Effect of Star, Acid River, and Blind Square Games in Outbound Activity to Ability Critical Thinking

Yogi Akin
Universitas Pendidikan Indonesia, Sumedang Campus, Sumedang, Indonesia
yogi.1498@upi.edu

Keywords: Star, Acid River, and Blind Square Games, Critical Thinking.

Abstract: Star, acid river, and blind square game is a form of game that put forward the cognitive aspect in it. The problems studied in this research is whether there is significant difference of influence between star game group, acid river, blind square and control group to critical thinking ability. The method used is with Quasi-Experiment. The population in this study is all students of Junior High School 20 Bandung, while sampling using purposive sampling technique and obtained the number of samples as many as 60 people. Measuring tool that is used is scale test of critical thinking ability with research design that is Non-equivalent Control Design. Based on the data analysis, the average pre-test result of critical thinking ability test for star game group, acid river, blind square group and control group showed positive average on both variables. So the results showed that there were differences in critical thinking skills among students involved in star game groups, acid rivers, blind squares and groups of students who were not involved in the game group.

1 INTRODUCTION

Outbound activities are educational training so that individuals can develop confidence in their own abilities, social attitudes, leadership, problem-solving skills, team cohesion and behavior and can develop self-awareness even in the face of even great challenges. (Cason and Gillis, 1994). Outbound method is basically implemented by (experiential learning) which is presented in various game form. Participants of the activities will feel the direct implementation, so they gain experience from outbound activities. Learning trough experiences is always happening dan will be a major, if it not we will find a way to understand purr Universe (Kraft, 1999).

The learning environment is the social, psychological and physical environment in which the student is located. (Boud, Cohen and Walker 1993). The key factor is' reflection on action ', which involves re-evaluating learners' experiences (Andresen, Boud and Cohen 1995).

In connection with the purpose of outbound activities Ancok (2003: 1) states that the purpose of outbound to raise awareness among young people that their actions bring consequences and foster a sense of togetherness and affection to others. "Outward Bound emphasizes the value of transformative experience of physical challenge and service" (Gonzalez, 2001). Then given a unique set of problem-solving tasks to create an adaptive dissonance state that requires learners to adapt to its mastery, which reorganizes the meaning and direction of the learners' experience ". (Walsh and Golins, 1976, p.16)

The appearance of Experiential Learning model, gives us inspirations of the application of outside learning with the natural environment (outbound activities). This model can relatively enter the above three domains and can function in developing students' cognitive potential, besides that this learning model is considered better than the previous approach. (Danuminarto and Santosa, 2007: 18). The idea makes many people realize that social and cognitive development is not really separable. (Bjorklund and Brown 1998).

Thus the cognitive ability possessed is not limited to the understanding of information alone, but stretched far to understand, compare, even analyze, to evaluate. This is the basis of how important the ability to think critically, because in critical thinking there are several skills, one of the skills in evaluating. Critical Thinking is the main subject at the moment,

Akin, Y.
Effect of Star, Acid River, and Blind Square Games in Outbound Activity to Ability Critical Thinking.
In *Proceedings of the 2nd International Conference on Sports Science, Health and Physical Education (ICSSHPE 2017) - Volume 2*, pages 166-170
ISBN: 978-989-758-317-9

either from the side of theoretical or pedagogy. (Bailin et al., 1999). Critical thinking comes in many forms, but all possess a single core feature. (Browne and Freeman, 2000). Critical thinking is purposeful, reasoned, and goal-directed. Critical thinking also involves evaluating the thinking process--the reasoning that went into the conclusion one arrived at or the kinds of factors considered in making a decision. (Halpern, 1998).

With such exposure it is very clear that critical thinking is essential as a learning effort so that people can continue to learn and develop in a better direction, especially through star, acid river, and blind square games.

2 METHODS

The research method used in this research is experiment. The type of experimental research used by the authors in this study is Quasi Experiment. The population in this study is all students Junior High School of 20 Bandung class 8, which amounted to 400 people. Sampling was done by purposive sampling, with the number of 60 students. Namely 30 students as the experimental group and 30 students as a control group.

The experimental group was given a treatment with the game in outbound activities including Star, Acid River and Blind Square games. Treat these three games given to a sample of 16 meetings.

The research instrument used in this research is using questionnaire of critical thinking which the author quotes from the questionnaire Bambang Abduljabar (Dissertation, 2009 With Likert usage.

Processing data analysis using t test as effort to know correlation. To simplify the calculation of researchers Statistical Product and Service Solution (SPSS) Series 17.

3 RESULTS AND DISCUSSION

3.1 Results

Given the mean and standard deviation of critical thinking skills for game groups and control groups as shown in Table 1.

Table 1: Data description pre-test critical thinking ability.

