



Effect of Co-Curricular Activities on Academic Achievements of Special Educations Students with Learning Disabilities

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ABSTRACT

This research investigated the effect of co-curricular activities on academic achievements of special educations students with learning disabilities in SMK Permata Jaya, Rengit, Batu Pahat, Johor, Malaysia. 20 students from special educations class session 2015 were selected for moderate level syllabus and another 20 students were using high level syllabus constituted a study sample. Each level of students taught by the same teacher was divided into experimental and control groups. The experimental groups were involved in co-curricular activities and the control groups did not participate in any co-curricular activity. They were two types of co-curricular activities which are physical activities and the other was like debates, speeches and drama. Raw scores of the students from the subject of Science test made up data for the study. Data analysis involved the use of mean scores and t-test of significant difference between two independent group means scores, supported by F-test of homogeneity of two independent group variances. It was found that co-curricular activities had significant effect on academic achievements of the experimental groups.

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Introduction

Co-curricular activities are programs that associated with the curriculum in a regular classroom. It refers to activities, programs, and learning experiences that compliment what students are learning in school. Co-curricular activities help to bring out all round development of the students, outside the subjects for examination schedule (Mehmood et al., 2012). Participation in such activities results in higher academic achievement and good physique (Suleman, Ranjit Singh & Zeeshan, 2014). Huang & Chang (2014) stated that student should be involved in both academic and co-curricular activities as much as possible to maximize cognitive and affective growth. Various studies had been conducted to investigate the beneficial impact of co-curricular activities to the student especially their academic achievement. Co-curricular activities enhance social interaction, leadership, healthy recreation, self-discipline and self-confidence (Paul & Baskey, 2012). Jamal & Omar Fauzee (2007) suggested that after-school activities do not have any negative implications for students' academic work as long as they are able to manage their study timetable effectively. Abdul Sitra (2005) shows that students who participate in the co-curriculum activities have shown a significant positive correlation with the four competencies tested which includes communication, cognitive, managing self and academic competency. Bashir & Hussain (2012) also revealed that co-curricular activities can contribute for enhancing academic achievements of the secondary school students. Most of the previous studies were focused on normal students as a sample of study. Besides, there were lacks of studies and published research work on the impact of co-curricular activities on academic achievement of special education students. Therefore, this study was conducted to investigate the effect of co-curricular activities

on academic achievements of special educations students with learning disabilities.

Purpose of the Study

The purpose of the study was to find out:

- The extent of Group 1 students involved in co-curricular activities and those who do not take part in co-curricular.
- The extent of Group 2 students involved in co-curricular activities and those who do not take part in co-curricular.
- Whether the academic achievement of Group 1 students involved in co-curricular activities and those who do not take part in co-curricular differ significantly.
- Whether the academic achievement of Group 2 students involved in co-curricular activities and those who do not take part in co-curricular differ significantly.

Research Questions of the Study

The following research questions based on the purpose of the study were raised.

- To what extent do Group 1 who involved in co-curricular activities and those who do not take part in co-curricular achieve academically in Science test?
- To what extent do Group 2 who involved in co-curricular activities and those who do not take part in co-curricular achieve academically in Science test?
- To what extent do Group 1 who involved in co-curricular activities and those who do not take part in co-curricular differ in their academic achievements?
- To what extent do Group 1 who involved in co-curricular activities and those who do not take part in co-curricular differ in their academic achievements?

Hypothesis of the Study

The following null hypothesis derived from research questions 3 and 4 were tested in the study.

1. There is no significant difference between the academic achievements score of students involved in co-curricular activities compared to those who do not take part in co-curricular activities in Group 1.
2. There is no significant difference between the academic achievements score of students involved in co-curricular activities compared to those who do not take part in co-curricular activities in Group 2.

Methodology

Design of the Study

The study is a quasi-experimental research. Some of the advantages of quasi experimental design are greater external validity, feasibility of studying things that not given to random assignment, greater accessibility to participants by used of field research, and use different variable approaches(Grabbe, 2015; Marais, 2012). Some of the advantages of quasi-experimental are low control over conditions, sampling bias issues, low internal validity and error from covariates and confounds(Grabbe, 2015).

Study Population

The study population comprised 45 special educations students in SMK Permata Jaya, Rengit, Batu Pahat, and Johor.

Study Sample

40 students out of 45 special educations students that made up the study population were randomly selected to constitute the study sample.

Procedure of the Experiments

There are 4 classes of special educations involved in this study which are Dahlia 2, Dahlia 3, Dahlia 4 and Dahlia 5 as shown in Table 1. Dahlia 2 and Dahlia3 are using medium level of special educations syllabus while Dahlia 4 and Dahlia 5 are using high level of special educations syllabus. In this study, Dahlia 2 and Dahlia 3 were in Group 1 while Dahlia 4 and Dahlia 5 were in Group 2. For Group 1, Dahlia 2 was used as experimental groups and Dahlia 3 was used as control group. For Group 2, Dahlia 4 was used as experimental groups and Dahlia 5 was used as control group.

