td>
<td>31.4%</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Teacher</td>
<td>24</td>
<td>68.6%</td>
</tr>
<tr>
<td>4</td>
<td>Ages</td>
<td>≤ 25 Years</td>
<td>1</td>
<td>2.8%</td>
</tr>
<tr>
<td></td>
<td></td>
<td>25 – 40 Years</td>
<td>11</td>
<td>31.4%</td>
</tr>
<tr>
<td></td>
<td></td>
<td>≥ 40 Years</td>
<td>23</td>
<td>65.8%</td>
</tr>
<tr>
<td>5</td>
<td>Education Level</td>
<td>Postgraduate</td>
<td>8</td>
<td>22.8%</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Undergraduate</td>
<td>27</td>
<td>77.2%</td>
</tr>
<tr>
<td>6</td>
<td>Length of Work</td>
<td>0-5 years</td>
<td>1</td>
<td>2.8%</td>
</tr>
<tr>
<td></td>
<td></td>
<td>5-15 years</td>
<td>15</td>
<td>42.8%</td>
</tr>
<tr>
<td></td>
<td></td>
<td>More than 15 years</td>
<td>19</td>
<td>54.4%</td>
</tr>
</tbody>
</table>

1. Gender

In the table above is explained that the number of male headmaster amounted to 54.5% who work in vocational school. According Yeney (2012) based on agency theory, gender differences in leadership will affect the style of leadership. A woman leader has a way of delivering that unique in that they always provide and distribute important information on the company fluctuated, while male leaders prefer the element chronologically in data consistency, resulting in the delivery of the message tad more towards the fact and to the point information. And from the table we know that female teacher is 79.2%. Personality differences fundamental between female and male are generally individualistic, aggressive, impatient, more assertive, self-confidence is higher and more control of work while woman tend to be more unreleating and have the responsibility of taking care of larger families from men. So with this difference, SMK more assigning woman teacher for teach entrepreneur subject, because in entrepreneur subject, student need more practical system which have to controled by the teacher. And woman teacher have more patient character to do it.

In this case the Cruickshank, Jenkins & Metcalf (2014) summarizes some results of studies on the influence of gender in the learning process, including: 1) Teacher Man, (a) Performance of teacher more dominant and authoritarian; (b) Class became more organized, orderly and task oriented and (c) More implement aggressive punishment to boys. 2) Teacher Women, (a) The situations of classrooms more ‘warm’, nurturing and more tolerant of wrongness of student; (b) More softer and much praise students and (c) Students tend to be a lot to ask and dare to give a wrong answer despite or
because of deliberate blame. 13
Several studies have also reported that the students can be helped to learn when taught by teachers of the same gender (Dee in Cruickshank, Jenkins & Metcalf, 2014). Although many teachers who refuse to believe the distinction of gender and gender equality, but in practice they may not be able to be together in the learning process. Female teachers tend to be more attention to boys than girls, the teacher more have a higher tolerance to error boys, and vice versa. High appreciation given by the teacher to the students in the opposite gender. However this is not an absolute condition occurs in all places. 14

ii. Job Function
Job function devide into two part, first is head master and the second one is teacher. Headmaster have to make decision in many aspect for school progress, they make regulation and control the school system, in another case teacher has a duty to control learning process in class, apply a new teaching model and make innovation in teaching system in class.

iii. Ages
Ages as characteristic which can influences someone’s professionalism in teaching. Based on our research about learning models based ICT, there are 65.8% teachers which the ages is more than 40 years old. It means that they have to develop their capability to use modern technology. As Teddy (2008) said that “The variable age is also a very real control variables affecting the relationship between the independent variable (performance expectations, social expectations and social influence) on the intention to use information technology”. 15

iv. Educational Level
77.2% teachers in Bekasi West Java have educational background are undergraduate, because Indonesian Government Regulations about teacher that they must have bachelor’s certificate in education major. With that regulations, the government want to develop educational world with good teacher’s capabilities. As Robbins (2010) said “Education is very important in order to enhance its capabilities. Teacher with higher education level are able to work with the level of difficulty and responsibility of higher”. 16

v. Length of Work
The working period influence the details control of the teacher, the longer time to teach will give more experience in teaching metod, from the table we know that more senior teacher which the teaching periode is more than 15 years. It means that they already get much experience in teaching. It relates to Aldi’s research (2009) The results of this study prove two things, there is a simultaneous effect between training and period of employment of the performance and and there is a partial effect of training and periode of employment on the performance.17

Results
Based on the results of observation of the conditions of existence of SMK in Bekasi there was a development of the number of vocational schools in the city of Bekasi, from eight schools to 11 schools. The implementation of the pilot project carried out in 1000 school factory schools in Indonesia, one of which at SMK 1 Bekasi.

