

## **CHAPTER 3**

### **METHODOLOGY**

#### **3.1 Introduction**

This chapter discusses the research methods and procedures applied in this study. Among the main topics mentioned are research designs, subjects, PGT module which encompasses its development, management and initial study, measurement instruments which involve their development, management and initial study as well as procedure for analyses.

#### **3.2 Research Design**

This research uses experimental design based on *the pretest-posttest control group design* (Campbell & Stanley, 1963) of which another level of measurement known as follow-up test was added onto all research groups. Selected research respondents, comprising 48 subjects who were randomly divided into four groups, were put through an initial test using these research designs (Table 3.1). The first group, the treatment-naive treatment group (PGTN), was the experiment group, which received psychoeducational group therapy. The second group, the treatment-naive control group (CGN), was the comparison group, which did not receive psychoeducational group therapy. The third group was the treatment-experienced treatment group (PGTE), the experiment group that received psychoeducational group therapy. The fourth and last group, the treatment-experienced control group (CGE), was the control group, which was not given psychoeducational group therapy. All four

groups however, still received treatment as usual which was being conducted at the research location. This research design is summarized in Table 3.1 below:

Table 3.1

*The Pretest-posttest control group design*

Group	Pretest	Treatment	Posttest	Follow-up
PGTN	0 <sub>1</sub>	X <sub>1</sub>	0 <sub>2</sub>	0 <sub>3</sub>
CGN	0 <sub>4</sub>	-	0 <sub>5</sub>	0 <sub>6</sub>
PTGE	0 <sub>7</sub>	X <sub>2</sub>	0 <sub>8</sub>	0 <sub>9</sub>
CGE	0 <sub>10</sub>	-	0 <sub>11</sub>	0 <sub>12</sub>

Where,

PGTN = Treatment-naive treatment group

CGN = Treatment-naive control group

PGTE = Treatment-experienced treatment group

CGC = Treatment-experienced control group

0<sub>1</sub>,0<sub>4</sub>,0<sub>7</sub>,0<sub>10</sub> = Pretest

X<sub>1</sub>,X<sub>2</sub> = Psychoeducational group therapy plus treatment as usual

(TAU)

- = Treatment as usual (TAU)

0<sub>2</sub>,0<sub>5</sub>,0<sub>8</sub>,0<sub>11</sub> = Posttest

0<sub>3</sub>,0<sub>6</sub>,0<sub>9</sub>,0<sub>12</sub> = Follow-up test

Although there are only four groups in this research (two experiment groups and two control groups), it still fulfills the demands of this design as suggested by Campbell and Stanley (1963) since it has two main groups which are the experiment and control groups. The addition of another two groups (one experiment group and one control group for each category) is for the purpose of studying the effects of treatment on the two target groups, that is, the naïve and experienced addicts.

The design's strength lies in the initial randomization process done in order to ensure that there is similarity in terms of statistics in research groups. It also enables the researcher to control the pretest or all extraneous variables in order to ensure that the initial differences among groups are attributed to chance. If these variables are not controlled, it could pose a threat to the internal validity (Kinnear & Gray, 1997; Campbell & Stanley, 1963). In addition, this design can provide information to the researcher regarding the respondents' original situations by measuring and comparing the results of the pretest against those of the posttest after the respondents have been given the treatment (Chua, 2011).

Using this research design enables the researcher to apply the measures repeatedly as a method to identify the effects of the treatment given, by looking at the differences between the pretest and posttest mean scores. The differences in the posttest and follow-up tests mean scores are also noted to view the time-delayed effects. This method is very helpful since it has the advantage of variant error which is difficult to control, and the method also reduces data noise and is more economical since it uses time and resources more efficiently (Kinnear & Gray, 1967).

This method of research design also assisted the researcher to create research hypotheses that were tested in this study by using the same method applied by Saedah (2004). Three dependent variables were studied using this design. They are the stages of change (SOC), self-efficacy (SE) and decisional balance (DB). For each of these three dependent variables, the effects of PGT treatment can be seen by using two designs:

- (1) Within-subject design that looks at the differences between pre- and posttests, and posttest and follow-up tests ( $0_{1PGTN} - 0_{2PGTN}$ ,  $0_{1PGTE} -$

$0_{2PGTE}$ ,  $0_{2PGTN} - 0_{3PGTN}$ , dan  $0_{2PGTE} - 0_{3PGTE}$ ) for all three dependent variables; and

- (2) Between-subject designs (between subjects) that looks at the difference between PGTN post and PGTE post ( $0_{2PGTN} - 0_{2PGTE}$ ), differences between two experiment and control groups posttest (CGN and CGE) ( $0_{2PGTN} - 0_{2CGN}$  and  $0_{2PGTE} - 0_{2CGE}$ ), and differences between follow-ups for PGTN and PGTE ( $0_{3PGTN} - 0_{3PGTE}$ ) for all three dependent variables.

In conducting this experimental research and in line with the main research objective to examine the effects of psychoeducational group therapy (treatment effects), the researcher also used the clinical research design introduced by the National Institute of Drug Abuse (NIDA) Clinical Trials Network (CTN; <http://www.nida.nih.gov/CTN/index.htm>) and Brigham, Feaster, Wakim and Dempsey (2009). This was done in order to enhance internal and external validity as well as to establish the generalizability of the effect of an intervention. The design mentioned is “new intervention + TAU versus TAU”, a method that provides benefits to the researcher to compare the treatment effects to the experiment group against those of the control group by introducing a new intervention as research variable. Brigham et al. (2009) identified seven benefits of this design in conducting experimental research in order to evaluate the effectiveness or to examine the effects of the new intervention:

- (1) the design has strong ecological validity (not requiring the creation of an artificial control group that may be unrelated to current practice);
- (2) this design allows for broad generalizability of trial results. It should be able to answer the question of whether this new treatment would be

expected to have a better outcome at any location within the scope of sites selected;

- (3) this design yields more information than designs that compare an intervention to a standardized control, especially in clinical understanding;
- (4) the new intervention may interact with the TAU to provide a more beneficial treatment, and catalyze the effectiveness of TAU in addition to whatever additive effects each may have;
- (5) the design will reduce the impact of differences in TAUs, which is the added effectiveness of the new intervention being analyzed, regardless of the effectiveness of TAU (the effectiveness of TAU is cancelled out);
- (6) this design answers the simple and practical question of whether an add-on to what clinics currently do is worthwhile; and
- (7) all participants receive established TAU. There is no chance that an established treatment will be given up for one of unknown utility, because both interventions are designed to provide benefit to participants and include TAU.

### **3.3 Respondents**

The research respondents consisted of 45 inmates of the Cure and Care Rehabilitation Center (CCRC) in Jelebu, Negeri Sembilan who were categorized as addicts at an early stage of change (DiClemente, 2006; Connors, Donovan & DiClemente, 2001). At the early stage of the research, the chosen respondents were 46 inmates: 22 respondents categorized as naïve addicts and 24 respondents who were

categorized as experienced addicts. However, one respondent from the treatment-naïve experiment group (PGTN) withdrew from the study while the research was being conducted.

The chosen respondents were divided into two categories, namely, naïve addicts and experienced addicts. Both groups were separated during the process of assigning research groups to avoid having both naïve and experienced addicts in the same research group. Later, each category of the group was randomly assigned to two research groups which were the experiment group and the control group. The distribution of the randomly assigned respondents according to the research groups is featured in Table 3.2 below:

Table 3.2

*Respondents' group distribution*

Group	Group number
1. Treatment-naive Treatment Group (PGTN)	10
2. Treatment-experienced Treatment Group (PGTE)	12
3. Treatment-naive Control Group (CGN)	11
4. Treatment-experienced Control Group (CGE)	12
Total	45

The selection of the research respondents was made by applying purposeful random sampling, which indicates that only inmates who fulfilled the established criteria of respondent selection were chosen. Two main criteria were determined for participating in this research. First, any inmates who were undergoing 14 days to six months of treatment and rehabilitation had the chance to take part in the research. The second criterion was that any inmates who were identified as being in the early stages

of change, namely, the pre-contemplation and contemplation stages, qualified to be chosen for the research. All inmates who fulfilled the first criteria had first to participate in a pre-study assessment using the Stages of Change Scale (SoCS) measurement tool in order to determine the respondent's accountability if he/she was chosen to participate in the research.

For the purpose of maintaining homogeneity among respondents to reduce data noise, several variables, which were expected to disrupt the effects of the treatment, such as ethnicity, age, education level and duration of addiction, were monitored during the process of selecting the respondents. Thus, the respondents selected were from among the Malay inmates who formed the majority at CCRC, were aged between 30 to 49 years with at least secondary level education and had been in drug addiction between five and 10 years. As for the category of addicts, those who were categorized as 'naïve addicts' were chosen from among the inmates who received drug treatment and rehabilitation for the first time at the institution and they did not possess prior records of admission or drug treatment and rehabilitation at any institution or drug rehabilitation center. The addicts who were categorized as 'experienced addicts' were chosen among inmates who had received drug treatment and rehabilitation for the second time or more or had previously received similar treatment at any institution or drug rehabilitation center. To ensure the homogeneity factor of variable especially among experienced addicts, respondents were only selected among addicts with admission records to institutions or had received treatment and rehabilitation for only the second or third time.

The processes in the subjects' selection and treatment, and the detailed collection of research respondents' data procedures are listed below (refer to the illustration in Figure 3.1):

