Behavioral Cognitive Counseling for Reducing Test Anxiety Among University Students

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Abstract—**This study was conducted due to the absence of proper guidance and counseling service for solving academic problem at Ma'soem University. Anxiety is a problem that often occurs in the education world and is experienced by students at many levels, including university students. Out of many types of anxiety, test anxiety seems to be the most anxiety often occurs among the students. The current study was aimed at reducing test anxiety experienced by the second-semester students of Information system department of Ma'soem University in the academic year of 2018/2019. The present study was categorized as a quantitative study. This was a quasi-experimental study with nonequivalent Pretest-Posttest control group design. The samples of the study were selected through simple random sampling technique. The research instrument used an anxiety questionnaire to face the test. The data analysis technique uses the dependent t-test. The finding of the study showed that statistically, behavioral cognitive counseling is effective for reducing test anxiety among the sample of study.**

Keywords—behavioral; cognitive; counseling; test anxiety; university students

I. INTRODUCTION

One problem that often interferes in an individual's life is anxiety. In general, each individual will have anxiety. Anxiety can be understood as a complex emotional condition, where the reaction can vary, and the intensity can fluctuate over time [1]. More specifically, anxiety can be conceptualized as an unpleasant condition that is consciously felt, characterized by the appearance of tension and fear.

Anxiety is a difficult problem, where the solution requires an in-depth observation, so that an appropriate understanding is achieved. Anxiety arises in an individual whenever he gets a stimulus or situation that is seen as a threat. Anxiety arises as an unpleasant emotional state consisting of feeling tense, nervous about fear, and worry, accompanied by physiological changes [2].

Anxiety is a problem that often occurs in education world and is experienced by students on many levels, including university students. Students face many works, challenges, and demands in their daily lives. Those challenges and demands include assignment, report, paper, or test which become one of the forms of evaluation for students. There are various matters and situations affecting students' success. Basically, students' learning achievement is affected by two factors, internal factors which involve the students' physical and psychological condition, and external factor, a condition of environment around the students.

One example of internal factors that influence learning achievement are personality variables such as anxiety. Anxiety is one of the inhibiting factors in learning that can interfere with the performance of one's cognitive functions, such as difficulty concentrating, remembering, conceptualizing and solving problems. For students, one of the stressors in their lives is the demand in education. Students are not only required to obtain good grades but also to understand, explore, and be able to practice the knowledge they have learned. Changes in the learning environment are also one of the factors triggering anxiety in students. This can interfere with learning by reducing the ability to focus attention, reduce memory, interfere with the ability to connect one thing to another.

Out of many types of anxiety, test anxiety often becomes the main anxiety for students. Test anxiety has an important role in one's educational, professional and emotional life. Therefore, it is not surprising that the test environment produces anxiety for a number of individuals. For some students, test is a nightmare. A study conducted by Sarason found that students with high anxiety tend to have lower score compared to those with lower anxiety [2].

Anxiety about examining is triggered by uncontrolled states of mind, feelings and motor behavior. Uncontrolled cognitive manifestations cause the mind to become tense, uncontrolled affective manifestations result in feelings of bad things happening, and uncontrolled motor behavior causes students to become nervous and trembling when facing exams, especially the final exam.

The anxiety can even vary between men and women. As obtained by Spielberger in his study of 150 medical students at the Services Institute of Medical Sciences who showed that anxiety facing exams experienced by female students tended to be higher than male students [3]. The result of interview with fifteen students of Information System

Department of Ma'soem University for Academic year of 2018/2019 showed that they experience test anxiety when taking tests, especially for subjects they considered difficult, for students whose lecturer considered as "killer', or for a test whose supervisor is not friendly. The symptom of anxiety they feel is pounding heart, cold hand, cold sweat when answering the question, and afraid of failing to answer the test question.

In general, students who experiences test anxiety are characterized by the following symptoms: (1) nervous, (2) panic when trying to answer a difficult question; (3) sweaty; (4) uneasy expression; (5) frowned, or touching forehead, often followed by shook the head; (6) Irrational thoughts such as "what If I fail..., what if I get a bad mark…". Those irrational thoughts and tense mind and body conditions basically lead to the decrease of concentration; accordingly, the students cannot obtain an optimum result.

Irrational thought emerges because an individual perceives something too difficult, too frightening, and so forth. [5] The human being basically possesses the capability to aware of themselves. A unique and real capability that allows an individual to think and to make a decision. When an individual is aware and understands his/her responsibility, he/she will think, learn, and be motivated so that he can transform his/her negative thought into the positive one.

