

The Implementation of Entrepreneurship Learning by using Project-Based Learning Method in University

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Abstract: The entrepreneurship learning is very significant to create an integrative and competent entrepreneur candidate in global business. The objective of the research is to describe the implementation of entrepreneurship learning by using project-based learning method which include student's activity in entrepreneurship practices. The research method used explorative approach which investigated the students skill after implementing the practices method. Here the researcher took role as the entrepreneurship subject lecturer of 30 university students which taking the entrepreneurship subject on March to July 2013. The research instrument which developed are included: interview guideline, observation checklist, questionnaire and documentation. The artifact (learning movie in implementing business plan by entrepreneurship practices and document of learning products) are also collected as source of data. The research result shows that the implementation of entrepreneurship learning by using project-based method has been carried out successfully. The assessment result shows, the project proposal of business plan includes the project design (80%), students do calculation in production process (90%) and product design (70%). The result in interviewing students shows that 75% average students have skill in applying business plan by implementing all management aspects and have such entrepreneurial character in the entrepreneurship exhibition they carried.

Key words: Learning, entrepreneurship, practices, project, calculation

INTRODUCTION

The exertion in creating competent and high quality employee both in university such diploma and polytechnic program and Vocational High School level has been long standing handled. There are lot of occupations which handled by both technical and vocational graduation with low creativity, quality and inefficient. This fact shows that the productivity of university graduation still in low level. In fieldwork, the criterion of the employees specification in selecting system which needed is certain character that showing ability, motivation, intelligence, carefulness characteristic and risk which is equal with the ability they have (Mathis and Jackson, 2004). There is a hope to the university graduation as fresh entrepreneurship cadre which has strong character and able to create new employment with wider access. This situation shows how urge it needs to look for some solutions for increasing graduation quality through increasing the quality of learning.

Facing to the employment problems which is more complex recently, we crucially need adaptation power concerning to the recent and coming changes of the era often as skill or skill automation of certain unit, a skill for accomodating contextual changes. The university

graduations are expected to have profession competence aspect, need such learning in employ ability skill which includes holistic and contextual perspective. Both coordination and effectiveness of the relation among three skill aspects those are academic skill, technical skill (occupational) and employability skill become crucial subjects in university learning practice as foundation of the graduation students in enrolling the fieldwork.

In addition, subject matter can be arranged that university students will do best learning when they having interest in subject matter and when the concepts are implemented in daily context, since they learn in fun circumstance and challenge more than learn within curriculum aspects which out of context. Therefore, the challenge is how contextual learning provides alternative way for increasing their learning quality. In many references, contextual learning is defined as learning that university students probable to learn how to use their academic understanding and ability in any context which inside or outside college to solve real and simulation problems both individual and group problems. One of alternative learning model which can give daily life context to them is project-based learning/PjBL. Project assignment is constructed by university students based on observing real problems around them. Thus, the project gives benefit for them.

Project-based learning approach as one of contextual learning model has many characteristics which including teaching and learning such: problem-based and project working. developing self-regulation happened in multisetting and multicontext, reach certain learning in various life contexts of university student's. Meanwhile, the implementation of drilling method in group discussion is part of learning together model. The implementation of learning together model by using group discussion and group project method (Slavin, 2005). The project-based learning approach is supported by constructivism learning theory. Constructivism is learning theory which get big support and based on an idea that university students construct their knowledge by their own context of experience. The project-based learning approach can be realized as one of natural learning creation approach which can encourage the university students build personal ability and knowledge. The opportunity to deliver idea, attend to someone else idea and reflect own idea to other people ideas are kinds of experience in empowering individual. The interactive process with colleague can help the meaning-making process. The interpersonal cognitive negotiation process as kind of delivering idea, debate, receiving or declining during interaction among colleague bring possibility on broadening and sharpening skill and knowledge. By this perspective theoretical, the project-based learning approach provides an alternative in authentic learning condition, it means the learning can ease the university students to increase their ability in collaborative working and problem solving. As recent learning approach, the project-based learning approach succeed to fix learning system in technological and vocational education (Knoll, 2002), thus the student's skill dimensionssuch as academic skills, occupationalskill and employ ability skills can be developed well.