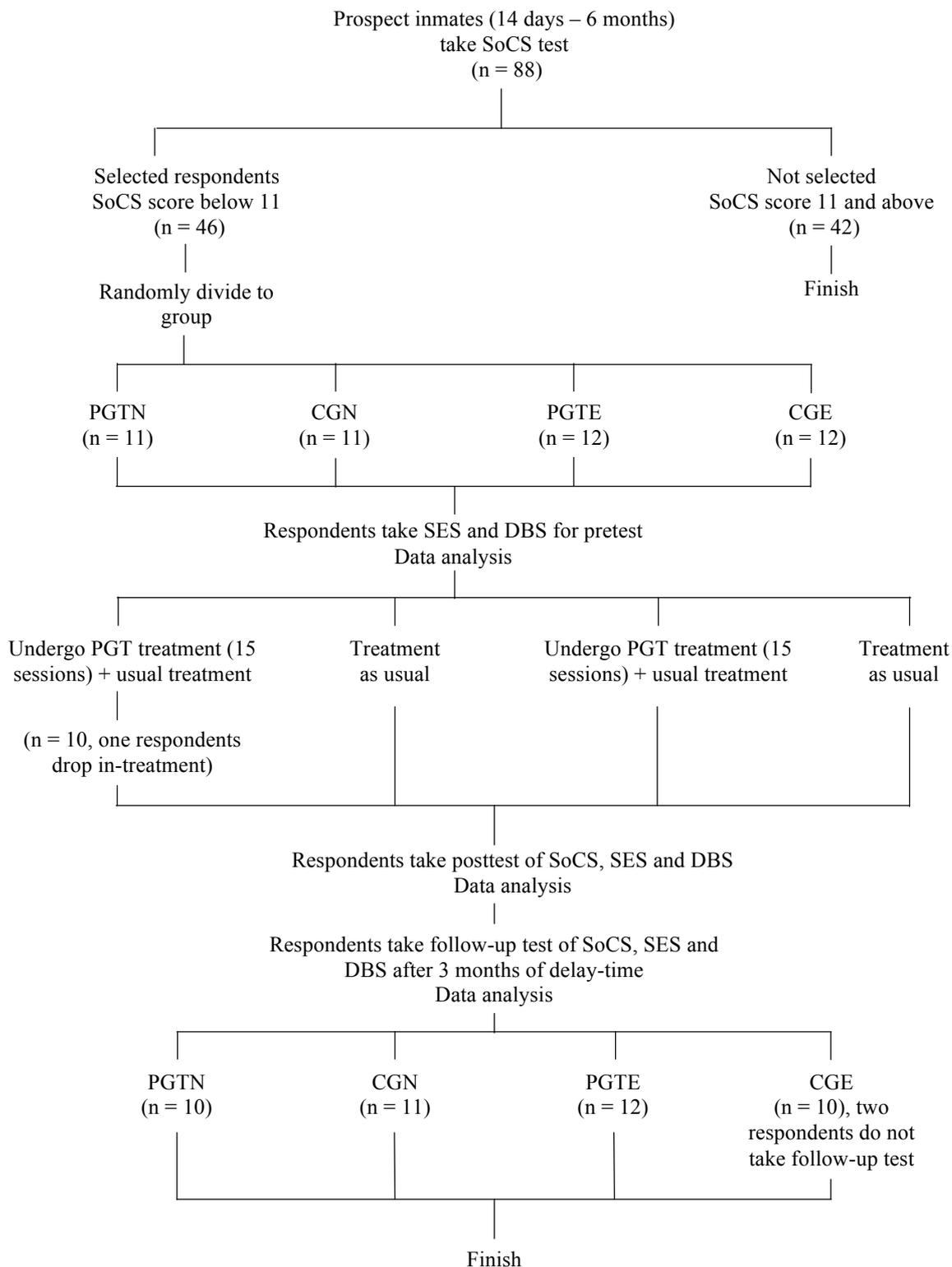


Figure 3.1: Flow chart of sampling processes, treatment and data collecting procedures

- Phase 1: A CCRC in Jelebu, Negeri Sembilan, which was identified as being able to fulfill the researcher's study requirements, was offered by the National Anti-Drug Agency to conduct the experiment. A pre-study assessment was done using the measurement instrument SoCS to identify eligible respondents among 88 inmates (30 naïve addicts and 58 experienced addicts) who had been at CCRC for 14 days to 6 months at the time the study was conducted. A total of 46 inmates qualified as they fulfilled the criteria set and were entitled to participate in the study as respondents. They represented 22 people who were naïve addicts and 24 experienced addicts. The established cut-off point was an SoCS score of less than 11 points.
- Phase 2: Letters of agreement to voluntarily participate in the study were distributed to the 46 inmates. All inmates had agreed to participate in the study.
- Phase 3: Random distribution was conducted on all 46 inmates to determine the research group that they would be assigned to. A total of 22 naïve addicts were randomly distributed to two groups where 11 of them went into the treatment-naïve experiment group (PGTN) and the remaining 11 respondents were assigned to the treatment-naïve control group (CGN). A total of 24 experienced addicts were randomly distributed into two groups: 12 people were put in the treatment-experienced experiment group (PGTE) and 12 people went into the treatment-experienced control group (CGE). Next, all four groups were assigned the Self-Efficacy Scale (SES), and Decisional Balance Scale (DBS) as pretest.

- Phase 4: PGTN and PGTE groups separately underwent treatment for 15 sessions of psychoeducational group treatment. The researcher did the group sessions himself to control the extraneous variables. The control groups (CGN and CGE) were the ‘in-waiting’ groups which were not given any psychoeducational group therapy sessions. One research respondent from the PGTN group was disqualified since he had discipline problems and could not participate in the scheduled sessions.
- Phase 5: Right after the PGTN and PGTE groups had completed their treatment, posttests using the SoCS, SES and DBS measurement instruments were given to all four-research groups. Next, the data analyses were conducted.
- Phase 6: After a period of three months, all four groups were again given the follow-up tests for SoCS, SES and DBS. Two respondents from the CGE group did not sit for the posttest since they were transferred to different CCRCs due to disciplinary problems. Next, the data analyses were carried out.

### **3.4 Instruments**

There were two instruments used in this research and they were the PGT and questionnaires for SoCS, SES and DBS.

#### **3.4.1 Instrument PGT**

This instrument contained two sets of questionnaires: one of them was the Module Content Validity Scale which was assigned to the module experts and the

other was the Module Reliability Scale that was assigned to the addicts who were the target group of the module.

### **(1) Module Content Validity Scale**

The Module Content Validity Scale (SKKM) was developed by the researcher based on the Module Content Validity Questionnaire created by Jamaludin Ahmad (2002). This questionnaire contains six items which are divided into two parts. The first part contains five items which use the Likert scale with five choices of level of agreement to each statement. All of these items refer to all the conditions highlighted by Russel (1974) that it has to fulfill the target population, satisfactory implementation of module, sufficient time to conduct the module, successful in enhancing the students' achievement performance (referring to the addicts in this study) and also successful in changing the students' behavior (addicts) to a better one (Jamaludin, 2007). In contrast to Jamaludin's questionnaire (2002), the researcher changed two items which fulfill Russel's (1974) fourth and fifth conditions. These are: "the content of this module is able to enhance the addicts' change performance" and "the content of this module could assist addict to move towards a higher stage of change".

The second part of the questionnaire is an open invitation to the respondents to write their comments, responses, feedback and suggestions in the space provided, about the content of the entire module. These views, after having been thoroughly examined by the experts, will form the material or basis for establishing the module (Jamaludin, 2007). The researcher used the original questionnaire items by Jamaludin (2002) for this part.

The calculation method for the measurement instrument was based on the following formula, as suggested by Jamaludin (2007):

$$\frac{\text{Total of Experts' Score (X)}}{\text{Maximum Score (25)}} \times 100\% = \text{Content Validity Performance}$$

The total score given by the experts through the Likert scale is totaled as X value, and this score is divided by the scale's maximum score, that is, by 25. The total amount is then multiplied by 100%. If the percentage obtained is more than 70%, the module has good content validity. In contrast, if the percentage obtained is lesser than 70%, the module does not have good content validity. These percentages can be put in the form of decimal points that resemble the coefficient correlation (Jamaludin, 2007), which has the same meaning in describing content validity as percentage, for instance 70% to 0.70.

## **(2) Module Reliability Scale**

The Module Reliability Scale (SKM) used to test the coefficient value of the module's reliability was developed by the researcher based on the guidelines and suggestions by Jamaludin and Sidek (2001 & 2005). The researcher applied an approach in creating question items based on the module activity steps since it has systematic activity steps in order to reach the module's objectives. This approach was identified as the best approach and could be utilized as a method to determine the reliability of a certain module (Sidek & Jamaludin, 2005).

The scale contained 85 items related to the activity steps in the module in the form of a Likert scale, with five choices that were (5) strongly agree, (4) agree, (3) not sure, (2) disagree and (1) strongly disagree. Items were divided into five sets and themes to be conducted. In summary, the number of items for each session and theme is described in Table 3.3.

Table 3.3

*Total items based on sessions and themes/activities*

<b>Session</b>	<b>Themes / Activities</b>	<b>Total Items</b>
1.	Assessment and icebreaking	7
2.	Introduction to PGT	7
3.	Where am I?	7
4.	Expectations	6
5.	Drugs in my life	6
6.	Physiology & psychological effects of drugs	6
7.	Expression of concern	6
8.	What most value?	5
9.	Pros and cons	6
10.	Relationships	5
11.	Your responsibilities	5
12.	Yes, you can!	5
13.	Problem solving	5
14.	Identifying needs and resources	5
15.	Review and termination	4
<b>Total</b>		<b>85</b>

The construction of question items for this scale, as stated above, was based on steps of activity, which were the steps or activities available in each module activity. For instance, for the session named “Where am I?”, there were seven steps or activities carried out in this session. As an example, one of the activities carried out in this session was explanation and discussion of the behavior of addicts who are at the pre-contemplation stage. The statement constructed was “I could understand the behavioral characteristics of addicts who at the stage of pre-contemplation”.

Distribution of questionnaires to the respondents was done in stages at the end of the session, for each session. The SKM measurement tool was divided into 15 sets according to the number of sessions, which was 15 in total. Each set contained different question items according to steps in the activity or related session theme

only. The number of question items for each session is listed in Table 3.3. For instance, for the first session entitled “Assessment and icebreaking”, a set of the SKM measurement instrument that contained seven items related to the session was given to each respondent to be answered at the end of the session. A similar process was repeated for each respondent in the following session until the last (15<sup>th</sup>) session. In all, each respondent would undergo 15 sessions of answering the SKM measurement instrument, with the total number of questions at 85 items.

The calculation method for the coefficient value of module reliability was based on the method suggested by Jamaludin (2007), which was to use Cronbach’s alpha.

### **3.4.2 Stages of Change, Self-Efficacy and Decisional Balance instruments**

This measurement instrument contains four main parts, namely the respondents’ demographic information, stages of change scale (SoCS), self-efficacy scale (SES) and decisional balance scale (DBS).

#### **(1) Demography**

This section contains questions related to the background information of the respondents such as their identification numbers, age category, education level and treatment experience.

#### **(2) Stages of Change Scale (SoCS)**

The Stages of Change Scale (SoCS) is a Malaysian version (*Skala Tahap-tahap Perubahan* in Bahasa Melayu) of the original scale entitled The University of Rhode Island Change Assessment Scale (URICA), which was translated into Bahasa Melayu by using back translation by Abdul Halim (2010) and Mohd Rafidi (2003).

This scale was created by McConaughy, DiClemente, Prochaska and Velicer (Connors, Donovan & DiClemente, 2001) to measure the readiness to change stage among substance users, including drug addicts (DiClemente & Hughes, 1990; Connors, Donovan & DiClemente, 2001; DiClemente, 2006).

This scale has 32 items which are divided into four different subscales, also known as measured stages of change subscales, which are pre-contemplation, contemplation, action and maintenance. Each subscale has eight items in the form of a five-choice Likert scale which comprises (1) strongly disagree, (2) disagree, (3) not sure, (4) agree, and (5) strongly agree. For the purpose of calculating the readiness to change score, four items are omitted or not counted. These are item number 31 for pre-contemplation subscale, item number 4 for contemplation subscale, item number 20 for action subscale, and item number 9 for maintenance subscale (DiClemente & Hughes, 1990). In detail, the division of items for each subscale is listed in Table 3.4.