Table 1. Group of students

Group	Experimental groups	Control groups
Group 1	Dahlia 2	Dahlia 3
Group 2	Dahlia 4	Dahlia 5

Group 1 and Group 2 were taught 2 topics in Science subject. The experimental groups were involved in co-curricular activities and the control groups did not participate in any co-curricular activity. They were two types of co-curricular activities which are physical activities and the other was like debates, speeches, marching and drama. For treatment, the experimental groups of Group 1 and Group 2 were engaged in co-curricular activities of their own choice. Time allocated for the activities was forty minutes daily throughout the week. No difference existed between any other variable such as teachers and academic time. Control groups were allowed to do anything they wanted during those forty minutes. After treatment of ten weeks, the Science subject test was administered to all the experimental and control groups.

Data Collection

Data of the study were collected with two tests of Science subject administered to Group 1(using medium level special educations syllabus) and Group 2(using high level special educations syllabus) students. One of the tests was based on the two topics taught to the experimental and control groups for Group 1. The other test was based on the two topics taught to the experimental and control groups for Group 2. Raw scores from these two tests constituted the data of the study.

Data Analysis and Result

Mean scores, t-test of significant difference between two independent group mean scores and F-test of homogeneity of group variances were used for data analysis in this study. Means score is used to determine the extent of academic achievements of experimental and groups of the students. The t-tests were used to find out whether the experimental and control groups differed significantly in their extents of academic achievement. The F-tests were used to ensure the reliability and firmness of t-test result.

Determination of the Extents of Academic Achievement of the Experimental and Control Groups of Students

The extents of academic achievement of the experimental and control groups of the students were determined by calculating their mean scores in the administered tests.

Research Question One (1)

To what extent do Group 1 who involved in co-curricular activities and those who do not take part in co-curricular achieve academically in Science test?

In order to answer this question, the mean scores of the experimental (engaged in co-curricular activities) and control (do not engaged in co-curricular activities) of the Group 1 (using medium level special educations syllabus) in a test were calculated. The results are shown in Table 2.

Table 2. Mean Scores of the Experimental and Control Groups of Group 1(using medium level special educations syllabus)

Test	Types of groups	N	Total Score (TS)	Mean Score
Science	Experimental (Dahlia 2)	10	636	63.6
	Control (Dahlia 3)	10	482	48.3

Table 2 indicates that the experimental group of Group 1who engaged in co-curricular activities, had a mean score of 63.6.The control group of Group 1who do not engaged in co-curricular activities, had a mean score of 48.3. These means score reveal that the extent of academic achievement of the experimental group of students was moderate while the extent of academic achievement of the control group was low. This is based on the fact that the maximum score obtainable by a student in the test is 100%. Table 2 also indicates that the mean score of the experimental group is reasonably greater than the control group.

Research Question Two (2)

To what extent do Group 2 who involved in co-curricular activities and those who do not take part in co-curricular achieve academically in Science test?

In order to answer this question, the mean scores of the experimental (engaged in co-curricular activities) and control (do not engaged in co-curricular activities) of the Group 2 (using high level special educations syllabus) in a test were calculated. The results are shown in Table 3.

Table 3. Mean Scores of the Experimental and Control Groups of Group 2(using high level special educations syllabus)

Test	Types of groups	N	Total Score (TS)	Mean Score
Science	Experimental (Dahlia 4)	10	638	63.8
	Control (Dahlia 5)	10	494	49.4

Table 3 indicates that the experimental group of Group 2, which involved in co-curricular activities, had a mean score of 63.8. The control group of Group 1 which did not participate

in any co-curricular activities had a mean score of 49.4. The mean scores reveal that the extent of academic achievement of the experimental group of students was moderate while the extent of academic achievement of the control group was low. This is based on the fact that the maximum score could be obtained by a student in the test is 100%. Table 3 also indicates that the mean score of the experimental group is reasonably greater than the control group.

Test of Significant Difference in Academic Achievement between Groups

Hypothesis One (1)

Hypothesis 1 states that there is no significant difference between the academic achievements score of students involved in co-curricular activities compared to those who do not take part in co-curricular activities in Group 1(using medium level special educations syllabus), at the 5% level of significance. Mean scores and standard deviations of the experimental groups and control group were calculated to test the hypothesis. The t-test was then applied to test for significance of difference in academic achievement between the experimental and control groups in the test. The t-test was two-tailed and conducted at the 5% (0.05) level of significance, with 9 degrees of freedom and an expected table value of 2.26 from the t-table. Table 4 shows the t-test result.

Table 4. The t-test result for the experimental and control groups of Group 1(using medium level special educations syllabus)

Test	Types of Groups	N	Mean Score	Standard Deviation	t-value
Science	Experimental (Dahlia2)	10	63.6	12.68	2.78 (S)
	Control (Dahlia3)	10	48.2	8.02	

$P \leq 0.05$; Expected value=2.26

S=Significance; N=Number of Students in Each Group

Table 4 shows that the calculated t-value of 2.78 is greater than the expected (table) value of 2.26. This implies that there was significant difference in academic achievement between the experimental and control groups of Group 1(using medium level special educations syllabus). Thus, the academic achievement of the experimental group who engaged in co-curricular activities, was significantly higher than the control group that do not engaged in co-curricular activities. Consequently, hypothesis 1 was rejected.