Those skill dimensions are included three dimensions as following: academic skill, technical skill and employ ability skill. Those build a whole skill of a certain professional person. Skill in using any principles and ideas in designing a certain product is main academic skill which required by a professional. In additional, the real experience through production process will enlarge and sharpen it. Goes with constructivism theories, the real experience through production process as technical learning tool will enlarge and sharpen academic understanding also (Doolittle and Camp, 1999). Within this research context is assumed that the experience in entrepreneurship educational implementation through activities in production process based on real problem contextually will increase entrepreneurship skill more. The implementation of entrepreneurship learning by

Project-based learning method in university entrepreneurship educational can increase entrepreneurship skill. This article will presents the process of conducting an entrepreneurship learning by starting to construct the business plan by using discussion method, starting to conduct entrepreneurial activity by using drilling method, then discussing the result of entrepreneurship practicing.

MATERIALS AND METHODS

Research framework: Based on the objectives of this research are for mapping the project-based learning characteristic in developing employability skill dimensions as foundation in developing the constructivism entrepreneurship learning, understanding what skill dimension which its development is proper to the project-based learning approach, moreover how far project-based learning approach can accomodate the university student's learning necessary. The ways to increase individual creativity are such as: free own self to be creative, looking for act, observing and studying technology changes and product changes, respect any experiences as the strenght to be creative, record every creativity, pay attention to someone else critical and suggestion (Zimmerer *et al.*, 2008) and stated some creativity process which includes) preparation investigation) transformation, incubation, illumination, verivication, implementation. Thus, this research framework suse explorative approach which explore the students skill after implementing drilling method. The researcher takes role as lecturer in entrepreneurship subject for the university students which also as the research subjects.

Research subject: The subjects of the research are students of STKIP PGRI Jombang, in economical education field which included 30 students who take entrepreneurship subject as research subject criterion in developing project-based learning. The reseach was conducted on March to July 2013.

Developing instrument and collecting data: The instrument of collecting data was developed by the researcher. The instruments which were developed include: interview guideline, observation checklist, questionnaire and documentation. The artifact (learning movie in applying the business plan by using entrepreneurship drilling method and the documents of learning products) also be collected as source of data.

Data analysis: There were three steps of data analysis. First, quantitative data would be processed then being

tabulated and calculated in quantitative way. Then, the percentage of each item be calculated so that could be known its tendency. The data profile can also be depicted after this process completed.

Second, the qualitative data was processed and classified. The data reduction would be completed by the entered data which there was no relevancy before classified, the qualitative data which collected through deep interview in spite of observation need to be written the transcript before. At this step, the documentation should be analyzed also as authentic additional data. Moreover, qualitative data, quantitative data, in spite of context analysis were synthesized as a foundation in asserting first assumption. The first assumption then be confirmed to the subject of research. By this way, the research result was expected has good validity (construct, internal and external) and reliability.

Thus, a part of data analyzed by using qualitative technique, data which had been collected were reduced being main findings which relevance to the research purpose, afterward those were presented in narrative way. Moreover, the data were presented descriptively, factually and sistematically.

The third, reconstructing model for mapping variety of implementable project-based learning model which was based on student's character in educational institution to gain the variety of development model in project-based learning that administered by students in certain institution. The findings within the conclusion of models were potentially develop the employability skill of university students. The model reconstruction is based on three main pillar, those are: contextual collaborative and learner autonomy.

RESULTS AND DISCUSSION

The description of project-based learning model characteristic in university: The characteristic of this project-based learning model was implemented to 30 university students in entrepreneurship subject especially for economy educational program of STKIP PGRI Jombang. The indicators of project-based learning characteristic in university are included: project description which relates to the entrepreneurship competence standard, determining certain theme of the project, determining context of the project, formation of group working, project instruments, work time allocation, identification of real problem, forming an alternative problem solving, designing process, producing process, technique of assessment aspect, presenting the result of the project, type of produced product, duration of the project, the aspect of measured learning

result, the technique in measuring learning result and the strategy in implementing project-based learning. The review of Project-based learning implementation is performed on youtube under the title "mengaplikasikan rencana usaha oleh Dr. Ninik Sudarwati" and has been registered in copyright number of 071736. The movie describes briefly a lecture teaches about business plan by using lecturing method, the lecture gives a task to construct business plan, group discussion to construct business plan, student's project method conducts entrepreneurship exhibition by implementing student's understanding in managing business and all management aspect, the lecturer conducts an interview to each group in entrepreneurship exhibition, discuss the result of the activities in carrying project then together with students lecturer asserted conclusion of the business plan application.

