

Effects of Guidance Group Adjustment Career Thinking Modules (ACT) Based on the Theory of Cognitive Information Processing towards the Dysfunctional Career Thinking and the Vocational Situation of Form Four Students

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DOI: 10.6007/IJARBSS/v7-i11/3430 URL: <http://dx.doi.org/10.6007/IJARBSS/v7-i11/3430>

ABSTRACT

This experimental study aimed to investigate the effects of the Small Guidance Groups (SGG) and Large Guidance Groups (LGG) Adjustment Career Thinking Module (ACT) oriented theory of Cognitive Processing of Information among students who score in the high and middle Dysfunctional Career Thinking. The effectiveness of small group counselling and group counselling are measured in terms of reduction of the decision-making confusion, commitment anxiety, and external conflict situations increase the treatment group therapy. The study was conducted on students at two secondary schools in Hulu Selangor, Selangor. Questionnaires used contain personal information and two questionnaires, namely Career Thoughts Inventory (CTI) and My Vocational Situation (MVS). A total of 108 subjects were selected into two treatment groups and one control group. SGG treatment of the subject is 36 students were divided into three small groups (R1a = 12, R1b and R1c = 12 = 12), LGG 36 students in one large group (R2 = 36) and a control group (K1 = 36), Treatment group subjects were given eight weekly group sessions, within eight weeks. The research data were analysed using descriptive analysis, ANOVA, MANCOVA and Post Hoc-Tukey at significant level of 0.01 and 0.05. The study

found that the treatment of the SGG and LGG effective in reducing the dependent variable dysfunctional career thinking and improve the vocational situation treatment group compared to the control group. SGG treatment group were found to be more effective than treatment LGG. The study also found that gender factor had no influence over the treatment. The study in general has contributed towards guidance and counselling services as it successfully generated a module in reducing dysfunctional career thinking and improve the situation of vocational students effectively.

Keywords: Guidance Group, Adjustment Career Thinking Module, Cognitive.

BACKGROUND OF THE STUDY

Career and individuals cannot be separated. The majority of people in Malaysia commute from home to school every day. This situation lasts at least for a period of 11 years. The main reason for going to the school over the years is simply to secure a job that can sustain one's life needs which is a very important plan in one's life (Rohany, 2014) and a major influence in the lives of individuals (Amla, 2010). According to Melati, Norfaezah and Norsafatul Aznin (2015), career counseling and individual interests is extremely important which has triggered a terminology called Life Career Counseling introduced by Gybers and Moore in 1973. The importance of career development also occurs at school level in the entire world.

Nevertheless, there is a dysfunctional career thinking ability in deciding the selection of field of study or a good job, particularly among secondary school students. This was demonstrated by studies in the west by Keim, Strauser and Ketz (2002), Austin, Dahl and Wagner (2003), Carr (2004), Osborn, Howard, and Leierer (2007), Hartley (2010), Chason (2010), Rodriguez (2012) and Yowell, Katz, Reardon, Peterson (2012). Meanwhile, there are also studies by Malaysians done by Mohd Khairul (2003), Arasinah (2009), Rohana (2010) and Mohd Ali (2010).

PROBLEM STATEMENT

The dysfunctional career thinking in deciding a field of study and career choice should be the main issue of the education system. This is because making a wrong choice on fields of study will lead to problems in deciding their future career. Based on previous studies, it was shown that students career guidance is relevant and should be enhanced from time to time as discussed in studies by Mohd Ali Jaamat (2010), Jasmi Abu Talib (2010), Dahir et al. (2012), and Yowell et al. (2013). While Gati and Saka (2001), states that the dysfunctional career thinking is a major problem among high school students. Although the negative effects of dysfunctional career thinking towards career development were documented, it was found that there is little effort to develop and help school counselors to use it for their students (Education Development Plan 2013 - 2025). In conclusion, the secondary school students not only need to learn the basic skills to make decisions (Feller, 2003; Gati and Saka, 2001; National Commission on the High School Senior Year, 2001; Steinberg and Allen, 2002), but school counselors also need conceptual framework and the tools to help them deal with students with negative thoughts which can impinge on the effective career decisions (Gati, Krausz, and Opisow, 1996; Click, 1998; Kinner & Krumboltz, 1986; Lewis and Gilhousen, 1981).