Table 3.4

*Distribution of items according to subscale in the SoCS*

	<b>Subscale</b>	<b>Item Numbers</b>
1.	Pre-contemplation (PC)	1, 5, 11, 13, 23, 26, 29 and 31*
2.	Contemplation (C)	2, 4*, 8, 12, 15, 19, 21 and 24
3.	Action (A)	3, 7, 10, 14, 17, 20*, 25 and 30
4.	Maintenance (M)	6, 9*, 16, 18, 22, 27, 28 and 32

\* omitted in data analysis (omitted)

The score calculation method for this scale uses the calculation method suggested by McConaughy, Prochaska and Velicer (1983) and DiClemente and Hughes (1990), which is similar to the score calculation of URICA. The steps involved in the scale's score calculation are listed below:

### Step One

The first step is to obtain the total marks for each subscale. This is done by adding all the scores provided by the respondents for each item according to the subscale (each subscale has seven items which are counted). Next, the total score must be divided by the total number of items, which is seven (7). The description of total score calculation for each subscale is listed below:

- a. Average score of PC =  $\Sigma$  of PC divided by 7 = (Avg)
- b. Average score of C =  $\Sigma$  of C divided by 7 = (Avg)
- c. Average score of A =  $\Sigma$  of A divided by 7 = (Avg)
- d. Average score of M =  $\Sigma$  of M divided by 7 = (Avg)

### Step Two

The second step is to obtain the readiness to change score. This is done by adding the average scores of C, A and M, and then subtracting the PC average score, as described in the formula:

$$\mathbf{RTC = (Avg C + Avg A + Avg M) - Avg PC}$$

For instance, if the respondents obtain a PC average score (Avg PC) of 1.8, the average score C (Avg C) is 4.0, the average score A (Avg A) is 3.7, and the average score M (Avg M) is 3.7, thus the respondent's score of stage of change is:

$$\mathbf{RTC = (4.0 + 3.7 + 3.7) - 1.8 = 11.4 - 1.8 = 9.6}$$

Therefore, readiness to change score of the respondent is 9.6.

### Step Three

This step is to determine the readiness to change or stage of change which is experienced by the respondents. The procedure is that when the readiness to change

score is obtained, it is compared with the set group means table, or “cut-off score”, that was prepared by The HABITS Lab, University of Maryland for the general population (Abdul Halim, 2010), as listed in the following Table 3.5.

Based on the above table, respondents who scored  $RTC = 9.6$  at Step Two would be categorized as being at the Contemplation stage of change.

Table 3.5

*Group means or cut-off scores for each stage of change in the SoCS*

	<b>Stage</b>	<b>Group Average</b>
1.	Pre-contemplation	8 or lower
2.	Contemplation	8 – 11
3.	Participation (Action)	11 – 14
4.	Maintenance	14 and above

The reliability coefficient value for SoCS scale is good. As reported in previous studies conducted in Malaysia, the scale has good reliability coefficient values, among them being a coefficient value of 0.70 (Mohd Rafidi & Abdul Halim, 2012), coefficient values of 0.75 and 0.77 (Abdul Halim, 2010), a coefficient value of 0.79 (Najwa, Sabitha & Mahmood, 2008), and a coefficient value of 0.72 (Mohd Rafidi, 2003). Similarly, studies conducted abroad reported the scale at coefficient values of 0.68 to 0.85 (Blancard, Morgenstern, Morgan, Labouvie & Bux, 2003), a coefficient value 0.87 (Pantolon, Nich, Frankforter & Carroll, 2002), and coefficient values of 0.83 to 0.88 (Bolland, Henderson & Jan, 1998).

Based on the belief that the coefficient value for this scale can be increased, the researcher made some changes to this scale by taking into consideration suggestions provided by Connors, Donovan and DiClemente (2001) for the purpose of increasing the value of its reliability. A pilot study was also carried out to improve the

internal validity of research instrument as recommended by Chua (2011). According to Connors, Donovan and DiClemente (2001), each item in this scale is developed with the purpose of explaining attitudes, intentions and behaviors which are related to changing a target's behavior, and other specific problems that need to be evaluated as determined by the researcher himself. To be more precise, each item that has the term "problem" or "problems" can be changed to the specific drug's name, behavior or drug problems which become the researcher's target (specifying the specific drugs, specific behavior or specific problem substance in the actual items) (Connors, Donovan & Diclemente, 2001).

According to Chua (2011), instrument internal validity can be enhanced by conducting a pilot test. Based on the steps that he recommended, the researcher carried out an instrument validity pilot test by using the in-depth interview method on the focus group, in order to obtain feedback about any confusion which arose in the items after they had finished answering all the scales given. This pilot test involved 10 respondents among drug addicts who were undergoing treatment at CCRC in Jelebu, Negeri Sembilan. The second step taken by the researcher was to adapt and omit confusing items or terms as proposed by Connors, Donovan and DiClemente (2001) above. Respondents' feedback and the adaptation of terms were taken into consideration by the researcher and one new SoCS scale was created.

The researcher first improved on the SoCS which was based on the pilot study (Chua, 2011) and suggestions by Connors, Donovan and DiClemente (2001) where the researcher provided a definition or meaning for the term 'problem' for specific behaviors which were the researcher's target. The respondents' feedback in the instrument validity pilot study had stated that they were confused by the term 'problem'. This could be related to various assumptions and definitions according to

the situations that they faced, which differed from one another. Some of these problems could be defined as family problems, jobs, social rejection and others. However, the definition of this term is supposed to be specific and consistent, and should refer to only one issue or problem.

The respondents' feedback was addressed in the improved scale, where the term 'problem' was given a definition or specific meaning, and consistently based on specific behaviors as a target of the assessment, which was 'drug addiction problem'. The researcher defined the term by writing the definition on the whiteboard and typing it out permanently in the instructions on the answer sheet. The display on the whiteboard was clearly and precisely written as "**problem = drug addiction problem**" using a marker pen. In the instructions to answer the scale part, the sentence "the word problem or any word which has the basis of this word (such as **problematic, problems**) in any item statement refers to your "**drug addiction problem**" was typed or printed, highlighted in bold and underlined.

With all these methods, each respondent would automatically read each scale item that had the term 'problem' as 'drug addiction problem'. For instance, item number 1 would be read by the respondents as "To me, I do not have any drug addiction problem that requires change". The researcher did not substitute the term 'problem' with 'drug addiction problem' directly in the item scale given to the respondents. This was done in order to maintain the originality of the term 'problem' in SoCS which was translated from the original term 'problem' as used in URICA, while increasing respondents' alertness to each item and the commitment of the relationship between the researcher and the respondent.

Secondly, the researcher changed the display of the term 'problem' in each item by highlighting it in bold and underlining the term. For instance, item number 1

stated that “To me, I don’t have any problems that require changes” was changed to “To me, I do not have any **problem** that requires changes”. There were 24 items with the root word ‘problem’ available in the scale, which meant that there was at least one term in each item, while it could also be found in another eight items numbered 2, 8, 13, 14, 22, 24, 25, and 31. For all items that had this term, the term’s display was changed as stated.

The SoCS version that had been adapted was used in a second pilot test on 50 respondents in order to obtain the new reliability coefficient value. Results showed that the coefficient value of Cronbach’s Alpha scale was 0.832, which was a better and higher reliability rate than the previous version. In terms of its internal consistency in each subscale, results showed that the coefficient was between 0.710 and 0.735, as illustrated in Table 3.6. Based on this data, this SoCS scale has a high reliability value and can be used for the purpose of this study.

Table 3.6

*Reliability values for the new SoCS by subscale*

	<b>Subscale</b>	<b>Cronbach’s Alpha</b>
1.	Pre-contemplation	0.710
2.	Contemplation	0.780
3.	Participation (Action)	0.775
4.	Maintenance	0.735
	Overall internal consistency value	0.832

### **(3) Self-efficacy Scale (SES)**

Self-efficacy Scale (SES) is a measurement instrument adapted from Confidence Inventory (CI) which was developed by Velicer, DiClemente, Rossi and Prochaska (1990) for the purpose of determining self-efficacy construct, which was

consistent with the self-efficacy concept that was introduced by Bandura (1977, 1982 and 1986) in determining the subjects' confidence when faced with situations that created the urge to return to drug addiction. They found that the subscale construct, which was developed, and the items that represented the three constructs (subscales) were consistent with previous studies. Although the instrument was initially created for smoking addiction, it is still suitable to be used for the purpose of studying any field of other addictive behavior by using constructs and similar items (Velicer et al., 1990).

The SES tool was used to measure how far someone felt confident that he would not take drugs again when faced with certain situations. SES has three levels of confidence subscales, which are positive/social, negative/affective and habit/addictive, and which contain a total of 18 items in the form of a five-choice Likert scale, namely, (1) strongly not confident, (2) not confident, (3) not sure, (4) confident, and (5) very confident. The items for each of the SES subscales are listed in detail in Table 3.7.

Table 3.7

*Distribution of items according to subscale in the SES*

	<b>Subscale</b>	<b>Item Numbers</b>
1.	Positive/Social	1, 4, 7, 10, 13 and 16
2.	Negative/Affective	2, 5, 8, 11, 14, 17 and 18
3.	Habit/Addictive	3, 6, 9, 12 and 15

The construct or first subscale was positive/social situations and contained six items. This subscale involved both aspects of positive effects (such as happy and relaxed) and social aspects (such as friends and partners), or performing social activities (such as talking and being in the addiction area). Some of these items were “being with friends at a party or celebration” and “when being with friends or partners

who continue to be addicted". The second subscale was negative/affective situations and had seven items. These items measured an individual's level of confidence when faced with negative situations or effects such as a challenging day, stress and depression, as well as loneliness. Examples of these items were "when I am faced with confrontations and conflicts in family" and "when I am too lonely and begin to feel depressed". The third subscale was habit/addictive situations and contained five items. It was a subscale used to measure level of confidence when faced with craving of drugs physically and psychologically. Some of these items were "when I think of drugs" and "when I miss everything that I have gone through during my addiction period".

For the purpose of using the SES scale which had been adapted from the original version CI, the researcher used the back translation method and made several adaptations of terms and changed some statements. The adaptation of the term 'smoking' in CI version (translated as '*merokok*' through back translation) was changed to '*menagih*' (addicted) for SES version, and the term 'cigarette' in CI version (translated as '*rokok*' through back translation) was changed to '*dadah*' (drug) for SES version. Two item statements were changed: item number 4, "while drinking coffee and chatting and relaxing" (CI translation) was changed to "while relaxing and chatting with old friends"; and item number 10, "while drinking at a bar or lounge" (CI translation) was changed to "while passing or stopping by at addiction joint (port)".

According to Velicer et al. (1990), the score calculation method for SES is done in two different ways, depending on the purpose of the research being conducted. The first method is where, if employed as a general screening device to determine 'readiness' to change, a single global score would be appropriate. If it is

used to determine the course of treatment to clients, three separate scores (each subscale) should be used to determine where intervention programs should be targeted for maximum effectiveness. For the purpose of this study, the researcher chose a single global score, which was obtained by totaling all scores provided by the respondents and later, getting the mean score by dividing the total score with the number of items. A mean score determiner was used as a marker for respondents' level of confidence. A mean score higher than the theoretical scale mean of 3.0 indicates a high level of confidence, while a mean score of less than 3.0 indicates a low level of confidence (Velicer et al., 1990).