Related to this issue, behavioral cognitive counseling sees anxiety as one of the embodiments of mind and body tense which requires relaxation to create physical and mental comfort for the individual. This is in line with Beck's thinking that it is not a situation or things that exist in an environment that determines an individual's feelings, but is determined by how the individual constructs the situations he faces [4]. In other words, the emotional condition of students who experience academic stress is determined by the construct of thinking of students towards the academic situations at hand. In facing the issue, a certain technique is required to assist the students overcome their test anxiety [2].

Cognitive counseling behavior as an approach in counseling that applies a number of procedures specifically by using cognition as the main part of therapy. The focus of this counseling is perception, trust and thought [4].

Experts who are members of the National Association of Cognitive-Behavioral Therapists (NACBT), explain that [8] cognitive behavioral counseling is a psychotherapy approach that emphasizes the important role of one's thinking about how he feels something and acts according to what he thinks and what he feels [1].

Cognitive behavioral counseling is a combination of two approaches in psychotherapy, namely cognitive therapy and behavior therapy. Cognitive therapy focuses on thoughts, assumptions and beliefs, and facilitates individuals to learn to recognize and change mistakes. While behavioral therapy

helps build a relationship between problem situations and the habit of reacting to a problem. Individuals learn to change behavior, calm the mind and body so that they feel better, can think more clearly, so they can make the right decisions [5].

Based on the literature review on anxiety and some counseling techniques, behavioral cognitive counseling technique is considered as one of the effective ways in handling test anxiety. Besides, the result of 5-year practice done by Oemarjoedi proved that behavioral cognitive counseling is seen as one of the effective counseling approaches to solve individuals' problem regarding emotion and cognitive aspect. One of the problems that can be solved by using this approach is students' test anxiety [6].

Grounded from the role of guidance and counseling in University, in order to facilitate students receiving guidance and counseling service specially to solve their academic problem, the problem of the study is formulated as follow: "Is cognitive behavioral counseling effective in overcoming test anxiety?"

The main purpose of the study is to examine the effectiveness of Behavioral Cognitive Counseling in overcoming test anxiety among the second-semester students of Information System Department of Ma'soem University academic year of 2018/2019.

II. METHOD

This study was conducted by employing quantitative approach. Quantitative approach emphasizes on the numeric data. The data were analyzed using the statistical method. Quantitative study is conducted to obtain the significance of group difference or relationship between variables being studied. In the present study, quantitative approach is aimed at finding out the differences between the condition before and after treatment is given.

This study was categorized as quasi-experimental study, an experimental design that does not apply all requirements to control the effects of external variable. There is a control group in quasi-experimental design, however, it does not function in a whole to control external variables that may affect the experiment. Quasi-experimental design was selected since it is impossible to place the subject of the study in a true experimental situation that is free from social environment [7].

The type of this quasi-experimental design is nonequivalent Pretest-Posttest control group design. This study employed one experimental group and one control group. The study was begun by conducting pretest to the groups, then the treatment was given to the experimental group, it was ended by conducting Posttest to both groups. In the present study, the experimental group was treated by using behavioral cognitive counseling, while the control group was given conventional manner [8].

The stages of implementing the intervention in this study refer to the opinion of Oemarjoedi where the behavioral

cognitive counseling process is carried out in five stages of counseling. In this study the five stages of counseling were carried out in 10 sessions where each session was 90 minutes long.

- First stage: assessment and initial diagnosis. This stage is carried out in two sessions, namely the first and second sessions. The first step at this stage is to diagnose the problems experienced by students. This stage aims to obtain accurate data about the condition of students who will be intervened. Activities carried out at this stage are:

    a) dissemination of anxiety instruments facing exams to get information about the level of anxiety experienced by students;
    b) the formation of groups of students who will join the intervention program;
    c) contract counseling with students, in order to obtain commitment from students to take part in the counseling process from beginning to end.
    d) provide preventive services to students in the form of self-understanding and acceptance.

- The second stage: identifying emotions and negative thoughts of the counselee. Emotional emotions and negative thoughts need to be identified. The goal is to make the counselee aware of this and help motivate him to change it. This stage is carried out at the 3rd and 4th session.

- The third stage: arrange an intervention plan by giving reinforcement to the counselee. This stage is carried out at the 5th and 6th sessions. At this stage the counselor helps the counselee establish a commitment to change behavior and desire to be able to change his condition. The counselee is invited to make a commitment about the way he and the counselor apply positive and negative consequences to the progress of the learning process.