RESEARCH OBJECTIVE

The main objective of the experimental study is to investigate the effects of ACT small guidance group (SGG) and ACT large guidance group (LGG) on dysfunctional career thinking and vocational situation. Therefore, the specific purpose of the study are as follows:

- i) To study whether there is a significant difference in the mean size of dependent variable in the pre-test and post-test based on ICT and MVS treatment group compared to the control group.
- ii) To study whether there is a significant difference in the mean size of dependent variables in the pre-test and post-test based on KPK and SVS between the SGG, LGG types of intervention and the control groups.

THEORETICAL APPROACH

The basis of career theoretical approach used in this research and in the development of careers module is the Theory of Cognitive Information Processing (CIP) approach. CIP theory developed by James P. Sampson et al. (1996) was designed to assist individuals in making career choices at present and in future (Sampson et al., 2004; Buzzetta and Rowe, 2012).

According to Sampson et al. (2004), the CIP was built from two main constructs which are Pyramid of Information Processing Domains and CASVE cycle. Pyramid of Information Processing Domains involve career problem solving and decision making content while CASVE cycle is the process during problem-solving and career decision-making. CASVE was established to improve decision-making skills and to raise awareness in career problem solving and decision making process. CASVE include five levels of communication, analysis, synthesis, evaluation and action. CIP theory approach states that career problem solving and decision making skills are skills that can be learned and practiced. When individuals have improved their problem-solving and decision making skills, they can apply the same skills to the choices they make in the future. According to the CIP approach, the key aspects of career problem solving and decision-making are self-knowledge, work knowledge, decision-making skills, and metacognitions (Sampson et al., 2004).

RESEARCH METHODOLOGY

Study Design

This research is a quantitative research conducted as quasi-experimental. The main purpose of this study is to examine the effectiveness of the PPK module towards students' dysfunctional career thinking. The design of the study involves a variety of methods to collect data. Quantitative methods were carried out by a number of qualitative strategies to achieve the research goal (Creswell and Plano Clark, 2007). Quantitative data is key data (analyzing on study's subjects). While the qualitative data (information of teachers and students on research needs) is the source of information that supports the research.

The study had being conducted in the form of *pretest-pottest randomize control group design* quasi-experimental study. The design which was selected for the experimental study is the best approach to determine the effect of a practice that has been followed by research subjects as suggested by Tuckman (1974; 1988). Whereas, Gibbons and Herman (1997) stated that

experimental study design is suitable to be used to assess the effectiveness of a program. In this study, experimental study design was chosen to test the effectiveness of the intervention program on the career development of a group of high school students. According to Abdul Ghani (2009), an experimental research involves comparative description and analysis of the data under controlled conditions.

Table 1: Quasi-Experimental Research design of the Effects of Guidance ACT Module (SGG) and (LGG) on the dysfunctional thinking (Confusion in Career Decision Making, Commitment and External Conflict Fears) and My Vocational Situation

Group Types	Pre-Test	Guidance group	Post-Test
Group R 1 a	01	X1	02
Group R 1 b	01	X1	02
Group R 1 c	01	X1	02
Group R 2	01	X2	02
Group K 1	01		02

Legend:

R1 = Small Guidance Group (SGG) Treatment Group (3 treatment groups R1, R2 and R3)

R2 = Large Guidance Group (LGG) Treatment Group (1 treatment group)

K1 = Control group (CG)

01 = Pre-Test

X1=Guidance Module ACT (SGG)

X2 =Guidance Module ACT (LGG)

02 = Post-Test

Source: Modified from Heppner, Kivlighan and Wampold (1992).