The original scale (CI) has a high reliability coefficient as reported by Velicer et al. (1990), which is between 0.924 and 0.951. The negative/affective subscale has the highest coefficient alpha at 0.951, followed by the positive/social subscale at 0.933, and the habit/addictive subscale at 0.924. For the purpose of using the SES scale in this research, the researcher conducted a pilot study to obtain the internal reliability coefficient value and construct. Administration of the SES scale test among 50 respondents found that the Cronbach's Alpha reliability coefficient value for the whole scale was at 0.949, an excellent coefficient value. In terms of subscale, the value of coefficient obtained was 0.891 (positive/social subscale), 0.900 (negative/affective subscale) and 0.849 (habit/addictive subscale). This indicated that the subscales could be used in this research.

#### **(4) Decisional Balance Scale (DBS)**

Decisional Balance Scale (DBS) is a measurement instrument which was back translated from the original scale, Alcohol (and Illegal Drug) Decisional Balance Scale, which was developed by DiClemente (1999). This instrument was constructed

to identify the positive and negative aspects of a certain behavior, especially in alcoholic and drug addictive behavior, in helping an individual to build better decision-making skills. It is an instrument that was used as part of the two activities in decisional balance exercise, which was introduced by Sobell, Cunningham, Sobell, Agrawal, Gavin, Leo and Singh (1996b), to assist an individual to identify the benefits and costs of using materials as part of the cognitive appraisal process in making self-directed change. The first activity in the exercise was to request an individual involved to list down as many as possible benefits and costs to change, and not to change, in the form provided. This exercise activity is discussed in detail in the psychoeducational group therapy module which was used in this research.

The DBS instrument has two subscales that contain 20 items in the form of a five-choice Likert scale, which are from (1) not important at all, to (5) extremely important. Each item requires the respondents to determine how far a statement is important in making the decision to change alcoholic and drug addiction behaviors. The first subscale was “pros of drug use” and contained ten items. This subscale contained statements regarding the benefits (pros) of drug use, such as assisting to solve problems, as well as giving pleasure. Some examples of this subscale’s items are “drug use helps me to gain energy and be active” and “without drugs, my life would be empty and boring”. The second subscale was “cons of drug use” and had ten items. This subscale carried statements about the contras in drug use, such as creating problems, and problems with family/friends. Examples of these statements were “my drug usage causes problems to other people” and “friends/family was (sic) frustrated with me because of my drug addiction problem”. The items for each of the DBS subscale are listed in detail in Table 3.8.

The DBS scale scoring calculation method is as recommended by CSAT (1999). First, the researcher obtained the total score of each subscale by adding all scores provided by the respondents. Secondly, the researcher calculated the mean score for each subscale by dividing the total score of each subscale by the number of items from that subscale. Based on the value of the mean score obtained, the weightage method was used to determine the stage of decisional balance of the respondents, whether or not it leaned towards pros of drug use or cons of drug use. If the value of the mean score for pros of drug use was higher than the value of the mean score for cons of drug use, respondents would be categorized as being at the decisional balance stage of pros of drug use (category 1). On the other hand, if the value of the mean score of cons of drug use was higher, the respondents would be at decisional balance stage of cons of drug use (category 2).

Table 3.8

*Distribution of items according to subscale in the DBS*

	<b>Subscale</b>	<b>Item Numbers</b>
1.	Pros of drug use	2, 4, 7, 9, 11, 14, 16, 17, 19 and 20
3.	Cons of drug use	1, 3, 5, 6, 8, 10, 12, 13, 15 and 18

In order to enable the DBS scale to be used in this research, the researcher conducted a pilot study to obtain the internal reliability coefficient and the construct of this scale. Administration of the SES scale test instrument among 50 respondents resulted in a Cronbach's Alpha reliability coefficient value of 0.783, a good coefficient value. In terms of subscale, the coefficient value obtained was 0.857 for the pros of drug uses subscale and 0.763 for cons of drug use subscale. This indicated that the DBS scale could be used in the research.

### **3.5 Reliability and validity of the instruments in the current study**

There were three measurement tools used in this study to measure the research's dependent variables, namely, the Stages of Change Scale (SoCS), Self-efficacy Scale (SES), and Decisional Balance Scale (DBS). SoCS was used to measure dependent variables of the addicts' stages of change (SoC) and SES was used to measure dependent variables known as stages of addicts' self-efficacy (SE) while DBS was used to measure dependent variables of the addicts' stages of decisional balance.

#### **3.5.1 Reliability**

Reliability is the consistency score obtained by an individual in a test taken repeatedly (Anastasi, 1982), or the error produced by measurement tool is low (Kerlinger, 1973). According to Chua (2011), reliability in a research refers to the ability of a measurement tool to obtain similar values when the same measurements are repeated. A high value of reliability means less error from the measurement tool, thus making the measurement more accurate and reliable. This is usually observed at the value rate of more than 0.60 in Cronbach's alpha scale (Kerlinger, 1973).

For the purpose of this study, three levels of tests (other than the pilot tests) were conducted to achieve reliability value at the pretest, posttest and the follow-up test levels. Reliability value was monitored for all main instruments and subscales. The test method used was internal consistency, that is, a test done by searching for the correlation value between each item's scores in the test with the number of test scores for all items in the test. If all these items are found to have a high value of correlation with the total score of all items, then the measurement tool is considered as possessing a high reliability value (Chua, 2012).

Table 3.9 shows the reliability values for all measurement tools and their subscales by using the internal consistency test method.

Table 3.9

*The Cronbach's alpha reliability value for the instruments and their subscales*

<b>Scale and subscale</b>	<b>Pretest</b>	<b>Posttest</b>	<b>Follow-up test</b>
<b>SoCS</b>	<b>0.846</b>	<b>0.835</b>	<b>0.894</b>
Precontemplation	0.716	0.775	0.762
Contemplation	0.793	0.830	0.918
Action	0.788	0.839	0.903
Maintenance	0.749	0.773	0.815
<b>SES</b>	<b>0.859</b>	<b>0.904</b>	<b>0.942</b>
Positive/Social	0.636	0.754	0.880
Negative/Affective	0.751	0.772	0.889
Habit/Addictive	0.510	0.689	0.842
<b>DBS</b>	<b>0.777</b>	<b>0.674</b>	<b>0.848</b>
Pros of drug use	0.860	0.855	0.905
Cons of drug use	0.775	0.737	0.849

An analysis of the results shows that the research instrument has high consistency reliability value and is quite satisfactory. As for the SoCS instrument, the value of consistency reliability obtained was between 0.0835 and 0.894 in three stages of tests, which is a very good value. Each SoCS instrument subscale also has good consistency reliability where there was an increase from the pre to follow-up stages. In addition, the consistency reliability value obtained for the SES instrument was also high, at between 0.859 and 0.942, and this could be seen to be increasing in each test from the pre to the follow-up stages. The value for consistency reliability for each subscale was very good except for the "habit/addictive" subscale, which was not satisfactory at the pretest stage. However, the value increased to a better score at the post and follow-up tests stages. The third instrument, DBS also possessed good

reliability consistency value, at between 0.674 and 0.848 for all three levels of tests. Similarly, two of its subscales had high and satisfactory values of consistency reliability.

### **3.5.2 Validity**

Validity refers to the correlational value between measurement and the actual value of a variable, and the value of an instrument's validity obtained is able to measure the actual value of the concepts referred to in the hypothesis. Validity is considered high if the instrument developed accurately measures the value of the concept mentioned in the hypothesis (Chua, 2011). Anastasi (1986) on the other hand, validity is an instrument measure what they should measure and the data obtained from a valid test is able to show the phenomenon tested and the characteristic of accuracy must be present. Two methods used to determine the instruments' validity value were by making each item's correlate with each other, and the correlation of each item with item-total (Anastasi, 1982) as it is done through the method of construct validity, that is by examining the correlation between instruments that have related or relevant behavior (Janda, 1998).

The first analysis was item correlation. Each item with item-total score is presented in the appendix for each instrument. The minimum to maximum range for correlation value of item-total can be seen in Table 3.10. The second analysis is of construct validity. This is done by looking at the correlation values between instruments (SoCS, SES and DBS). The results are shown in Table 3.11 and Table 3.12.

Table 3.10

*The instruments item-total correlation value at pre-, post-, and follow-up-test*

Instruments	Pre		Post		Follow-up	
	Min	Max	Min	Max	Min	Max
1. SoCS	-0.48	0.78	-0.57	0.85	-0.53	0.84
2. SES	0.33	0.77	0.42	0.81	0.60	0.82
3. DBS	0.11	0.61	0.13	0.64	0.28	0.68

Table 3.11

*Construct validity – inter-correlation of SoCS, SES and DBS at posttest*

Instruments	SoCS	SES	DBS
1. SoCS	-	-0.23	0.40*
2. SES	-0.23	-	-0.02
3. DBS	0.40*	-0.02	-

Results obtained showed that only SoCS and DBS instruments have significant correlation at the post test level ( $r = 0.40$ ,  $k < 0.01$ ). This shows that any increase in the SoCS score would also increase the DBS score, which is also known as a positive correlation. There was no significant correlation between other instruments at the post test level.

Table 3.12

*Construct validity – inter-correlation of SoCS, SES and DBS at follow-up-test*

Instruments	SoCS	SES	DBS
1. SoCS	-	0.20	0.33**
2. SES	0.20	-	-0.06
3. DBS	0.33**	-0.06	-

Results obtained showed that at the level of follow-up test, only SoCS and DBS had significant correlation ( $r = 0.33$ ,  $k < 0.05$ ). This means that any increase in

the SoCS score would also increase the DBS score, which is also a positive correlation. There was no significant correlation between other instruments at the follow-up tests level.

### **3.6 Translations of instruments**

Two scales in the research instrument, the SES and DBS scales, were found not to have been used in Malaysia. Thus, both of these scales must be translated into Bahasa Melayu to enable them to be used. This was done by using the back translation method as suggested by Brislin, Lonner dan Thorndike (1973). Translation was done by a committee which comprised lecturers from the Faculty of Leadership and Management, the Asean Center for Research and Drug Abuse and Language, and the Language Center, Universiti Sains Islam Malaysia.

The back translation method was carried out in two ways. First, the original version of the scale in English was translated to the new version in Bahasa Melayu, and secondly, the new version in Bahasa Melayu was re-translated into English. Both processes involved the committee and different lecturers. Finally, the Bahasa Melayu version, which contained similar items or the ones closest to the original version, was accepted.

### **3.7 PGT Module**

The psychoeducational group therapy (PGT) module was used as the main research instrument in order to examine its effects on the variables studied, namely, the stages of change, self-efficacy and decisional balance. This research was also used as a platform to determine the effectiveness of PGT module as a whole, particularly in studying determiners of the module's effectiveness.