Directorate PSMK: 2009 Teaching Factory (TEFA) is used as a model to empower vocational graduates in creating entrepreneurial and competence development expertise through collaboration with industry and relevant business entitas. TEFA has several objectives, namely:

a. improve the competence of vocational school graduates
b. increasing entrepreneurial spirit vocational graduates
c. products in the form of goods or services with added value
d. increase school revenue sources
e. increasing cooperation with industry or any business entity that is relevant.18

Based on research data obtained, the following elaboration SWOT analysis results obtained from research interviews with key informants MGMPs chairman entrepreneurship subjects and the school principal.

<table>
<thead>
<tr>
<th>NO</th>
<th>SWOT</th>
<th>STATEMENT</th>
<th>OPTION</th>
<th>RECAP</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Strength</td>
<td>Schools conduct programs related innovations entrepreneurship subjects</td>
<td>Yes</td>
<td>100%</td>
</tr>
<tr>
<td>2</td>
<td>Strength</td>
<td>School facilitates entrepreneurial laboratory for entrepreneurship subjects</td>
<td>Yes</td>
<td>75%</td>
</tr>
<tr>
<td>3</td>
<td>Strength</td>
<td>School facilitates computer or laboratory for entrepreneurship subjects</td>
<td>Yes</td>
<td>75%</td>
</tr>
<tr>
<td>4</td>
<td>Strength</td>
<td>Teach already using practices in entrepreneurship subjects</td>
<td>Yes</td>
<td>100%</td>
</tr>
<tr>
<td>5</td>
<td>Weakness</td>
<td>There are obstacles that may arise in the practice of teaching and learning in school when using ICT</td>
<td>Yes</td>
<td>50%</td>
</tr>
<tr>
<td>6</td>
<td>Opportunity</td>
<td>Schools facilitate the growth of the creative economy program for entrepreneurship subjects</td>
<td>Yes</td>
<td>100%</td>
</tr>
<tr>
<td>7</td>
<td>Opportunity</td>
<td>Schools require students to follow a practice of entrepreneurship</td>
<td>Yes</td>
<td>100%</td>
</tr>
<tr>
<td>8</td>
<td>Opportunity</td>
<td>Schools activities involving students in the school production unit or cooperative school</td>
<td>Yes</td>
<td>100%</td>
</tr>
<tr>
<td>9</td>
<td>Opportunity</td>
<td>Teacher’s competence to use ICT is already developed</td>
<td>Yes</td>
<td>100%</td>
</tr>
<tr>
<td>10</td>
<td>Threat</td>
<td>ICT is used by teachers still low</td>
<td>Yes</td>
<td>50%</td>
</tr>
<tr>
<td>11</td>
<td>Threat</td>
<td>There are improvement efforts should be made to improve the competence of teachers in the use of ICT</td>
<td>Yes</td>
<td>100%</td>
</tr>
</tbody>
</table>

From the picture above, we can see that the strength in SMKN Bekasi shows 100% of schools make innovation programs related to entrepreneurship subjects, and teachers are already using the practice on the entrepreneurship subjects and being the power of the other schools that already 75% school give Educational facilitate, laboratory entrepreneurship to entrepreneurship subjects and Schools facilitating computer / computer laboratory for entrepreneurship subjects. While weakness 50% are obstacles that increased in the practice of teaching and learning in schools when using ICT.

In opportunities, 100% of teachers agreed that the strength in SMKN Bekasi shows 100% of schools make innovation programs related to entrepreneurship subjects, and teachers are already using the practice on the entrepreneurship subjects and being the power of the other schools that already 75% school give Educational facilitate, laboratory entrepreneurship to entrepreneurship subjects and Schools facilitating computer / computer laboratory for entrepreneurship subjects. While weakness 50% are obstacles that increased in the practice of teaching and learning in schools when using ICT.

In opportunities, 100% of teachers agreed that ICT competencies of teachers must be improved and 100% school provide facilities to create creative economy
program for entrepreneurship subjects, schools require students to follow the practice of entrepreneurship and schools involving students in school activities or cooperative production unit of the school. 100% school have to improve the competence of teachers in the use of ICT. The threats school has to facing that 50% teacher still have low competency in ICT.

Based on research data, following the results of the analysis steps learning model that was obtained from the results of questionnaires the subjects of entrepreneurship teachers SMK in West Java.