Project assignment and the way in determining: The draft of project-based learning started by describing project assignment. This description points to the relations among the theme of the project work, the project design and the complexity degree of the project with the competency standards that should be achieved in learning. Learning by giving project as the task with the details as following: the lecturer gives a description of project task completed with the competency standard which going to be achieved through the project work itself, describe the theme of the project, students are given a freedom to choose a theme that has been offered in the project task description. Learning activities are carried out by focusing on students, thus they are given autonomy in determining project task in the form of constructing business plan and applying it in the form of entrepreneurship exhibition. The students or a group of student's talent and interest are given opportunity to grow up through the activity of entrepreneurship project. The learning reins are entirely depend on students and it is formed a small committee to hold an entrepreneurship exhibition. The complexity of the project task is known 20% group less appropriate to the competency level. Therefore, the role of the lecturer is required in monitoring and measuring degree of complexity of the task and its appropriateness to the competency that going to be achieved. Besides since the project task is complex, group working is intended that each of student has working experience in a team and communicate in completing the task.

The project proposal and determining strategy in solving problem: Lecturer briefs the group in formulating and determining strategy of the project completion that need

to be done by the students. Lecturer studies the business plan concept outcome of each group concern to the rationality level of cost calculation which includes in management aspect that will be practiced in entrepreneurship exhibition. Based on that assessment, the project proposal of business plan includes the project design (80%); on that planning the students do some calculations process of product dimension, material calculation, engineering and cost calculation (90%) and the design is presented in the form of image or chart (70%). Moreover, the proposal is less complete.

Project assessment: In the implementation, project based learning provides a learning experience for personal development of the students. The lecturer uses some ways such as: giving individual and group responsibility, giving flexibility to take decisions in managing group of students in carrying out the task, giving guidance and assistance for learning implementation and the measurement of drilling result in entrepreneurship exhibition. Students in levels of age and maturity level of psychology that has been in adult category and ready to face their knowledge and skills so they can complete the project well. Project-based learning gives students flexibility to adjust their group working schedule.

Project-based learning gives students opportunity to produce short and simple product or cooperating with other business sector unit. Types of products manufactured in entrepreneurship exhibition generally entrepreneurial culinary products that quickly and easily consumed and being interested by local consumers, thus it eases in calculating the cost of expulsion and income. Project-based learning gives students the opportunity to undertake an assessment of the work or product. Tim faculty study program consisting of three professors of economic education play role in assessing student work product and result of this assessment is used as feedback as well as for the assessment of learning outcomes.

The assessment component of the project includes indicators of the application process in all aspects of management, product or processes and products as well as implementation report of project activities. The assessment of work projects adapted to the characteristics of the project condition and the process of learning, there is still no proper method in making assessment based on projects, the complete assessment procedure on the project-based learning method, so the environmental assessment is more compatible (Bergh *et al.*, 2006).

The researcher of student projects on displayed, promoted and sold to the general public significantly in

the entrepreneurship exhibition. The results of this work are generally assessed directly by the lecturer to get the students result objectively. The implementation of the production management shows 70% of the students are very good, because this type of project is simple by producing limited food material quantity, able to calculate Break Even Point (BEP) and able to predict the profits which is gained and business profit significantly and 30% group are less good because of excessive project and do not adapted to the capability and limitation of time, effort and cost. The result of implementation of human resource management 90% students are very good result and has high level of togetherness by dividing tasks properly and doing on time, it is caused by the students maturity that they are in the last grade. By the implementation result in finance management there 80% group students are able to construct and complete finance report from members of group income, material financing, production cost, income, result of product sale, benefit of business and 20% of group students still doing some mistakes in constructing finance report. The result of marketing management application shows 80% group students have been able to implement marketing management by identifying product, the superiority and the benefit of the product can persuade buyer which firstly being potential buyer to the real buyer, can increase purchasing amount actively. The quality of the product 80% for each group of students is good enough quality with suitable cost to the quality of product and affordable for consumer, the product has strong, safety and healthy package to attract consumer and 20% is in very high quality of product with expensive cost and not affordable enough for consumer. Generally, university students have been able to implement mix marketing, includes). The affordable price of product, the strategic, clean and attractive marketing place, the quality of product is good enough and suitable to its price, safety package of the product, healthy, innovative and able to attract consumer, implement marketing in another place besides promote in a state place. In the end of the entrepreneurship exhibition the lecturer of entrepreneur subject carried out an interview concerned to the problem between a constructed business plan with the real practice of the entrepreneurship exhibition itself, then the problem during implementing management aspect. By the implementation activity of entrepreneurship exhibition project it can be reported 80% group able to construct a project report concerned to the implementation activity in detailed includes production management, finance, marketing and group resource. And the remaining of 20% group still less complete yet in arranging report of project activity in producing and marketing part. Overall, the implementation