Table 1 above shows the description of the quasi experimental study conducted. Subjects of treatment and control groups were selected in two stages through independent random sampling method and sampling criteria. The subjects were distributed into two treatment groups; SGG ACT and LGG ACT and one control group (CG). The SGG ACT (R1) treatment group consist of three treatment groups, namely R1a, R1b and R1c, while the LGG ACT (R2) treatment group, there is only one treatment group. There is only one Control group (KI) was formed. The independent variables for this study are SGG ACT Group guidance (R1), LGG ACT (R2) and the control group (KI). Whereas the dependent variable is dysfunctional Career Thinking (Decision Making Confusion, Commitment anxiety and External Conflict) and My Vocational Situation. All variables were tested with pre-test (01) and post-test (02) carried out on the treatment group subjects (R1) which followed the SGG ACT (X1) group guidance, R2 followed LGG PPK (X2) group guidance and control group (KI) have not received any guidance.

Study Sample

The study location and subjects were selected from form four students in two secondary schools in Hulu Selangor districts. Both schools were recommended by the Hulu Selangor

District Education Office since the characteristics of the schools and subjects are almost the similar as what is required by the researcher. The characteristics of the study subjects are; i) form four students. ii) middle-income SES (socio-economic status) family background with a monthly household income between RM 1500 to RM 3500 per month, iii) moderate academic achievement based on the examination Penilaian Menengah Rendah (PMR) with moderate scores in five PMR core subjects of Malay Language, English, Mathematics, Science, and History. The points calculation for each subject is; A grade is given 5 points, 4 points is given for B grade, C grade is given 3 points, 2 points is given to D grade, E grade is given 1 point. Therefore, the maximum score for each student is 25 and the minimum is 5 points. For this study, the selection of subjects of moderate academic achievement are those who obtained the moderate category score with an average 12 to 18 points. iv) have a high and moderate mean score for dysfunctional career thinking score.

As in Table 2, the division of subjects for the treatment of SGG was made according to three conducted groups of 36 subjects (R1a = 12 subjects, R1b = 12 subjects and R1c = 12 subjects). For LGG, 36 subjects in school B is selected according to the pre-determined ratios of gender and ethnicity. Then, for the control group a total of 36 subjects were selected to represent the control group (school A: 20 subjects; school B: 16 subjects).

Table 2: The Profile Distribution of Treatment and Control Subjects according to Group, Gender and Ethnicity

	Treatment Group				Control Group	Total (n)
	R1a	R1b	R1c	R2		
Gender						
Male	6	6	6	18	18	54
Female	6	6	6	18	18	54
Total	12	12	12	36	36	108
Ethnicity						
Malay	9	9	9	29	29	85
Chinese	3	1	3	3	4	14
Indian	0	2	0	3	3	8
Others	0	0	0	1		1
Total	12	12	12	36	36	108

Research Instrument

The instrument used is divided into three parts. Part One is questionnaire which aimed at obtaining personal information of students, academic achievement and family income. Part two is two study questionnaires; i) Career Thinking Inventory (CTI) and My Vocational Situation (MVS) Inventory. The third part is Career Thinking Adjustment (CTA) Module.

Research Procedure

1. CTI and MVS Inventories were administered to the treatment group and the control group as the pre-test.
2. The treatment group attended a guidance group for 8 weeks.
3. The control group was not given any special training. They attend regular lessons in the classroom.
4. CTI and MVS Inventories were given back to the treatment group and the control group.

STUDY RESULTS

Pre-Test Experiment Data Analysis

Before the experimental study was carried out, it is important to look at the distribution of mean and standard deviation scores for the key variables of the study which are dysfunctional career thinking and vocational situation. This is to ensure that there are no significant differences among the key variables before guidance groups are conducted. While, in explaining all distributions of the mean scores of the study variables, the researchers used the statistical definition or mean score standard interpretation based on Kerlinger (1979). In this case, the standard range of the score is based on the reference to Kerlinger (1979) that divides the distribution range of five points (one to five) into three parts: namely, a) a mean score of 1.00 to 2.40 is low, b) a mean score of 2.41 to 3.60 is moderate and c) a mean score of 3.61 to 5.00 is high. Therefore, the definition of mean score for dysfunctional career thinking (KPK) is based on the range of the following scores: namely, a) score of 48 to 90 score is low level, b) score of 91 to score 133 is moderate and c) a score of 134 to a score of 176 is high level. Whereas the definition of the mean score of my vocational situations (SVS) is based on the following range of scores: namely a) score 20 and score 33 is low level, b) score of 34 to 42 is moderate, and c) a score of 43 to 61 is high level.