### 3.7.1 Module development

PGT module development was carried out by the researcher using the Sidek Module Development Model (MPMS), which was introduced in 2001 (Sidek & Jamaludin, 2005). The model was based on Russel's Model (1974). Through this model, module development was completed in two different phases, which were the stage of preparing a draft for the module and the stage of trying and evaluating the module. Nine steps were involved in the preparation of the draft module, beginning with the development of goals and culminating with the module's draft (refer to Figure 3.2). For the second stage, the implementation of a pilot study was needed to determine the module's validity and reliability. The second part is thoroughly discussed in the next section. The processes involved in developing this module were based on Sidek Module Development Model (first phase), which is briefly described in Figure 3.2:

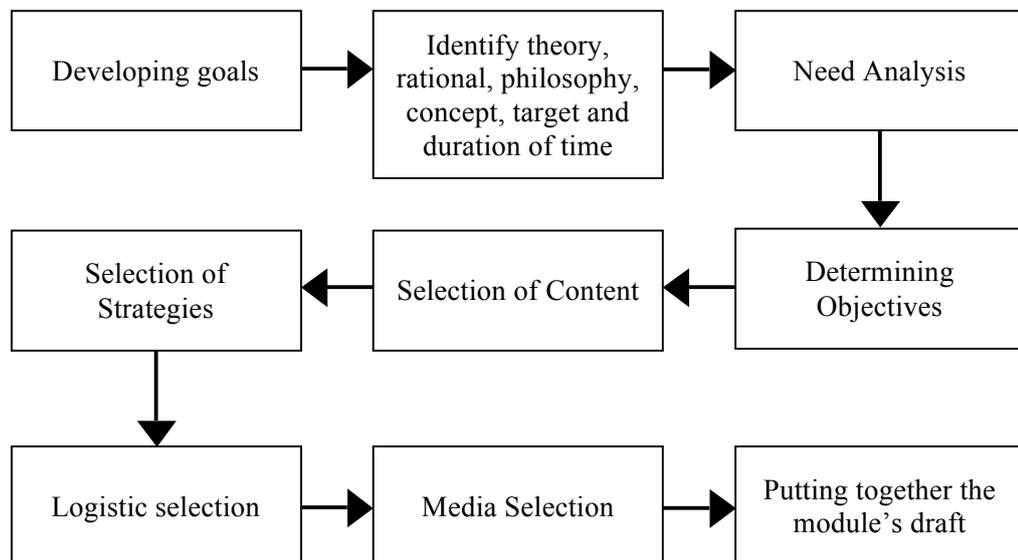


Figure 3.2: Module development process based on Sidek's Module Development Model (2005)

The next sections detail the processes in developing the PGT module based on the Sidek Module Development Model.

### **(1) The Goals of PGT Module**

The first process started with the development of the module's objectives, which refers to the purpose for which it was developed. According to Sidek and Jamaludin (2005), the goals of a module are often closely related to the module developer's interest and values, and the goals which are developed would determine in general, the content of the module and the target group (Sidek & Jamaludin, 2005).

The goals of the PGT module which were developed, were basically initiated from the implications of the researcher's initial research about the management of drug treatment and rehabilitation programs based on the Stages of Change Model. Mohd Rafidi (2003) in his research findings suggested that there is a need to construct a system that is more systematic and structured according to the rehabilitation needs and requirements of an addict. Dependency on various existing rehabilitation modalities, which had been developed without taking into consideration addicts' personal needs and each addict's rehabilitation, was not able to overcome or increase treatment and rehabilitation services' level of effectiveness in Malaysia. Further studies by the researcher and colleagues (Mohd Rafidi & Jailani, 2006; Mohd Rafidi & Abdul Halim, 2012), found that addicts who were undergoing treatment and rehabilitation program in institutions in Malaysia using the same model were predominantly at the early stages of change, namely, the pre-contemplation and contemplation stages. This urged the researcher to develop a module to fulfill the needs and requirements of rehabilitation for addicts who are at this stage.

The demands and requirements of addicts who are at the early stages of change are to have: an awareness of the dangers and effects of drugs; motivation to promote changes (DiClemente, 2006; Connors, Donovan & DiClemente, 2001); information regarding addiction and rehabilitation; support and reinforcement of the changes initiated through feedback on stage of uncertainty and motivation (Miller & Rollnick, 1991); skills in making decisions caused by ambivalence (uncertainty over pros and cons of changes); and solutions to obstacles in making full use of rehabilitation sources (DiClemente, 2006; Connors, Donovan & DiClemente, 2001).

Based on the demands and requirements of addicts who are at the early stages of change, this PGT module was developed with the general goals of enhancing the awareness of addicts (hereinafter referred to as clients) on addictive behavior, and improving their motivation to move towards rehabilitation, that is to start making changes, to abstain and to live productively. It would obviously be better if the PGT module could assist clients in their transition from the early stages of change (pre-contemplation and contemplation) to a higher level of stage of change, such as preparation, action and maintenance. This goal could be achieved when the module contents constructed is able to bring clients to these situations (specific goals):

- (a) Admit and realize that their behavior (drug usage) is a problem based on negative effects resulting from that behavior (objective 1);
- (b) Evaluate and understand problems that come into their lives as a result of their addictive behavior. (objective 2);
- (c) Able to list, understand and think of the advantages and disadvantages of addictive behaviors from the aspect of pro (supporting) and contra (against) a decision that is made (objective 3);

- (d) Evaluate and understand problems which others (people who are important to them) such as parents, partners and children have to face as a result of addictive behavior (goal 4);
- (e) Feel that the ability (confidence) to change could solve problems about their addictive behavior (objective 5); and
- (f) Identify the needs for change and determine the resources that could support changes that the addicts want to make on their addiction problems (objective 6).

## **(2) Theoretical Basis**

As explained earlier, the PGT module was specifically designed to promote clients who are at the pre-contemplation and contemplation stages, to a later stage of change, or at least to the preparation stage of change. In order to achieve this goal, the suitable theoretical ground to be used is The Transtheoretical Model of Behavior Change (TTM). This model proposes that the use of specific change processes (POC) which take place in both early stages of change is able to promote the clients' change processes to the later stage of change, as suggested by DiClemente (2006), Connors, Donovan & DiClemente (2001) and Prochaska, Norcross & DiClemente (1994), who stated that "the matching of stage and process is a key to change".

According to DiClemente (2006), Miller and Rollnick (2002), and Velasquez et al. (2001), at the early stages of change (pre-contemplation and contemplation) an individual in his/her effort to change his/her behavior, change processes that took place could be used to facilitate changes were the cognitive/experiential process of change, namely consciousness raising, dramatic relief, self-reevaluation, environmental reevaluation, and social liberation. Important indication to the change

process that happened was decisional balance and self-efficacy. A brief overview of the right change process at the right time can be found in Table 3.13.

Table 3.13

*The stages and processes of change*

<b>Stages of change</b>	<b>PC → C</b>	<b>C → PR</b>
The most relevant processes of change	Consciousness raising	Self-reevaluation
	Dramatic relief	Environmental reevaluation
	Self-reevaluation	Decisional balance
	Environmental reevaluation	Self-efficacy
	Decisional balance	Social liberation

(Source: adapted from Velasquez et al. 2001, p.10)

The **pre-contemplation stage** is the earliest in all stages of change. Individuals who are at this stage of change (pre-contemplators) are unaware of their addiction problems or not ready to change them. They do not really get involved in activities that can change their views about addiction and can become very defensive when there is an attempt to disrupt that. Pre-contemplators are not cognizant of any negative aspect which is produced by their addiction and in fact, try to rationalize their behaviors with positive aspects of addiction. They do not plan to change in the immediate future.

In order to assist this group to change and move to a higher stage of change (to the contemplation stage of change), they have to admit that their behavior is problematic and that they need to be aware of or be exposed to negative aspects of their behavior. The key to change that can be made into an intervention, is a change process to increase awareness, experience dramatic relief, carry out a self- and environmental evaluation, and make balanced decisions (Velasquez et al., 2001). This process of increasing awareness can help clients to realize and to rationalize problems

caused by their behaviors, which could eventually lead them to make better or more informed decisions. The decision to change can be achieved by exposing clients to the pros and cons of their behaviors. Clients are assisted to evaluate the good and bad things about their addiction, for instance by getting a clear overview of their reasons for taking drugs, and what would happen if it were the opposite. Through the self-reevaluation process, clients are assisted in evaluating the effects of their behaviors on their lives. They begin to realize and see how their behavior creates conflicts with their personal values, and to think of a different life they could lead if they were to change their behavior. As for the environmental reevaluation, it is able to assist clients to realize and understand that their behavior affects the people around them.

The **contemplation stage** is the second stage in the process of changing an individual's behavior that happens after he moves to the next stage from the pre-contemplation stage of change. When an individual begins to admit and accept the fact that he has a problem and starts to seriously think about solving or overcoming it, this stage comes into place. Contemplators usually struggle to comprehend their real problem and to think of the best and attainable solution. This situation causes them to take a long time to make the commitment to change. Other than having to go through change processes similar to those in the pre-contemplation stage, such as increase in awareness and self- and environmental-reevaluation, another crucial change process that is helpful to contemplators is social liberation. It is a process that helps clients to realize and understand how society and surrounding sources support their behavior change, provide alternative surroundings and promote healthy behavior.

The final key to the clients' success in making change is self-efficacy, an important element to assist them in overcoming the issue of ambivalence suffered by the contemplators (Connors, Donovan & DiClemente, 2001). If the clients view the

changes as unattainable or hopeless, contemplators will not work towards planning and making changes (Miller & Rollnick, 2002). Processes convince clients that they are responsible for their own decisions and that they have to determine their own path to change which is similar to the assumption that the clients are able to do it. Clients must be made aware that only they are able and responsible to make it happen for themselves. These processes must be carried out in the best way by the counselor (referring to the facilitator in the module) in sessions which combine change processes that match the stages of change in the module.

Based on this theoretical foundation, the researcher matched the module objectives with change processes, which are recommended as interventions to achieve/fulfill the goals. In short, the module's objectives, based on change process, are listed in the following Table 3.14.

Table 3.14

*The module's goals based on the POC*

<b>No</b>	<b>Objectives</b>	<b>Change Processes</b>
1.	Objective 1	Consciousness raising
2.	Objective 2	Self-reevaluation
3.	Objective 3	Decisional Balance
4.	Objective 4	Environmental reevaluation
5.	Objective 5	Self-efficacy
6.	Objective 6	Social liberation

TTM is not limited to individualizing and personalizing interventions to promote and ease transitions of change among addicts. In fact, according to Velaquez et al. (2001), the development of group therapy module is a new resource in providing

drug intervention treatment and rehabilitation based on stages and change processes, other than providing a new dimension in implementing motivational strategies (CSAT, 1999), providing guidance to rehabilitation professionals (Bishop, 2001; Connors, Donovan & DiClemente, 2001), and providing curative factors in treatment format (Velasquez et al., 2001; Flores, 1997; Yalom, 1995). The research projects MATCH (1997) and CSAT (CSAT, 2005) revealed that many group therapies and addiction treatments are related and that they are all natural allies, since individuals who abused drugs were more likely to remain abstinent and committed to rehabilitation when treatment is provided in group form. Groups often provide the elements of reward and therapeutic energy such as affiliation, confrontation, support, gratification and identification.

