

## The Effect of Project Based Learning on Fungi Kingdom Theme to the Development of Creative Thinking Skill and Students Entrepreneurship in High School

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### ABSTRACT

This study is aimed at digging information about the influence of the application of project based learning on Fungi kingdom theme to the development of creative thinking skill and the students' entrepreneurship in high school. This study uses weak experiment method with one group pretest and posttest design. The subject of the study is 35 students in class X IPA of a high school in Sumedang. The data is gained from the pretest and posttest about the concept mastery, test of creative thinking, and students' entrepreneurship which are completed with observation sheet, questionnaire, interview sheet, and e-performance assessment. Based on the analysis result, it can be concluded that the students' creative thinking skill is increase after the application of project based learning. The highest increase is detail thinking aspect while the lowest is the originality thinking. The students' entrepreneurships that appear from the highest to the lowest during the learning process are leadership, risk-taking, self confident, future-oriented, task and result oriented, and the originality. The respond of students and teacer to the project based learning is generally positive.

**Keywords:** project based learning, fungi, creative thinking skill, entrepreneurship, high school

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### INTRODUCTION

Education is a planned and conscious efforts to realize the quiet and the process of learning so that learners are actively developing the potential for her to have the intellectual intelligence, spiritual intelligence, emotional intelligence, ahlak noble, and skills needed by himself and the surrounding community. a process that lasts a lifetime in the course of one's life. in general education has two major tasks. First prepare the generation that had the ability of adaptation to environmental expectation. Bothprepare so that they are able to cope with problems – problems that are found by the way – the new way. [1]

As stated by Sepetcioğlu[2]to preserve natural resources, develop thinking about environmental issues, build the future of clean and healthy education. Understanding science and equip students with the skills necessary for the global world is crucial, and requires learning the proper form in the world of education [3]

Refer to the three is meaning that the actual education was not just to produce an intelligent human being intellectually but also form factor – factors such as supporting attitudes and skills so that the man can play an active role in the life of the real thing.

One way to shape the character of such students in the learning process with the application Execution model that will encourage students to learn actively. Through the execution of a will change the atmosphere of learning, learning from a teacher that guided the original instructed be students who do. [4] Learning oriented learning is a model project that uses a project or activity as a medium. By producing a wide variety of forms of learning outcomes obtained from the exploration activities, assessment, interpretation, synthesis, and information. (kemendigbud, 2013)

Project-based learning, focusing on the question – questions that lead students to utilize concepts and principles – principle through experience. This method is derived from the results of research in cognitive psychology and learning based on the understanding that in order that learners can: understand the concept; critical thinking; analyzing the information; communicate ideas; works in cooperative; and developing knowledge and skills in earnest – seriously. (Ismawati, 2016). Based on research conducted by kim stated that there has been a decline in creativethinking skills therefore students should be trained in order to be able to think creatively by applying entrepreneurial attitude. Ejilibe explained that Biology is a field of applied studies are built from many disciplines that aim to achieve and maintain the welfare of the individual in society.

Based on the above background, the researchers intend to do a research on the influence of the execution on the material fungi against creative thinking skills and attitudes of students at entrepreneurship high school. Material fungi was chosen because it contains the class XI biology teaching material that is poorly understood by students, especially on the role of fungi to human life.

## MATERIAL AND METHODS

Research done on one of the SMA state residing Kabupaten Sumedang West Java province. The population in this research is the class XI 6 academic year 2017/2018 semester odd. Population at group in a few squads (groups) that each squad up 7 students consisting of 5 squad. The design used in this research refers to research (quasi-experimental pretest-posttest design). Free variables is the execution of a learning model and variables are bound is creative thinking and entrepreneurial attitude. The instruments used are composed of matter mastery of concepts, a matter of creative thinking, and student worksheets (CATEGORIZED). The question that is given to students is a matter that has been through the stages of validation and reliability problem.

Based on The George Lucas Educational Foundation (2007) project-based learning application procedure consists of: (1) the determination of the fundamental questions, (2) designing project planning, (3) draw up the schedule of project implementation, (4) perform

student progress monitoring projects, (5) test results and (6) evaluate experience. Aspects of creative thinking consists of: (1) ability to think lincer, (2) ability to think lues Regency, (3) capability, original thinking, (4) detailing the thinking ability. Data analysis techniques using statistical tests i.e. test validity, reliability, level of difficulty, power different from reserved, normality, its homogeneity, and test the hypothesis.