ANOVA statistical test on the pre-test data shows that the distribution of mean and standard deviation scores of the key variables of the study based on SGG, LGG and control groups for the key variables there were no significant differences in the groups before the treatment session.

Table 3: Summary of ANOVA Statistical Analysis Measuring Differences in Mean and Standard Deviation Scores of the key Variables among SGG, LGG and Control Group based on Pre-Test Data of the Overall Subject

Group	Statistics	Dysfunctional Career Thinking	Vocational Situation
SGG	Mean	134.472	57.972
	N	36	36
	Standard Deviation	12.820	6.487
LGG	Mean	130.694	56.722
	N	36	36
	Standard Deviation	17.064	6.465
Control Group	Mean	137.722	60.222
	N	36	36
	Standard Deviation	13.8.901	8.901
Total	Mean	134.296	60.222
	N	108	108
	Standard Deviation	13.537	6.311

As detailed in Table 3, there was no significant difference in the pre-test data based on the three types of groups, namely the SGG, LGG and control group. The mean and standard deviations scores for the three groups of variables with DCT (Dysfunctional Career Thinking) and SVS (My Vocational Situation) did not show significant difference.

Table 4: One-way ANOVA Results Summary of Research Variable according to the Pre-test control group and treatment group

Variable	Source	Sum of Squares	df	Mean Square	F	Sig.
Pre-test Decision Making Confusion (DCM)	Between Groups	169.241	2	84.620	3.170	.05
	Within groups	2802.833	105	26.694		
	Total	2972.074	107			
Pre Commitment Anxiety (CA)	Between Groups	110.889	2	55.44	3.518	.03
	Within groups	1765.667	105	15.76		
	Total	1654.778	107			
Pre External Conflict (EC)	Between Groups	15.019	2	7.50	1.311	.27
	Within groups	616.519	105	5.72		
	Total	601.500	107			
Pre Vocational Situation (SVS)	Between Groups	93.685	2	46.84	1.287	.28
	Within groups	3913.880	105	36.38		
	Total	3820.194	107			
Pre Dysfunctional career thinking (DCT)	Between Groups	2249.18	2	1124.59	5.820	.04
	Within groups	14824.54	105	20.046		
	Total	15073.72	107			

p>.05 (not significant at 95% level)

Table 4 above shows the results of one-way ANOVA analysis on the pre-test study variables where there are no significant differences found in pre-test mean scores of Dysfunctional Career Thinking (DCT) and the My Vocational Situation (MVS) in either treatment group or a control group among the subjects. This value is not significant at the 95% confidence level. The description of the variable is for the Dysfunctional Career Thinking ($F = 5,820$) and SVS ($F = 36.38$). While for the DCT subscale, the results of the study showed no significant difference in the pre-test measures of DMC, CA and EC between SGG, LGG and control groups for the whole subject. This value is not significant at the 95% confidence level. The sub-scale description is a DCM ($F = 3.170, p > 0.5$), CA ($F = 3,518, p > 0.5$) and EC ($F = 1.311, p > 0.05$). This indicates that the pre-test mean scores between the two groups did not differ significantly. This hereby confirms that any changes in the scores of key variables and subscales key variables is due to the effect of the application of SGG and LGG treatment.

Post-Test Experiment Data Analysis

Overall, the analysis of mean score difference between pre-test and post-test was viewed descriptively before testing whether there is a significant difference in the mean size of the pre-test and post-test independent variables of DCM and MVS treatment group compared to the control group. After differences in mean scores between pre-test and post-test were observed, MANCOVA statistical analysis was used. This is because the pre-test data is a covariate and post test data is a variate where statistics can analyze the differences in score of every dependent variable among SGG, LGG and control groups.