Group Sample	N	Average	Std. Deviation	Varians	Lowes t Score	Highest Score
Games	30	137.30	11.84	140.15	114	159
Control	30	137.97	10.92	119.27	115	158

Table 1 above, explains that for a sample group of 30 people taken at random. The mean of questionnaire test of critical thinking ability before the (pre-test) for the game group obtained the mean score of 137.30 and the standard deviation of 11.84 and the variance of 140.15. While the lowest score obtained was 114 and the highest score was 159. In the control group, the result of questionnaire test of critical thinking ability (pre-test) obtained the mean score of 137.97 and the standard deviation of 10.92 and the variance of 119.27. While the lowest score obtained is 115 and the highest 158.

Table 2: Description of post-test data critical thinking ability.

Group Sample	N	Average	Std. Deviation	Varians	Lowes t Score	Highest Score
Games	30	149.97	11.09	123.06	125	167
Control	30	138.23	10.30	106.18	120	157

The average post-test result in Table 2 states that the critical thinking ability for the game group is 149.97 with the standard deviation of 11.09 and the variance of 123.06. The lowest score of the game group was 125, and the highest score was 167.

While the mean post-test score of critical thinking ability for the control group was 138.23 with the standard deviation of 10.30 and the variance of 106.18. For the lowest score is 120 and the highest score is 157.

Table 3: Normality test results pre-test critical thinking ability.

	Group	Kolmogorov-Smirnov[a]			Remark
		Statistic	Dk	Sig.	
Pre-Test Critical Thinking	Games	0,084	30	0,200*	Normal
	Control	0,101	30	0,200*	Normal

The data states that the normality test is based on the probability value compared with the degrees of freedom of $\alpha = 0.05$. From the data table 3 it states the probability value (Sig) of game group and control group data with Kolmogrov-Smirnova test is 0,200 *. Asterisk (*) at Sig value. Kolmogorov-Smirnova expressed a limit on the value of significance that can be presented, in other words the distribution of data normality is very significant. Based on table 3 above obtained normality test scores for game sample groups and normal distribution control samples.

Table 4: Post-test normality test result thinking ability.

	Group	Kolmogorov-Smirnova			Remark
		Statistik	Dk	Sig.	
Post-Test Critical Thinking	Game	0,104	30	0,200*	Normal
	Control	0,114	30	0,200*	Normal

The data states that the normality test is based on the probability value compared with the degrees of freedom of α = 0.05. From the data table 4 it states the probability value (Sig) of the game group data and the control group with the Kolmogrov-Smirnova test is 0.200 *. Asterisk (*) at Sig value. Kolmogorov-Smirnov expressed a limit on the value of significance that can be presented, in other words the distribution of data normality is very significant. Based on table 4 above obtained the normality test value of the group of game samples and group samples control of normal distribution.

Table 5: Homogeneity test results pre-test critical thinking ability between group games and control groups.

		Lavene Statistic	Dk 1	Dk 2	Sig.
Pre-Test Critical Thinking	Based on average	0,456	1	58	0,502
	Based on middle score	0,452	1	58	0,504

Data from the homogeneity test of pre-test in Table 5 can be seen that the result of statistical Lavene based on the average value is 0,456 with probability value (Sig.) 0,502. While based on the middle value obtained Lavene Statistics 0.452 with probability value (Sig.) 0.504.

It is known that the probability value (Sig) based on the average value is greater than 0.05. Similarly, when referring to the mean value, the probability value (Sig.) is greater than 0.05. Thus it can be concluded that the pre-test data critical thinking ability comes from populations that have the same variance. This means that the research data is homogeneous.

Table 6: Post-test homogeneity test the ability of critical thinking between group games and control groups.

		Lavene Statistic	Dk 1	Dk 2	Sig.
Post-Test Critical Thinking	Based on avarage	0,140	1	58	0,710
	Based on middle score	0,097	1	58	0,757

Data from the result of post-test homogeneity test in table 6 can be seen that the result of statistical Lavene based on the average value is 0,140 with probability value (Sig.) 0,710. While based on the middle value obtained Lavene Statistics 0.097 with probability value (Sig.) 0.757. It is known that the probability value (Sig) based on the average value is greater than 0.05. Similarly, when referring to the mean value, the probability value (Sig.) is greater than 0.05. Thus it can be concluded that the post-test data of critical thinking ability comes from a population having the same variance. This means that the research data is homogeneous.

Table 7: Results of t-sample samples paired between pre-test and post-test results the critical thinking skill of the game group.

		Average	Std. Deviation	T	Dk	Sig. (2-tailed)
Partner 1	*Pre-test* Critical Thinkingand *Post-test* Critical Thinking	-12,6667	17,676	-3,925	29	0,000

It is known that the tcount is -3.925 with probability (Sig.) 0,000. The tcount value is at the acceptance limit of H0 that is -2.045 and 2.045 with the probability value (Sig.) 0.000 <0.025 then H0 is rejected. Thus it can be concluded that the pre-test and post-test ability of critical thinking for the sample game group there is a significant difference.

Table 8: Results of t-sample samples paired between pre-test and post-test results critical thinking ability control group.

		Average	Std. Deviation	T	Dk	Sig. (2-tailed)
Partner 1	*Pre-test* Critical Thingking and *Post-test* Critical Thinking	-0,26667	1,659	-0,880	29	0,386

It is known that the value of t-arithmetic is -0.880 with probability (Sig.) 0.386. The value of t-count is at the acceptance limit H0 is -2.045 and 2.045 with probability value (Sig.) 0.193> 0.025 then H0 is accepted.