- Stage four: continued behavioral intervention. At this stage the counselor provides feedback on the progress achieved by the counselee, and provides other activities as further therapy to provide a more maximal effect. This stage was carried out in the 7th and 8th sessions.

- The fifth stage: prevention of relapse (return of symptoms of the disorder).

At this stage the counselor helps the counselee commit to actively form positive thoughts in every problem faced, and can do self-help on an ongoing basis. This stage was carried out in the 9th and 10th sessions.

As an effort to prevent relapse, counselors can follow up by conducting further counseling in less frequent sessions and shorter duration. So it is important for the counselor to get a commitment from the counselee to actively shape positive thoughts in each problem faced. This stage is carried out at a further counseling session outside the intervention session, which is one week after the intervention session ends.

The study was conducted in Ma'soem University Sumedang. The population of the study was 110 second-semester students of Information System Department of Ma'soem University in Academic year of 2018/2019. The second-semester students were selected based on the assumption that they had adapted with the learning system in University for one semester. Therefore, the anxiety they feel is related to tests, not the one caused by their difficulty in adjusting themselves to learning condition and system in university. The samples of the study were selected through simple random sampling technique. The samples taken were 25 students who experienced anxiety facing the exam in the medium category. The instruments used were the anxiety questionnaire in facing the exam. The data analysis technique used in this study is the dependent t-test.

III. RESULTS AND DISCUSSION

The data on test anxiety were collected from 110 second-semester students of Information System Department of Ma'soem University Academic year of 2018/2019. Based on the collected data, the following is the overview of test anxiety.

TABLE I. GENERAL PROFILE OF STUDENTS' TEST ANXIETY

No.	Score	Category	Frequency	Percentage
1.	$X > 135$	High	0	0%
2.	$90 < X \leq 135$	Moderate	43	39.09%
3.	$X \leq 90$	Low	67	60.91%

Based on the result of the study, out of 110 students, it was found that there are no students experiencing high level of test anxiety. It is possible since based on the observation during this study was conducted, the students learn how to manage stress through some activities held by the faculty. However, 39.09% or 43 students still possessed moderate level of test anxiety. Overall, the amount is smaller than the students who possess low level of test anxiety (60.01% / 67 students). Although it is categorized as moderate, their anxiety can increase when it is not handled properly Accordingly, the treatment can be given as preventive or curative action.

Test anxiety is indicated by some aspects namely: (1) verbal introspective confession; (2) Physiological symptom; (3) attitude and gesture; (4) work performance; (5) response to stress.

Based on the result of the study on 110 students, it was found that the propensity of test anxiety seen from these five aspects was categorized as low. The following table provides the depiction of test anxiety on each aspect.

TABLE II. LEVEL OF PROPENSITY OF TEST ANXIETY ASPECTS

Category	PERCENTAGE				
	Aspect 1	*Aspect 2*	*Aspect 3*	*Aspect 4*	*Aspect 5*
High	17.27	0.00	22.73	2.73	0.00
Moderate	29.09	39.09	28.18	27.27	40.00
Low	53.64	60.91	49.09	70.00	60.00

The result of the study showed that the level of students' test anxiety was categorized as low. However, there were still students who possess moderate level of test anxiety. Accordingly, preventive and curative guidance and counseling services to prevent the anxiety from increase are needed.

To find out whether or not there is a significant difference from the conditions of the control and experimental groups after being given treatment, the effectiveness test was carried out using the dependent t-test.

TABLE III. THE RESULT OF DEPENDENT T-TEST ON EXPERIMENTAL AND CONTROL GROUP

Group	Mean	Std. Deviation	Value of t_{count}	Value of t_{table}	Sig. (*2-tailed*)	Desc.
Experimental Group	-32.88	4,257	12,162	1,761	0,000	Significant
Control Group	-14.00	1,069				

Table 3 showed that the t_{count} value was 12,162 with level of sig. (*2-tailed*) = 0,000 on *df* = 14, so that the t_{table} value = 1,761 on the level of significance (α = 0,05). Based on the calculation result, it was found that $t_{count} \geq t_{table}$, it was 12,162 $\geq$ 1,761. Based on the result of t-test, there was significant difference in the condition of experimental and control group after the treatment was given. In other words, statistically, behavioral cognitive counseling is effective for reducing test anxiety among the second-semester students of Information System Department of Ma'soem University Sumedang Academic year of 2018/2019.