Hypothesis Two (2)

Hypothesis 2 states that there is no significant difference between the academic achievements score of students involved in co-curricular activities compared to those who do not take part in co-curricular activities in Group 2(using high level special educations syllabus), at the 5% level of significance. Mean scores and standard deviations of the experimental groups and control group were calculated to test the hypothesis. The t-test was then applied to test for significance of difference in academic achievement between the experimental and control groups in the test.

Table 5. The t-test result for the experimental and control groups of Group 2(using high level special educations syllabus)

Test	Types of Groups	N	Mean Score	Standard Deviation	t-value
Science	Experimental (Dahlia4)	10	63.8	12.69	2.50 (S)
	Control (Dahlia5)	10	49.4	10.20	

$P \leq 0.05$; Expected value=2.26

S=Significance; N=Number of Students in Each Group

The t-test was two-tailed and conducted at the 5 % (0.05) level of significance, with 9 degrees of freedom and an expected table value of 2.26 from the t-table. Table 4 shows the t-test result.

Table 5 shows that the calculated t-value of 2.50 is greater than the expected (table) value of 2.26. This implies that there was significant difference in academic achievement between the experimental and control groups of Group 2(using high level special educations syllabus). Thus, the academic achievement of the experimental group who engaged in co-curricular activities, was significantly higher than the control group that do not engaged in co-curricular activities. Consequently, hypothesis 2 was rejected.

Test of Homogeneity of the Variances of the Experimental and Control Groups

Two F-tests of homogeneity of variances of the experimental and control groups were conducted to support the t-test result in this study. The F-test was two-tailed and conduct at the 10 % (0.1) level of significance, with 9 degrees of freedom each for numerator and denominator and an expected value of 3.18 from the F-table. The process of computing F-ratio was applied to experimental and control groups of Group 1 and 2. The F-test results are presented in Table 6.

Table 6. The F-test results for the experimental and Control Groups of Group1 (using medium level special educations syllabus) and Group 2(using high level special educations syllabus)

Group	Types of groups	N	Standard Deviation	Varians	F-Value
Group 1	Experiment	10	12.75	162.49	2.52(NS)
	Control	10	8.02	64.40	
Group 2	Experiment	10	12.69	161.29	1.55(NS)
	Control	10	10.20	104.04	

$P \leq 0.1$; Expected value=3.18

NS=Not significance; N=Number of Students in Each Group

Table 6 shows that the computed F-value of 2.52 for the two groups in Group 1(using medium level special educations syllabus) is less than the expected (table) value of 3.18. Consequently, the variances of both groups were homogenous, implying that they did not differ significantly. The F-value of 1.55 for the two groups in Group 2(using high level special educations syllabus) is less than the expected (table) value of 3.18. The two F-test support the reliability of the t-test results in Table 4 and Table 5.

Findings

The following results came up from data analysis.

1. The extent of academic achievement of the experimental (engaged in co-curricular activities)group of Group1(using medium level special educations syllabus) was moderate, while the control group that was do not engaged in co-curricular activities was low.
2. The extent of academic achievement of the experimental (engaged in co-curricular activities)group of Group2(using high level special educations syllabus) was moderate, while the control group that was do not engaged in co-curricular activities was low.
3. The academic achievement of experimental (engaged in co-curricular activities) groups of Group 1(using medium level special educations syllabus)was significantly higher than that of the control group that was do not engaged in co-curricular activities.

4. The academic achievement of experimental (engaged in co-curricular activities) groups of Group 2 (using high level special education syllabus) was significantly higher than that of the control group that was not engaged in co-curricular activities.

Conclusion

From the findings, it was concluded that:

1. The extent of academic achievement of the experimental (engaged in co-curricular activities) group of Group 1 (using medium level special education syllabus) was higher than the control group that was not engaged in co-curricular activities was low.
2. The extent of academic achievement of the experimental (engaged in co-curricular activities) group of Group 2 (using high level special education syllabus) was higher than the control group that was not engaged in co-curricular activities was low.
3. The difference in the extent of academic achievement of the experimental and control groups of students was statistically significant, meaning that co-curricular activities had significant effect on the academic achievement of the experimental groups.

Recommendations

Based on the conclusion, the students which actively involved in co-curricular activities also take benefit in their academic achievement. Co-curricular activities serve positively in academic development, as well as social, mental and character of the students, and every student should be provided with the chance to take part in at least one of healthy and positive activity in school. The school management and teachers should also consider to plan and organize extra co-curricular activities which also balanced with teaching and learning activities in order to achieve high performance level in both aspects. Furthermore, the activities should be suitable to the special education student's abilities so that they can involve in every activities effectively. Moreover, parents could play their role in encouraging their children to get involved in co-curricular activities as an alternative way of fostering their children's strong academic performance.

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