In order to achieve the goals determined by the researcher for the development of this module, this concept (an overview of module implementation in an actual situation) is more suitable for execution in group therapy. According to CSAT (2005), there are five common and effective group therapy models used in the context of drug treatment and rehabilitation. One of the models that suits the objective and basis of the theoretical module is the psychoeducational group, which is also a group created to educate clients about substance abuse. Psychoeducation is one of the techniques or motivational approaches which is implemented and didactically executed in order to give and provide information to clients (Velasquez et al., 2001) about the problems that they face, especially in substance abuse. On the other hand, a psychoeducational group is a group that is created to educate clients about their problems in the context of treatment and rehabilitation, as well as to teach clients about substance abuse and relevant attitudes and their effects (CSAT, 2005). This group provides information that is needed and possesses direct application with the clients' lives in order to

nurture self-awareness, suggest choices to develop and change, identify community resources that could assist clients' rehabilitation, build understanding in the process of rehabilitation, and arouse the urge to act promptly to overcome clients' addiction.

The psychoeducational group's main goal or aim is to enhance clients' awareness about behaviors, and psychological and health effects of substance abuse. It also aims at providing motivation to the clients to move towards change (from addiction to recovery-ready stages). This group also needs to be created to assist clients to obtain information that can help in starting and maintaining abstinence, as well as to guide them to a more productive life. By being in the group, clients can use it to fight or reduce the denial of their addiction problems, increase their determination to participate in or commit to a rehabilitation process, change wrong behavior, and support favorable behavior towards recovery. In short, the group is able to assist clients in achieving their recovery objective by:

- (a) Assisting clients who have no desire to change (pre-contemplative) or not ready to change (contemplative) to review the effects of drug usage on their lives, developing their internal desire to get help and finding the path to change;
- (b) Assisting clients who are at the early stage of recovery to learn more about their addiction problems, identify obstacles to recovery, and understand in depth the path that they have to go through in order to be cured;
- (c) Assisting clients to understand the behavior of an addict so that they can provide support if the individual wishes to change and view their own requirement to change; and

- (d) Assisting clients to obtain exposure to other useful resources that are beneficial for their rehabilitation.

### **(3) Objectives of PGT Module**

The module's objectives are identified as a result of recognizing the goals that need to be achieved through the development of this module and the recommendations of TTM theory which is the main guideline in completing the module. There are six major goals which have been explained earlier. Each goal is obtained based on the theoretical analysis of a theory that is the foundation or basis of this module, which are the processes of change according to the stages of change (refer to Table 3.9 and Table 3.10). To develop the objectives, the characteristics of major goals (objectives 1 to 6) were studied and developed to ensure that they are visible and can be measured at the end of the implementation of module (Jamaludin, 2008; Sidek & Jamaludin, 2005).

The objectives which were created from the characteristics of the module's goals are:

- (a) The first characteristic (Goal 1): Admit and realize that their behavior (drug usage) is a problem based on negative effects of their action.

The objectives created are:

- (i) Clients receive knowledge about the types of drug taken, quantity, frequency, time, place and addiction cost (Objective 1);
- (ii) Clients are able to identify possible outcomes that they will get from drug usage (Objective 2);

- (iii) Clients receive knowledge about the effects of drugs on them in the aspects of physiology and psychology (Objective 3); and
  - (iv) Clients receive knowledge about their current position in the context of behavior change (Objective 4).
- (b) The second characteristic (Goal 2): Evaluate and understand the problems that they face due to their addictive behavior.

The objectives created are:

- (i) Clients are able to identify their personal positive values which are conflicting (deviation) with their addiction (Objective 5); and
  - (ii) Clients realize those who are concerned with their addiction problems (Objective 6).
- (c) The third characteristic (Goal 3): Able to list down, understand and have an insight into the advantages and disadvantages of addictive behavior from the point of pros (supporting) and cons (opposing) of a decision that is going to be made.

The objectives created are:

- (i) Clients can identify advantages and disadvantages of their addiction (Objective 7); and
  - (ii) Clients can decide on priority, pros and cons in the process of making a decision (Objective 8).
- (d) The fourth characteristic (Goal 4): Evaluate and understand problems faced by others (people who are important to them) such as parents, spouses and children because of their addiction.

The objectives created are:

- (i) Clients received knowledge about the effects of addiction and their relation to relationships with others (Objective 9);
  - (ii) Clients are able to decide (plan) what needs to be done to fix the relationship (Objective 10); and
  - (iii) Clients are able to identify the responsibilities that must be carried out to recover and nurture their relationships with other people (Objective 11).
- (e) The fifth characteristic (Goal 5): To have the ability (confidence) to change and be able to make decisions (problem solving) about their addiction behavior.

The objectives created are:

- (i) Clients can identify situations that could force them to go back to using drugs (Objective 12);
  - (ii) Clients can evaluate their level of confidence to abstain from using drugs (Objective 13); and
  - (iii) Clients obtain skills in solving problems systematically (Objective 14).
- (f) The sixth characteristic (Goal 6): Identify the need for change and decide on resources that can support the changes that are needed to overcome addiction problem.

The objectives created are:

- (i) Clients can identify personal requirements to change (Objective 15);
- (ii) Clients can identify resources that can fulfill their requirements to change (Objective 16); and

- (iii) Clients can identify the location where these resources can be obtained (Objective 17).

#### (4) PGT Module Content

The module content was selected to meet the above established objectives (Sidek & Jamaludin, 2005). At least 17 topics were drafted at the early stages based on 17 objectives which were established, and each topic represented the number of the session that was to be conducted. Some of the contents which were drafted are listed in Table 3.15.

Table 3.15

*The module's objectives and content titles*

No	Objective	Content titles
1.	Objective 1	Types of drugs used (Title 1)
2.	Objective 2	Predictions on outcome of drugs (Title 2)
3.	Objective 3	Effects of drugs (Title 3)
4.	Objective 4	Stages of change (Title 4)
5.	Objective 5	Personal positive values and conflicts (Title 5)
6.	Objective 6	Individuals who care (Title 6)
7.	Objective 7	Advantages and disadvantages of addiction (Title 7)
8.	Objective 8	Pros and cons priority (Title 8)
9.	Objective 9	Effects of addiction on relationships with other people (Title 9)
10.	Objective 10	Efforts to improve relationships (Title 10)
11.	Objective 11	Responsibility to recover and nurture relationships (Title 11)
12.	Objective 12	Situations that compel repeated addiction (Title 12)
13.	Objective 13	Self-confidence (Title 13)
14.	Objective 14	Problem solving (Title 14)
15.	Objective 15	Personal requirements to change (Title 15)

<b>No</b>	<b>Objective</b>	<b>Content titles</b>
16.	Objective 16	Resources for requirements (Title 16)
17.	Objective 17	Places to obtain resources (Title 17)

These topics were later explained in the form of more detailed content. Drafts of the module's contents, which were based on these topics, were presented in a special workshop for module development that was conducted by elected field experts (discussed in the pilot test). All the contents were synchronized with change processes which are central to the module contents (development of goals) as previously explained. To summarize, synchronization of contents and processes of change (POC) can be found in the following Table 3.16.

Table 3.16

*The titles based on the POC*

<b>No</b>	<b>Processes of change</b>	<b>Content titles</b>
1.	Consciousness raising	Topic 1 to 4
2.	Self-reevaluation	Topic 5 and 6
3.	Decisional Balance	Topic 7 and 8
4.	Environmental-reevaluation	Topic 9 to 11
5.	Self-efficacy	Topic 12 to 14
6.	Social liberation	Topic 15 to 17

The outcome from the module development committee's discussion was that some of the contents overlapped and could be combined into one topic. In addition, topics could be renamed to portray the process and flow of the module. The committee eventually decided on 12 topics and their contents, which synchronized

with the module's goals and objectives. Five of the original topics and contents were combined into the chosen 12 topics. The 12 topics are listed in brief below:

**(a) Title 1: Where am I? (POC: Consciousness-raising)**

Content description: Provide exposure and knowledge to clients regarding stages of change and change processes experienced by the addicts in the process of shaping, forming and preventing addiction behavior. The main focus of the sessions is on the stage of change and change processes which are related to clients' experiences.

Activities: Step-by-step activities

- (i) Distribute handouts entitled "Stages of change" and draw the sketch on the whiteboard. Give the explanation didactically on these stages of change and focus on members' current stage of change. Encourage active discussions in group (ask them to react and discuss their sense of their current stage of change).
- (ii) Distribute and ask members to complete the "My behavioral check-list" based on their current stage of change. Ask the members to share their experiences based on the check list, and the relationship between the behavior and stage of their change.
- (iii) Distribute hand-out on the "Processes of change" to the group. Explain didactically the change processes and how they happen to the members of the group. Encourage discussion and opinions from the group members.
- (iv) Summarize the session and provide room for members to make some comments or ask questions.

**(b) Title 2: Expectations (POC: Consciousness raising)**

Content description: This session gives an opportunity for clients to identify and talk about the outcomes (positive and negative) that they expect to gain by using drugs. Information on these positive and negative expectations is shown to the clients to provide them with some awareness.

Activities: Step-by-step activities

- (i) Distribute a simple inventory on “My expectations about drugs” and ask the members to complete it.
- (ii) Discuss within the group the expectations of the outcome from drugs. Encourage members to share opinions and experiences. Trigger the members’ thoughts and discussions with questions or statements such as: “When was the last time you took drugs?”; “What was your expected outcome of the drugs? Was the expectation met? If not, why?”; and “Are there other ways that could provide the same results?”
- (iii) Summarize the session and allocate time for members to give any comments or ask questions.

**(c) Title 3: A drug in my life (POC: Consciousness-raising and self-reevaluation)**

Content description: Provide awareness to clients on the history of their addiction through a structured narrative technique; with clients honestly sharing about their daily lives and the activities related to drugs that affect them.

Activities: Step-by-step activities

- (i) Distribute a simple inventory on “Drugs and my life”. Explain this activity clearly and ask members to complete the inventory within 15 to 30 minutes. Facilitators have to move among groups and offer help in case members need it. Request each member to read out their answer to each question according to their turn.
  - (ii) Discuss experiences in group activities by bringing out questions such as “You know the amount of drugs used in a day, how about for a month or year?”; “How much time is given to drug usage a day, a month and a year?”; “How much money has been used for drugs?”; “How much time is spent for beneficial activities (positive) as compared to drug activity?”; and “How much time is wasted and how do you want to regain it?”. The facilitator can utilize visual aids (such as a pie chart) which are drawn on the whiteboard to provide an overview of the amount of time and money used for drug activity.
  - (iii) Summarize the session and give members the opportunity to make any comments or ask questions.
- (d) Title 4: Physiology and psychology effects of drugs (POC: Consciousness-raising)**

Content description: Expose clients to information and knowledge about effects of drugs in terms of physiology and psychology. Clients

are encouraged to give feedback and share experiences about the effects that they have experienced.