## RESULTS AND DISCUSSION

Based on the calculation of validity, reliability, level of difficulty and distinguishing power problem that will be tested entirely as many as 20 question.

**Table 1.** Recapitulation of Test Data Analysis Results Understanding Concept

No	DayaPembeda		Tingkat Kesukaran	Validitas		Keterangan
	Indeks (%)	Keterangan		Korelasi	Sign. Korelasi	
1	20	enough	Very easy	0,65	Very significant	Used
2	40	good	easy	0,6	Very significant	Used
3	40	good	easy	0,6	Very significant	Used
4	80	Very good	medium	0,7	Very significant	Used
5	60	good	easy	0,67	Very significant	Used
6	20	enough	easy	0,48	Significant enough	Revised
7	80	Very good	medium	0,55	significant	Used
8	60	good	medium	0,49	Significant enough	Used
9	89	Very good	medium	0,52	significant	Used
10	20	enough	easy	0,48	significant	Used
11	60	good	medium	0,58	significant	Used
12	60	good	easy	0,72	Very significant	Used
13	80	Very good	Sedang	0,67	Very significant	Used
14	40	good	easy	0,78	Very significant	Used
15	40	good	Very easy	0,53	Very significant	Used
16	20	enough	Very easy	0,53	significant	Used
17	40	good	easy	0,53	significant	Used
18	80	Very good	medium	0,70	Very significant	Used
19	60	good	medium	0,50	significant	Used
20	40	good	medium	0,30	Significant enough	Revised

**Table 2.** Recapitulation of Entrepreneurship Attitude

No	Aspect	Average Higher Group				Average Medium Group				Average Lower Group			
		Pr	Po	G	N-G	Pr	Po	G	N-G	Pr	Po	G	N-G
1	Leadership	8,3	11,4	3,1	81	8,2	9,7	1,5	36	7,5	10,2	3,3	60
2	Confident	14,3	18,0	3,1	57	13,5	16,1	2,6	40	14,0	16,6	2,7	44
3	Result orientation	12,6	14,1	1,5	46	11,0	13,8	2,8	60	11,0	13,4	2,4	49
4	Future orientation	8,9	10,4	1,5	37	9,2	10,4	1,1	38	9,7	10,6	0,9	43
5	Risky	6,2	7,4	1,2	68	5,0	6,4	1,4	48	5,5	6,8	1,3	40
6	Originality	9,4	11,0	1,6	53	8,6	9,7	1,1	25	8,7	10,1	1,4	32
<b>Sum</b>		60,4	72,2	12,8		56,4	65,4	9,0		57,3	66,6	10,1	

Pr: Pretest; Po: Posttest; G: Gain; N-G: N-Gain%

The entrepreneurial attitude indicator in the observed in this study (1) leadership (2) confidently (3) task-oriented and results-oriented (4) 12-foot front (5) risk-taking and (6) originality. From the results of a pretest and posttest data to the entrepreneurship attitude

indicator based on the resized groups in getting data that turned out to be a change in attitude in the Group of high, medium and low for the sixth indicator varies, the high group obtain a high criterion (N-Gain 0.81) on leadership and future-oriented, criteria on the attitude of the confident, task-oriented and results, risk taking and originality. For groups are acquiring criteria for task-oriented leadership, attitude and results, future-oriented, and the taking of risks, the low criteria for aspects of confidence and originality. For the Group of low gain high on leadership criteria, the criteria are in aspect-oriented tasks and results, orientation in the future, taking risks, and originality, the low criteria for confident attitude.

## CONCLUSIONS

Project-based learning can influence on the development of creative thinking skills and entrepreneurial attitude. From the sixth entrepreneurial attitude that is leadership, self-confidence, task-oriented, and results-oriented to the future, taking risks and originality, a change in attitude in students group of high, medium and low for thesis indicators of attitudes entrepreneurship vary, groups of high gain averaged – averaged the largest changes on 4 indicators i.e. leadership, confidence, future-oriented and originality. Groups are gaining the largest change averages – average in task-oriented indicators and outcomes and risks as well as low-wage group – the largest average on indicators of leadership.

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