<table>
<thead>
<tr>
<th>Resp</th>
<th>Inquiry Learning</th>
<th>Discovery Learning</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1 1 1 1 1 1 1 1</td>
<td>1 1 1 1 1 1 1 1</td>
</tr>
<tr>
<td>2</td>
<td>1 1 1 1 1 1 1 1</td>
<td>1 1 1 1 1 1 1 1</td>
</tr>
<tr>
<td>4</td>
<td>1 1 1 1 1 1 1 1</td>
<td>1 1 1 1 1 1 1 1</td>
</tr>
<tr>
<td>5</td>
<td>1 1 1 1 1 1 1 1</td>
<td>1 1 1 1 1 1 1 1</td>
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<tr>
<td>8</td>
<td>1 1 1 1 1 1 1 1</td>
<td>1 1 1 1 1 1 1 1</td>
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<td>9</td>
<td>1 1 1 1 1 1 1 1</td>
<td>1 1 1 1 1 1 1 1</td>
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<td>11</td>
<td>1 1 1 1 1 1 1 1</td>
<td>1 1 1 1 1 1 1 1</td>
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<tr>
<td>15</td>
<td>1 1 1 1 1 1 1 1</td>
<td>1 1 1 1 1 1 1 1</td>
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<td>16</td>
<td>1 1 1 1 1 1 1 1</td>
<td>1 1 1 1 1 1 1 1</td>
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<td>17</td>
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<tr>
<td>23</td>
<td>1 1 1 1 1 1 1 1</td>
<td>1 1 1 1 1 1 1 1</td>
</tr>
<tr>
<td>24</td>
<td>1 1 1 1 1 1 1 1</td>
<td>1 1 1 1 1 1 1 1</td>
</tr>
</tbody>
</table>

Notes :
1. Observation / observe the share of natural phenomena
2. Ask questions about Unexplained faced
3. Filed an allegation or possible answers
4. Gather data relates with suspected or questions
5. Formulate conclusions based on the data that has been processed or analyzed.
6. Stimulation
7. Problem Statement
8. Data Collecting
9. Data Processing
10. Verification
11. Generalization

Referring to the image above can be seen that the use of learning model that most teachers do today is discovery learning and if it is associated with the data SWOT analysis of her that 100% of teachers have been using learning innovation, and 100% of teachers agree that the use of ICT in learning will increase the competence teacher, although the fact that only 50% of teachers who master ICT in learning.

Whereas for appropriate learning models according to researchers is a project-based learning if you want to adjust with the government program as government regulation No. 20/2003, concerning the competence of vocational students should be in accordance with the employment / industrial. One approach to production and industry-based learning is learning that applying production at school called the Teaching Factory (TEFA).

Teaching factory is the development of production units and a dual system of education that have been implemented in vocational. The concept of teaching factory is one of the development of the vocational school to become a model school production. This is consistent with the statements made by Triatmoko (2009) that vocational education is still difficult to implement a production-based (production based education and training), as implemented in ATMI (Academy of Mechanical Engineering Indonesia). Therefore raised term teaching factory that requires CMS to implement to have a business unit or a unit of production as a place for learning.
student learning. In the business unit or the production, direct students to practice with producing the goods or services sold to the consumer.  

5. CONCLUSION

From the results and the above discussion it can be concluded that the actual conditions in schools are good in ICT and learning laboratory facilities but obstacles encountered entrepreneurship is still a small number of teachers who master and apply ICT in learning. Discovery learning model has been applied by teachers to raise students’ creativity but if you want more precise the model chosen in accordance with the concept should TEFA learning model used is project-based learning.

School has facilitated the growth of the creative economy program for entrepreneurship subjects by requiring students to follow the practice of entrepreneurship and involve students in school activities or cooperative production unit of the school. If teachers can make learning programs that are able to produce a product in the form of goods or services that have added value in order to increase revenue sources and train school student competency according to market needs in order to welcome the arrival of the MEA.

In addition to produce, the school is expected to enhance cooperation with industry or any business entity that is relevant in terms of marketing and teachers should be able to apply online marketing system using ICT in learning so that students are involved in stretching the creative economy.

6. SUGGESTIONS

From the conclusion above, researchers want to give suggestions for the school’s, teacher’s and research’s improvement.

a. The government provides teacher training in the use of ICT in learning.
b. The use of project-based learning is implemented in the learning process.
c. School increase cooperation with industry.
d. Teacher increased knowledge about E-Marketing in case of economy creative.

REFERENCES

[14] ibid