Table 5: Summary of descriptive analysis of pre-test and Post-test Main Variables Mean score Overall Respondents (n = 108)

Variable	Mean		Description
	Pre-test	Post-test	
Dysfunctional Career Thinking (DCM)	135.620 (14.513)	95.435 (7.221)	Decreasing
My Vocational Situation (MVS)	42.555 (5.583)	58.305 (6.311)	Increasing

Legend: () = standard deviation

Table 5 shows a decrease of the mean of post-test compared to the mean of the pre-test main variables KPK, the treatment group compared to the control group. This is where the decrease is from high level to the medium low level. While there is an increased in SVS variable from moderate to high level among treatment group subjects compared to the control group. This means that, overall SGG and LGG are effective in reducing the Dysfunctional Career Thinking (DCM) and increasing the My Vocational Situation (MVS). With this, MANCOVA testing can be seen in Table 6 below.

Table 6: Summary of MANCOVA analysis on the effect group towards mean of pre-test and post-test KPK and SVS for the treatment group and the control group

Source	Independent Variable	Sum of Squares	df	Mean Square	F	Sig.
KPK test	Pre- DCM Post-test	242.111	1	242.111	91.261	.041*
SVS test	Pre- MVS Post-test	135.702	1	135.702	99.549	.021*

*p< .05 (significant at 95% level)

Table 6 are the results of the study based on MANCOVA analysis which show there are significant differences between the pre-test mean and post-test mean for all dependent variables, namely Dysfunctional Career Thinking (DCT) with the $F(1,108) = 91.2261$, $p < 0.05$; MY Vocational Situation (MVS) with the $F(1,108) = 99,549$, $p < 0.5$. Based on the results of the study, it is clearly shown that there is a significant difference in the post-test for the DCT and the MVS at the 95.0 percent level ($p < 0.05$). Coefficient of determination is $R^2 = 0.740$, R^2 (adjusted) = 0.732. This means that 73.0 percent of the treatment affect post-test DCT, while the coefficient determinant for MVS is $R^2 = 0.861$, R^2 (adjusted) = 0.857. This means that 86.0 percent of the treatment affect post-test MVS.

In this respect, it can be concluded that the administered SGG and LGG interventions are effective or have significant relationships towards all the main dependent variables, namely the DCT and the MVS among the subjects.

As MANCOVA analysis showed significant relationships, the Post-hoc Tukey test was performed to test the effectiveness of the SGG, LGG and KK treatments on all the dependent variables DCT and MVS as well as all MVS and MVS sub-scales in post-test. Post-hoc Tukey statistics shown in Table 7 exhibits the difference between the post-test scores of the dependent variables of the study between SGG and LGG.

Table 7: Summary of Post-Hoc Tukey Analysis of Post-Test Mean Difference Between the SGG, LGG and Control Group Treatments of the Main Dependent Variables Subject

Variable	Group Types		Mean Difference (I-J)	Sig.
	I	J		
DCT	SGG	LGG	10.58333**	.004
		CG	.38889	.992
	LGG	SGG	-10.58333**	.004
		CG	-10.19444*	.005
	CG	LGG	10.19444*	.005
		SGG	-.38889	.992
MVS	SGG	LGG	1.55556	.707
		CG	-27.16667**	.000
	LGG	SGG	-1.55556	.707
		CG	-28.72222**	.000
	CG	SGG	27.16667**	.000
		LGG	28.72222**	.000

*p< .05 (significant at 95% level)

**p<.01 (significant at 99% level)

Note: SGG = Small Guidance Group

LGG = Large Guidance Group

CG= Control Group

Table 7 shows the results of Post-Hoc Tukey analysis which revealed significant differences between the SGG and LGG; between the SGG and the control group; and between LGG with control group on all main dependent variables, namely the DCT and MVS subjects. Therefore, it can be concluded that the Post-hoc Tukey analysis showed significant differences in the post-test means of all main dependent variables, namely the DCT and MVS between SGG and LGG among the subjects. However, the mean score for SGG was found to be lower than the LGG score for all the dependent variables. This proves that the treatment of SGG which is small group oriented guidance is more effective than LGG which is large group oriented guidance.