Table 1: The description of the skills that expected being develop through students project

Indicators	No. of students	Percentage
Skill in implementing the academic knowledge to the practice	27	90
Delivering clear idea	23	76
Creating qualified product	20	67
Constructing task clearly	18	60
Student can design certain product, calculate for technical, material, cost and create production tool to solve real problem	25	83
Create planning effectively	28	93
Students skill in understanding context of the problem, knowledge and skill are useful to solve the problem	20	67
Drafting tool or recent technology which properly use to solve real problem	24	80
Evaluate self action effectively	27	90
Sensitive to the feed back	18	60

activity of entrepreneurship exhibition project has carried out well by implementing all management aspect with marketable quality product.

The achieved skills through activity of entrepreneurship exhibition project: Project-based learning can develop multi skills. The lecturer of entrepreneurship subject determines types of skill that need to be achieved through students project. Those skills are determined consciously as learning objectives. The lecturer encourages students skill by conducting direct interview to each participant of the project implementation after doing entrepreneurship exhibition. The lecturer describes the skills which were achieved and found during project-based learning on Table 1.

The result of the interview above shows even 75% participants have skill in applying business plan by implementing all management aspect and have good entrepreneurship spirit. The characteristic of a successful entrepreneur profile are includes: responsible desire, risk willingness by considering rationality, success believing, desire in gaining quick feed, high energy, future oriented, organizing skill, give priority to the achievement than money, high commitment, tolerance for ambiguity, flexibility and tenacity (Zimmerer *et al.*, 2008). And the remaining 25% of them still need to be developed and directed their creativity, business sensitivity and maturity attitude to face the problem.

This research study begins from the highlight a number of important issues in vocational education in Indonesia. First, public concern issues about the low of labor's quality however they are university graduation. Second, the fragmentation of employment is running more complex which not only because of skill or the automation of spesific unit skill but also the adaptation power to both recent and future changes is more important, that is a skill to accomodate the contextual changes. Third, the low of student's autonomous which lack of having entrepreneurship skill and factually more university graduations look for job rather than as an entrepreneur.

As one of way to solve problem which mentioned above, so the entrepreneurial education in university uses

project-based learning method as the alternative approach which evidently can increase the entrepreneurial skill. A number of literature have shown that the strong skill and knowledge and meaningful use can be constructed by giving tasks and authentional works (Hung and Wong, 2000). In a study, it is supported by open-ended designing activity, the existance of real working drill which proper to the planning is drawn up before with the results or answers are not predetermined by a particular perspective. The finding which relates to the project-based learning's characteristic in university that Project-based learning model which implemented in university direct to three configuration models which includes) Project-based learning model placed the project as development accomodation for technical skill and the domination of lecturer's role in completing work project is greatly needed as guider and director, project-based learning model placed the project as accomodation in approaching practical, theoretical and contextual study with lecturer intensively guide in completing the directed and proper project to the plan, project-based learning model placed the project as accomodation in integrating contextual problem solving study, collaborative and giving big autonomous to the students in taking decision of project completion. Project-based learning model has similarity in drilling learning method. Drilling method is implemented in "direct instruction" learning model. The "direct instruction" learning model is teaching model which included teacher's explanation concern to the new concept or skill of the students ask the students to test their understanding by doing controlled drilling and encourage the students to continue the guided drilling (Bruce, 2009). The application of "direct instruction" learning model includes 5 stages as following: Orientation phase (the teacher determines material, reviews the lessons, determines learning objectives, determines teaching procedures) Presentation phase (the teacher explaining concept and skill, presenting visual presentation or task given, ensuring comprehension) structured drilling phase (the teacher guides a group of students with practical examples, responding question, providing correction and strengthening proper drilling);

the stage of supervised drilling teacher (the students practicing in semi-independently, the teacher observes of each student's practice, the teacher giving response) the stage of independent drilling (the students conduct independent drilling repeatedly in adjusted time) (Bruce, 2009). Essentially, the project-based learning and drilling method have similar learning activity which centered on drilling of active students and the lecturer takes role in directing and guiding.

The activity of project-based learning more autonomous to the students selves. This model is also based on real problem, contextual and meaningful for students. This controlling of students-centered learning encourage the students independence in taking decision to act and giving students freedom to do the greatest creativity. The problem which taken is relatively complex and the experience in completing the tasks become more challenging to the students which accordance with their maturity in adult phase.