Then, t-test was done on every aspect of test anxiety, table 4 provide the result of the test.

TABLE IV. THE RESULT OF DEPENDENT T-TEST ON EXPERIMENTAL AND CONTROL GROUP ON EACH ASPECT

Data	Experimental Group		Control Group		Mean difference	T value	Sig. (2-tailed)	Desc.
	Mean	*Deviation*	*Mean*	*Deviation*				
Aspect 1	-4.12	1,727	-1.25	0,707	2,875	4,358	0,001	Significant
Aspect 2	-11.25	2,816	-1.25	0,463	10.00	9,912	0,000	Significant
Aspect 3	-5.00	1,512	-1.12	0,354	3,875	7,059	0,000	Significant
Aspect 4	-7.38	0,744	-1.38	0,518	6,000	18,725	0,000	Significant
Aspect 5	-5.12	2,900	-1.25	0,463	3,875	3,732	0,002	Significant

Data above showed that there was significant decrease in experimental group since the value is $p(Sig) < 0.05$, both

in the whole test anxiety and per-aspect. It means that behavioral cognitive counseling is effective to reduce students' test anxiety compared to conventional counseling service.

In order to examine the effectiveness of cognitive counseling on each indicator of test anxiety, dependent gain t-test for each indicator of test anxiety was done. The result of the study showed that almost all indicators were significantly reduced, except on indicator 3.2 (shaking) and indicator 5.1 (tense). It means that in general, behavioral cognitive counseling is effective to reduce students' test anxiety, however, those two indicators need to gain more attention.

In order to see the level of score of each aspect of test anxiety in experimental and control group, the following table exhibit the number.

TABLE V. THE AVERAGE SCORE OF PRETEST AND POSTTEST ON EXPERIMENTAL GROUP AND CONTROL GROUP

Aspect	Desc. Experimental Group		Desc. Control Group	
	Pretest Average	*Posttest Average*	*Pretest Average*	*Posttest Average*
1. Verbal and non-verbal introspective confession	12.63	8.5	9	7.75
2. Physiological symptom	41.75	30.5	42.38	41.13
3. Attitude and gesture	16.13	11.13	13	11.88
4. Work Performance	31.25	23.88	22.88	21.5
5. Response to Stress	28.25	23.13	25.38	24.13

The result of the study showed that five aspects of students' test anxiety is reduced significantly after receiving treatment. This is indicated by the change of level of students' anxiety from moderate to low after participating counseling intervention session.

Mahoney & Arnkoff divides behavioral cognitive counseling into three categories: (a) cognitive restructure; this involves rational-emotive therapy, self-learn, and cognitive therapy, (b) therapy for handling situation, it involves modeling, anxiety management training, and stress injection; and (c) problem-solving therapy; it involves behavioral problems and science personal. In other words, test anxiety refers to one of the problems that can be handled by giving treatment in the form of behavioral cognitive counseling [9]. This is understandable because behavioral cognitive counseling is based on the educational model on scientific support toward the assumption of behavior and emotion. The purpose of the therapy is to assist the students leaving undesired reaction and to learn a new reaction [10].

Salend and UNC Counseling Center explain that test anxiety can be overcome through relaxation, self-management and cognitive restructure, meditation, desensitization where these techniques are some of the behavioral cognitive counseling techniques [11].

Based on the intervention activity, there is some important statement expressed by the member of the group,

they state that they find this activity helpful. Through this activity, they can understand more about their strength and weaknesses, how to accept themselves, and the most important point is, they know how to overcome test anxiety.

In carrying out intervention, group members were invited to understand deeper about themselves, both their strength and weaknesses, and design a plan to improve and develop themselves, perform self-reflection to be aware of and understand what happens and what they have done, transforming negative pattern to be positive pattern, and train themselves to relaxation when anxiety occurs. Accordingly, when the group members participated in the intervention session, there would be a transformation within themselves when facing test anxiety [12].

IV. CONCLUSION

The result of the study showed that the profile of test anxiety of second-semester students of Information System Department of Ma'soem University of Academic year of 2018/2019 was categorized as low. This indicates that the students have adequate ability to manage their stress. However, due to minimum experience, that competence has not become an optimum skill in reducing test anxiety, accordingly, there are some students whose test anxiety is categorized as moderate. There is significant difference in the average score of test anxiety before and after behavioral cognitive counseling was done. This shows that behavioral cognitive counseling is effective to reduce test anxiety among university students.

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