Thus it can be concluded that the pre-test and post-test ability of critical thinking for the control sample group did not differ significantly.

3.2 Discussion

Based on the research that has been done, the results obtained that states that there is a significant difference in influence between students who do the game with who did not play the game. This can be interpreted that the game star, acid river, and blind square effect on students' critical thinking skills. In the game star, acid river, and blind square students are faced with a problem that is a simulation of real life. This means that in the activities of the game is not only his play activities are obtained, but the values of learning and education were participated, in addition to changes in self-students with increased confidence, increased thinking skills, more mature, more responsive to others, and greater sociability skills. The opinion confirms that the research that has been done by the researcher has a high influence for the critical thinking ability of children in which the critical thinking ability included in the cognitive abilities of children, so that the cognitive abilities of children will be trained if the child is given a game solve a problem.

This is in accordance with the results of other studies conducted by Janneke Verhaegh (2004). Describes research on Camelot design, which deals with outdoor games for small groups in children aged 13-15 years. The game is designed with the aim of improving the cognitive and psychomotor aspects of the child. Furthermore (C. K. John Wang and Woon-Chia Liu and Abdul Kahli 2006). Affirming that outdoor adventure programs generate positive changes to participants by exposing them to adventure activities designed to encourage discovery and character building. Previous research has focused on the impact of rehabilitative adventure therapy programs and adventure education programs for men or environmental students, but little is known about the girls' motivation to participate in adventure education programs. A total of 149 female students aged 13-16 years from a group took part in the study. In addition, in this study found a study that states that female students are more serious in the game compared with male students. Particularly in performing motion assignments and games provided. This is due to the fact that women experience faster maturity of personality or faster mature than men. In the development of children's literature, it has been mentioned that children's cognitive abilities are an important factor in child development.

From the results of the research above are all relevant and support the research that the author has done so that the opinion or research can be a strong support for the results of research that the authors do. Can the authors conclude the results of this study that the game star, acid river, and blind square in outbound activities can affect students' critical thinking skills and affect the three areas of learning process development, namely: psychomotor areas, cognitive areas, and affective areas.

4 CONCLUSIONS

Based on the results of processing and analysis of data that have been described, can be formulated conclusions from the results of research undertaken. The conclusions obtained are as follows: There is a difference of critical thinking ability, among junior high school students who perform star game, acid river, and blind square with those who do not play the game.

REFERENCES

Andresen, L., Boud, D., Cohen, R. 1995. 'Experience Based Learning.' In Foley, G. (ed.) *Understanding Adult Education and Training.* Sydney: Allen and Unwin, 207-219.

Ancok, D. 2003. *Outbound Manajemen Training*. Yogyakarta: UII Press.

Bailin, S. et al. 1999. 'Common misconceptions of critical thinking', *Curriculum Studies*, 31(3), pp. 269–283. Available at: ERIC database.

Bambang Abduljabar 2009. *Pengaruh Program Pembelajaran Kognitif Dalam Pengajaran Olahraga Tenis dan Program Pembelajaran Konvensional Dalam Pengajaran Oalahraga Futsal untuk Pengembangan Keterampilan Berpikir Kritis dan Atensi Kinestetik pada Siswa Sekolah Menengah Pertama*. Bandung. Disertasi SPS UPI.

Bjorklund, D. F., Brown, R. D. 1998. Physical play and cognitive development: Integrating activity, cognition, and education. *Child Development*, 69, 604–606.

Boud, D., Cohen, R., Walker, D. (eds.), 1993. *Using Experience for Learning.* Buckingham: Open University

Browne, M. N., Freeman, K. 2000. 'Distinguishing Features of Critical

Cason, D., Gillis, H. 1994. A meta-analysis of outdoor adventure programming with adolescents. *Journal of Experiential Education*, 17(1), 40-47.

C. K. John Wang, Woon-Chia Liu, Abdul Kahlid. 2006. "Effects of a five-day Outward Bound course on female students in Singapore". *Australian Journal of Outdoor Education*, 10(2), 20-28, 2006

Danuminarto, H., Santosa, A. B. 2007. *Experiential Learning By Outbound*. Surabaya: Titik Terang

Gonzalez, G. L. 2001. 'Expeditionary learning: An alternative teaching method for physical education',

Journal of Physical Education, Recreation and Dance, 72(October 2014), pp. 31–47.

Halpern, D. F. 1998. 'Teaching critical thinking for transfer across domains.' *American Psychologist*, 53(4), pp. 449–455.

Janneke Verhaegh, 2004. "On the design of Camelot, an outdoor game for children". tm.tue.nl, p.markopoulos @ tue.nl)

Kraft, R. 1999. 'Experiential Learning', *Adventure Programming*, pp. 181–186.

Walsh, V., Golins, G. 1976. *The exploration of the Outward Bound process.* Denver: Colorado Outward Bound School