DISCUSSION

Overall, the findings of the study proved that there was a significant increase in the post-test mean as compared to the pre-test mean of main variables DCT and MVS among the treatment subjects of SGG, LGG compared to the Control Group. This study shows that the successful reduction of DCT and increase of the MVS through two questionnaires, namely CTI Questionnaire and MVS Questionnaire. Hence, this study proves that the reduction of DCT may increase the MVS. On this matter, Sampson (2004) states that cognitive restructuring schema (Beck et. Al., 1979) emphasizes the methods of identify, challenge and alter on any negative career thinking and followed by an action plan. By reducing dysfunctional career thinking, students will process information more effectively as required to solve the career problem and career decision-making. By recognizing the negative impact of the dysfunctional career thinking and by learning the process of restructuring the career thinking, students will be more free and creative in their thinking and deciding on their careers based on reality.

Through the provided guidance, it can change the students' dysfunctional career thinking from the high score to lower score. The effectiveness of guidance in reducing the dysfunctional career thinking was successfully carried out by Reed et al. (2001); Werner (2003); Marano (2005); Osborn et al (2007) and Sthrom (2008).

The study also proved that the ACT module which is developed based on the theory of Cognitive Information Processing approach and conducted by means of small guidance group and large guidance group was successful in reducing dysfunctional career thinking and improving the vocational situation of subjects compared to the control group who received no treatment of ACT Module group guidance. CIP approach is a treatment process that combines cognitive, affective and behavioural. According to Peterson et al. (1996), decision-making requires an individual to solve ample problems as an addition to the cognitive and affective processes required to develop action plans and followed by a reasonable resolution. In order to make the decision to become more effective, the results must lead to behavioural changes needed to solve the problem.

Sampson et al. (2004) states the CIP approach emphasizes the importance of developing a career problem solving and decision making skills in the definition of their lifestyle development. Lifestyle development is the integration of career, relationships, spirituality, making spontaneous decisions that contribute to the more meaningful, and directed purpose of guidance in one's life. The development of an effective lifestyle is dependent on effective career development, which in turn, depends on effective problem solving. CIP approach is designed to assist individuals by teaching them the development of appropriate lifestyle and, user friendly problem solving and decision-making skills.

The suitability of CIP approach is consistent with studies that have been conducted in the form of guidance on aspects such as dysfunctional career thinking in such studies as Austin et al. (2003), Dipeolu et al. (2002), Keim et al. (2002), Austin et al. (2003), Werner (2003), Carr (2004), Marano (2005), Osborn et al. (2007), Strohm, (2008), Henderson (2009), Griffith (2009), Hartley (2009), Horne (2010), Smith (2011), Chacón (2010), Yowell et al. (2014) and Ward (2014).

As for the impact of Small Guidance Group and Large Guidance Group interventions, it is discovered that the post-test score of SGG is much lower than LGG. This is a prove that the effect of small guidance group (SGG) effects is better than the large guidance group (LGG). The results of this study matched the findings of a study by Mohamad Hashim (2003) who found that the small group interventions such as group counselling was found to be more effective than larger group counselling intervention and control group on career awareness, locus of control and Self- concept among students.

Research Implications

With regards to CIP theory application in Malaysia, there is still lack of database and usage among counselling practitioners in our country. This is in contrast with the development of the CIP theory abroad, where it has flourished to world over. This study will be the pioneer to future studies to delve into the field of CIP theory. The counsellors can also learn about the important aspects and real philosophy emphasized during counselling or career guidance

sessions. It will indirectly develop their knowledge and ways of handling career guidance based on the CIP Theory.

According to Niles and Bowley (2013), although research using CIP theory is not intensive, the number of studies on the CIP based theory is growing. The development of CTI is an example of a catalyst for CIP researchers studying theoretical proposals related to in depth executive domain, especially in our country, Malaysia.

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