The developed skill by project-based learning is implemented for developing mind skill and independently acted. The lecturer who implements Project-Based Learning are consciously decides learning involvethe objective that is not only on hard skills oriented which involved technical and cognitive skill but also soft skill-oriented which include creative, innovative, responsible, cooperation, effective and independent action.

The finding on assessment result gained from assessment elements to the project outcome are included as the application process indicators for entire management aspect, product or both process and product then the implementation report of project activity. The result on student's project are obviously displayed, promoted and marketed to the entire society in the entrepreneurship exhibition. The result on implementing management production as many as 70% group are able to calculate Break Even Point (BEP), able to predict the benefit they gained and the real benefit they obtained. The result on implementing human resource management as many as 90% group has high cooperative skill by dividing task properly and on time. The result on implementing finance management as many as 80% group of students are able to construct and complete finance report of the member's incoming, the material financing, the cost production, the income, the result of product sale and the business profit. The result of implementation marketing management as many as 80% group are able to implement marketing management by introducing the product, the superiority and the use of the product, able to influence the buyer who firstly being potential buyer becomes real

buyer, able to increase purchasing amount actively. The quality of the product as many as 80% each group has been qualified enough with the cost is proper to the quality of the prodct and affordable for the customer, each group has qualified products which proper to the product quality and affordable prices, the product has strong, safety and healthy package which attracts the customers. So, the implementation of entrepreneurship exhibition project had run well by students able to implement all management aspect with marketable product quality.

The high percentage skill findings in project-based learning are gained by doing direct interview to each student as the participant of the project after completing the entrepreneurship exhibition, included: skill in implementing academic understanding to the practicing as many as (90%), construct effective planning as many as (93%), evaluate the own action effectively as many as (90%). That shows the student's learning objectives in cognitive and affective aspect have been understood well and they are able to construct an effective business plan and able to do self evaluation. In other word, practicing of business unit is expected to give support in knowledge and being the material for increasing and understanding knowledge and skill concern to business field, the entrepreneurship material includes work enthusiasm, creativity in developing business, the way to begin abusiness and manage a business in simply way (McCrea, 2010). And the less attitude is constructing the task obviously which as many as (60%), being sesitive to the feedback as many as (60%). Those are because the students are not experienced yet in conducting any activity in entrepreneurship project-based. The whole skill shows in average of 75% students have skill in applying business plan by implementing all management aspect and have good entrepreneurship spirit. So, the entrepreneurship learning by entrepreneursip exhibition practicing model includes learning the entrepreneurship theory, producing, managing, marketing which can develop independence attitude, mature, careful, more sensitive in starting business and able to communicate with the society (Lamsa *et al.*, 2008). Great entrepreneurship characteristic is very needed as the independent source in running business and also as source of working achievement in certain organization. Furthermore, the factor of individual achievement are included: the individual skill completing the work the effort level which completed; the organization support (Mathis and Jackson, 2004). Thus, the entreppreneurship learningby using project-based learning able to develop skill and entrepreneurship attitude.

CONCLUSION

As one of way to solve the low entrepreneurial skill and ability, so the entrepreneurship education in university use project-based learning method as alternative approach which can increase business skill and the real training process which is independently conducted in learning activity.

The research finding which relates to the project-based learning characteristic in university that it is implemented directs to the development of technical skill as accommodation to bring theoretical learning close to practical and contextual learning as accommodation in integrating contextual and collaborative problem solving study and this student-centered learning encourages the student's independence in taking decision in acting and give them freedom to do the greatest creativity. The lecturer's role here as guider and director in planning and implementing the project.

The research finding on assessment elements to the project result which asserted from indicators of application process in all management aspect there as many as 80% students are able to implement the aspect well. Thus, the implementation of entrepreneur exhibition project able to develop the student's independence in managing business. The finding of attitude skill after completing a whole entrepreneurship exhibition project shows the average of 75% students have skill in applying business plan by implementing all management aspect and have good entrepreneurship spirit. Therefore, the entrepreneurship learning by using project-based learning method able to develop skill and entrepreneurship attitude and able to manage business well.

SUGGESTIONS

By the findings on assessment result to the project result which asserted from indicators of application process in all management aspect, students are proved that they have skill in completing the entrepreneurship exhibition project. Therefore, the entrepreneurship learning by using project-based learning method able to develop skill and entrepreneurship attitude and able to

manage business well. Thus, the researcher suggests that the entrepreneurship education in developing center business needs to be students accommodation in studying entrepreneurship at college and for further research it is suggested needs to conduct research and development of the entrepreneurship learning model in university concerning to cooperation-based with a state sector in creating students obviously as business man according to their business interest.

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