Activities: Step-by-step activities

- (i) Distribute the instrument entitled “Drug screening inventory” to group members and explain the instructions. Discuss in groups the stages of addiction experienced by the members, and explain didactically the definition of each stage of drug usage.
- (ii) Show the video clip entitled “Effects of drugs on family and health” (2:27 minutes – by National Anti-Drug Agency). After the viewing, discuss in groups the issues presented in the video clip.
- (iii) Educate group members with facts about the effects of drugs. Distribute hand-out entitled “Effects of drugs”. Discuss in groups, and encourage group members to share experiences about the effects which they had experienced.
- (iv) Summarize the session and provide opportunities for any comments or questions.

**(e) Title 5: Expressions of concern (POC: Self-reevaluation)**

Content description: Provide awareness to clients on how drugs become a problem in their lives, particularly problems that they face for themselves and others, as well as their strengths and weaknesses with and without drugs.

Activities: Step-by-step activities

- (i) Facilitators ask each member to name an individual who is important and concerned about them. Write the members' responses on the whiteboard (possible answers are mother, father, wife, children, brother or friends). Discuss this issue by focusing on "Why do they choose these individuals".
- (ii) Distribute an inventory entitled "Who cares". Explain the instructions to complete the inventory. Ask the members to focus on "the individual stated" in responding to the inventory. Upon completion, discuss the members' answers.
- (iii) Ask group members to discuss their reactions to expressions of concern. Use issues such as: "What is your reaction when someone corrects you, gives comments or expresses their opinion about your addiction problem?"; "Do you think that this matter is good for you?"; and "Are there any incidents (caused by members) which cause them to focus on your problems?"
- (iv) Summarize the session and provide opportunities for any comments or questions.

**(f) Title 6: What is most valuable? (POC: Self-reevaluation)**

Content description: Assist clients to identify positive values which are in them and how they are conflicted with their addiction behavior.

Activities: Step-by-step activities

- (i) Explain didactically about the values in a human's life, differences in values among humans and their significance. Use presentation slides to facilitate the teaching process.

- (ii) Distribute the instrument activity called “The most important thing is my life” in order to assist members to identify their personal values and how their addiction destroys these values. Explain the instructions to complete the instrument. Use these questions to generate thinking among group members: “What do you want all this while?”; “What have you done to obtain them”; and “Do you get what you want? If not, why?”.
- (iii) Ask members to discuss their answers and share their feelings and experiences about the activity, and how their values are compromised by their addiction problems.
- (iv) Summarize the session and provide opportunities for any comments or questions.

**(g) Title 7: Pros and cons (POC: Decisional balance)**

Content description: Assist clients to identify the profit (pros) and loss (contras) of their addiction, and to provide a balance (weightage) of this situation based on experiences or anything that is being experienced now.

Activities: Step-by-step activities

- (i) Explain didactically the pros and cons of drug addiction behavior.
- (ii) Distribute the instrument activity called “My profit and loss in drugs – Part I”. Explain the instructions to complete the instrument. Ask members to complete the instrument according

to their own views and experiences. Upon completion of this task, ask members to discuss their answers.

- (iii) Conduct the activity of profit-loss rating. Distribute the instrument activity named “My profit and loss in drugs – Part II”. Ask clients to list down the profit-loss which was obtained in the previous activity according to priority. Assist the members by prompting their action with the statement “How far is it important to you, when you want to make the decision to use drugs?”.
- (iv) Assist clients to make a decisional balance by comparing the lists that have been prepared. Explain didactically about this balance, and how pros and cons can change in their daily lifestyle. Generate discussions and sharing of experiences among members.
- (v) Summarize the session and provide opportunities for any comments or questions.

**(h) Title 8: Relationship (POC: Environmental reevaluation and Social liberation)**

Content description: Assist clients to reevaluate the effects of their addiction on people and surroundings that are important to them, especially when it involves their relationships with families, careers and social lives.

Activities: Step-by-step activities

- (i) Distribute the inventory entitled “My social relationship” to members and explain the instructions to complete it. Ask members to list down as many people who are related to or associated with them (for instance: family members, peers, colleagues) by writing their names or nicknames. In order to help the members, facilitators could generate thinking among them by asking about issues such as: “Who do you remember most and wish to be with?” or “What happened to them as a result of your addiction behavior?”
- (ii) Using the same inventory, ask members to identify the individual among the names listed as the closest person according to priority, from the closest to the least close. Use the visual aids provided to write their names.
- (iii) Generate members’ discussions about how this relationship has changed now. To optimize the discussion, facilitators can break up the members into small groups. After they are done, ask one representative from each group to present the outcome of their discussions. Provide your review on the discussions.
- (iv) Summarize the session and provide opportunities for any comments or questions.

**(i) Title 9: Your responsibilities (POC: Environmental reevaluation)**

Content description: Provide an opportunity for clients to identify responsibilities that they have to carry and how addiction causes neglect in all them.

Activities: Step-by-step activities

- (i) Explain didactically about the concept of responsibility and its relationship to members who have responsibilities as children, husband or employees.
- (ii) Discuss in groups their responsibilities as children, husband, father and employee (separately) and how drugs affect these responsibilities. Ask for members' opinions and write them on the whiteboard or flipchart. Having done that, ask all the members to rewrite them.
- (iii) Discuss in groups their requirement to carry out their responsibilities again. Distribute instrument entitled "My responsibility" to all members, and explain the instructions to complete the instrument. Upon finishing that, ask members to share their views and experiences regarding the matter.
- (iv) Summarize the session and provide opportunity for any comments or questions.

**(j) Title 10: Yes, you can! (POC: Self-efficacy)**

Content description: Provide information to clients about high-risk situations that can cause them to repeat drug use. Based on these situations, clients will evaluate their levels of confidence to face them.

Activities: Step-by-step activities

- (i) Introduce the topic by providing information didactically about highly risky situations, temptation and self-confidence, and their relation to self-efficacy. Information regarding the two

rehabilitation activities that will be conducted is given in order to enable members to get a more accurate overview of this concept.

- (ii) Distribute the inventory entitled “High risk situations check list” to members and explain the instructions to complete it. Ask members to answer the questions and share them with other group members once they are done. Encourage discussion and sharing of experiences among members about the situations.
- (iii) Distribute the inventory entitled “My level of confidence” to members and explain the instructions to complete it. In completing the inventory, facilitators have to remind members to refer to the check list of high-risk situations that they have attempted earlier, since it is related to this activity’s inventory. Having finished the inventory, ask group members to share their experiences in groups.
- (iv) Ask each member to make a personal evaluation of these activities – refer to check list of high-risk situations and their own levels of confidence. Provide opportunities for members to obtain explanation and share views on their own self-confidence. Promote support and encouragement among members.
- (v) Summarize the session and provide opportunities for any comments or questions.

**(k) Title 11: Problem solving (POC: Self-efficacy and Decisional balance)**

Content description: Provide information and training to clients on systematic and correct problem solving steps. Clients are encouraged to use the pros and cons technique to assist them in making the best decisions, using the steps, which they have been taught.

Activities: Step-by-step activities

- (i) Educate members about decisions and about individuals who are prone to making decisions based on emotions, feelings and instincts, without thinking and following the effective steps. Provide examples of effects and implications.
- (ii) Introduce effective problem solving steps and discuss them with members. One by one, discuss the steps by giving an example which is relevant to the member. An example of a problem is: "I find it difficult to turn down an offer from my best friend. Every time we meet, I will take drugs". Educate and discuss in groups the issue of effective solutions to problems.
- (iii) Provide simulation training for problem solving – divide group members to four smaller groups. Each group receives one problematic situation and they have to solve it according to the steps that have been learned. Examples of situations are: (1) "When I am bored, I will take drugs"; (2) "I love entertainment, eventually I will take drugs"; (3) "I am ashamed to face the public"; and (4) "I am not confident I will get a job". Distribute

notes on “Ways to overcome problems” as references, and the inventory on “Brainstorming ideas form/Pro-contra” for this simulation practice.

- (iv) Encourage all members to share their experiences about this activity, particularly the experiences and knowledge gained.
- (v) Summarize the session and provide opportunities for any comments or questions.

**(I) Title 12: Identifying needs and resources (POC: Social liberation)**

Content description: Assist clients to identify personal requirements to promote and maintain change.

Activities: Step-by-step activities

- (i) Explain didactically the topic on needs and resources, especially for drug addicts. Encourage questions and opinions by members to assist their process of learning and understanding.
- (ii) Distribute the inventory on “Needs analysis” to all members and explain instructions to complete it. Ask them to identify needs which are related to them, and whether or not they are under control, or require improvement. Help the group members to understand clearly each of these needs.
- (iii) Distribute the instrument on “Information and location of resource” and explain how to complete it. Ask the group members to fill in the space for needs which must be improved with the list of requirements identified in the previous activities. Provide time for the members to do this. Monitored discussion

among members is encouraged. Facilitators can assist members by giving them accurate information about a relevant source agency if required.

- (iv) Open the session to discussion and sharing of experiences about requirements and resources in groups. Facilitators must offer encouragement and support to all members to fulfill these requirements and how they can get assistance from the identified resources.
- (v) Summarize the session and provide opportunity for the members to make some comments or ask questions.

The committee also suggested and decided to add three more sessions to enable the psychoeducational group therapy module to meet the requirements of group therapy sessions, which are listed below:

- (a) One introductory session which focuses on the main content about the processes in starting a group session, known as assessment and icebreaking sessions;
- (b) One introductory session that focuses on the processes in introducing the psychoeducational group therapy concept, also known as Introduction to Psychoeducational Group Therapy; and
- (c) One closing session which focuses on content that deals with the group ending process, known as Review and Group Ending.

PGT sessions are held for 90 minutes, twice a week and conducted in an entirely structured manner according to the manual provided. Each session has the same four activities in its content, which are:

- (a) The opening session activity in the psychoeducation group which begins with greetings and a motivational speech to all group members who are present. Supporting and encouraging speeches are important to provide motivation to members to maintain their attendance and complete the PGT program with flying colors. An example of such a speech is “your presence here today is a positive sign and the right commitment to support the change that you are about to make”.
- (b) A brief flashback activity on previous sessions, where more opportunities are provided for members to give comments or views about the past sessions. This activity is crucial for the members’ learning process, while signaling that there is a continuation between each session.
- (c) An activity that involves informing and explaining the learning objectives that need to be achieved in each session. Such an activity can help the facilitators to focus on activities which will be conducted so that they are suitable for the learning objectives. It will also assist the group members to understand the objective of the session conducted.
- (d) A postponement activity, which will provide information on the next session in terms of topic, date and time. This activity is important in helping the facilitator and group members to make early preparations.

**(5) Strategy and technique used**

The right strategy and technique is very important in promoting the clients’ behavior change processes, especially for those who are at the pre-contemplation and

contemplation stages of change. In this module, the whole sessions apply strategies or motivational approaches as suggested by Miller & Rollnick (1991, 2002). Some of them are:

- (a) Use of open-ended questions – facilitators ask clients open-ended questions which require them to elaborate on their answers, for instance, “What are the negative things that will happen to you if you continue to take drugs?”
- (b) Listen reflectively – facilitators provide reflections in words to give meaning to clients’ statements, without ignoring the focus on the said statement.
- (c) Affirming – facilitators give affirmation or say something good and complimentary to support the clients' change efforts.
- (d) Summarizing – facilitators to provide a summary and relate all discussed matters to the client’s change objective.

In terms of technicality, this manual adapted several techniques which are normally used in psychotherapy to assist clients to develop or progress through pre-contemplation and contemplation stages of change, and which are suitable to the change process (Velasquez et al., 2001). Some of these techniques are:

- (a) Psychoeducation – Didactic sessions to provide information related to addiction and drugs, as well as the effects.
- (b) Clarification of values – ask clients to give values to their behaviors and what they treasure in their lives, in the hope that they will realize and admit that addiction problems are the opposite of their values.

- (c) Problem solving – clients are exposed to brainstorming methods to generate alternatives and to make the best choice to solve their problem. This technique is able to increase clients’ self-efficacy.
- (d) Assessment and feedback – to give opportunities to clients to view their problems realistically, as well as their effects on other people.
- (e) Decision making – expose clients to skills in making decisions by taking into account various aspects of possibilities/expectations, and weighing the pros and cons.
- (f) Cognitive recognition – educate clients to identify thoughts that can lead them to substance abuse, and how to replace those thoughts with positive thinking.
- (g) Clarification of roles – ask clients to identify several roles that they play (such as father, son, employee) and determine how their addiction affects the implementation of these roles – how addiction affects their function in the community and their surroundings.
- (h) Clarification of needs – help clients to flashback to several aspects of their lives and identify which ones can help them, especially resources which are available in themselves and their environment which could be used.

In short, techniques which are used according to the change processes and sessions’ titles in this manual are listed in Table 3.17.

Table 3.17

*The techniques, session's title and processes of change*

<b>Change processes</b>	<b>Sessions' titles</b>	<b>Techniques applied</b>
Consciousness arising,	Where am I?	Psychoeducation
Self-reevaluation	Expected results	Cognitive recognition
	Drugs in my life	Evaluation and feedback
	Effects of drugs	Psychoeducation
Self-reevaluation	Concern	Cognitive recognition
	What is valuable	Clarification of values
Decisional balance	Profit and loss	Decision making
Environmental reevaluation,	Relationship	Cognitive recognition
Social liberation	Your responsibility	Clarification of roles
Self-efficacy,	You can!	Assessment and feedback
Decisional Balance	Problem solving	Problem solving
Social liberation	Identification of requirement and resources	Clarification of requirement and psychoeducation

## **(6) Module draft**

Having detailed all the prepared module content, one draft of the module was produced for the purpose of a pilot study for module assessment. Each module title and content was prepared in a structured format which was easy to comprehend and implement, as described below:

- (a) Session numbers and titles
- (b) *Introductory session* – features brief introduction of each session according to the titles provided.
- (c) *Learning Objectives*– are the objectives that the group members hope to achieve through the implementation of these sessions.

- (d) *Material requirement* – is a list of items or supporting materials which are needed to make it easier for the activities to be carried out in the sessions. The list comes with handouts which are needed in the sessions to assist teaching and learning/discussion.
- (e) *Presentation method* – is a method applied in conducting activities in groups.
- (f) *Time* – duration of time used, which is estimated to be between 60 and 90 minutes for each group session.
- (g) *Question and answer* – is the guidance provided by the facilitator in order to engage group members in the discussion of a topic, whether or not an opportunity is provided to members to ask questions as the sessions are being conducted.
- (h) *Feedback* – is a guideline established for the facilitators to determine the group members' level of acceptance or learning progress for a certain title of the session. Feedback is obtained using written or verbal tests.
- (i) *Implementation* – is the sessions' contents that will be conveyed or discussed in groups, according to the titles which have been established. A step-by-step method is used. To ease the content presentation and discussion, facilitators are encouraged to provide content summary in the form of a computer display and screen using “Microsoft Powerpoint” software.
- (j) *Session review* – is a list of content summaries which can be used by the facilitators to help them do a review at the end of the session, and to ensure that no important issue is left uncovered.

### **3.7.2 Pilot Study for Module Assessment**

A module assessment pilot study was carried out by the researcher to obtain information on module quality in general, especially in terms of content suitability, activities available in the module, appropriate language and its level, as well as the possibility of language errors, as suggested by Sidek dan Jamaludin (2005) and Jamaludin (2007). Much of the information obtained from the pilot study became the platform for the making of the module.

A module assessment committee was elected by the researcher to assess the module from the aspect of its development, which included the information, theoretical basis, objective determiners, module content (choice of content), strategy selection, media logistics and the module's draft. This committee was represented by three senior officers from AADK who were very experienced in conducting drug treatment and rehabilitation, and five academic experts in the field of counseling, drug treatment and rehabilitation, psychometric measurement tools, and an expert in training and drug rehabilitation module.

The researcher accepted any feedback, suggestions, comments, statements and experiences as input to improve the module. All information received was put into the module, as was discussed in detail in the previous section. One draft of the completed module was prepared and will be applied into the pilot study by involving the real target group. The researchers brought up this matter in the validity and reliability section of the module.

### **3.7.3 Module Validity and Reliability**

#### **(1) Module validity studies**

Module validity studies were done to evaluate the level of the psychoeducational group therapy module which the researcher had developed. To be an excellent module, it must have good validity in order to give a positive answer to the main question of this study, which is “Does the module known as psychoeducational group therapy have good validity?” as emphasized by Sidek and Jamaludin (2005) and Jamaludin (2008).

This study uses the descriptive design as suggested by Mohd Majid (2004) since it is able to explain a certain phenomenon which is happening, or explore a field which has not yet been revealed or researched. Sidek (2000) stated that this method can be used to provide a systematic and accurate explanation of the facts and characteristics of a population or a favored field. The method is suitable for use when conducting a specific research in an area which has not been previously studied (or lacks earlier studies), such as in this current research, in order to answer the issues brought up in the study.

The research respondents invited five individuals who are related to the development of modules and drugs. Three of them are experts in counseling and drugs, namely, Professor Dato’ Dr. Mizan Adilliah binti Ahmad Ibrahim from Islamic Science University of Malaysia (respondent 1), Dr. Haslee Sharil Lim Abdullah (University of Malaya – respondent 2), and Dr. Mohd Muzafar Shah bin Mohd Razali (Sultan Idris Education University – respondent 3). The other two experts were from National Anti-Drugs Agency, Ministry of Home Affairs, namely, Dr. Sabri bin Zainudin Zainul (respondent 4) and Nor Azri bin Ahmad (respondent 5). Although

only two respondents would have been sufficient (Mohd Majid, 2004), the researcher chose to add more respondents in order to obtain a better validity rate.

All respondents were given a copy of the psychoeducational group therapy module and told to thoroughly read and study the module. Later, they had to respond to a questionnaire related to the module content validity, known as Skala Keesahan Kandungan Modul (SKKM) or Module Content Validating Scale. SKKM was founded by the researcher, who was guided by the Module Content Validity designed by Jamaludin Ahmad (2002). The questionnaire had six items which were divided into two parts. The first part contained five items which applied the five-choice Likert Scale. Compared to the original questionnaire by Jamaludin (2002), the researcher had changed two items that fulfilled Russel's fourth and fifth conditions (1974) to this module content, which are "module content can be used to increase the addicts' change performance" and "this module content can assist the addicts to move towards higher stage of change". Secondly, the second part was an open statement to the respondents to provide written comments, responses, feedback and suggestions in the space provided. These views, which the experts had evaluated, reinforced the ideas and established the modules (Jamaludin, 2007). The researcher used the original questionnaire developed by Jamaludin (2002) for this part.

The calculation method for this measurement instrument was based on the following formula suggested by Jamaludin (2007):

$$\frac{\text{Total Experts Score (X)}}{\text{Maximum Score (25)}} \times 100\% = \text{Content Validity Performance}$$

The score provided by the experts through the Likert scale is totaled to represent X, and divided by the maximum scale score of 25. The number obtained is

then multiplied by 100%. If the percentage obtained is more than 70%, it means that this module has good content reliability. In contrast, if the percentage obtained is less than 70%, this module does not have good content reliability. However, the percentage can be changed into the decimal form which resembles the correlation coefficient (Jamaludin, 2007), and which has the same meaning in portraying the content validity, for instance 70% equals 0.70.

Table 3.18

*Results of content module validity analyses*

<b>Respondent</b>	<b>Percentage score</b>	<b>Validity Coefficient</b>
R1	100.0	1.00
R2	92.0	0.92
R3	84.0	0.84
R4	96.0	0.96
R5	88.0	0.88
<b>Average</b>	<b>92.0</b>	<b>0.92</b>

The research results show that the module content validity obtained was between 84% to 100%, or in the form of content validity coefficient, between 0.84 and 1.00. Detailed results are featured in Table 3.18. The results indicate that the average of module content validity obtained is 92% or 0.92. This shows that the PGT module has good content validity. Comments received from the respondents were very positive. They stated that the content of the module is satisfactory and it focuses more on treatment of clients.

## **(2) Module reliability testing**

Research on the module reliability was conducted to test the psychoeducational group therapy module reliability coefficient value, which was developed by the researcher. Sidek & Jamaludin (2005) stated that the reliability of a module means that the module is consistent and is able to produce consistent results. A module that has high reliability has to be consistent, as well as be able to provide impact to the target of the same module when conducted at a different time.

This research used posttest experiment design, in which the respondents were given treatment through psychoeducational group therapy, and the dependent variables were only measured once using the posttest. Module reliability is the dependent variable and the psychoeducational group therapy module is the independent variable. According to Chua (2011), this method is a true simple experimental research design but it has high internal validity. It was the same design used by Jamaludin (2008), who found that it was suitable to determine the reliability value of a newly developed module.

The research respondents were made up of 24 drug addicts who were undergoing drug treatment and rehabilitation at CCRC Jelebu. Purposeful sampling was used in selecting the respondents, and only addicts who were at the early stages of changes were chosen. The respondents were divided into two experiment groups which had to subscribe to 15 psychoeducational group therapy sessions that were conducted by the researcher and research assistants. Each group was limited to only 12 members since this would be more efficient when conducting the module which is based on the concept of group therapy (Velasquez et al., 2001). At the end of each

session, respondents were required to complete the module reliability survey, or Module Reliability Survey (SKM) developed by the researcher.

SKM, which is used to test the module reliability coefficient value, was developed by the researcher based on guidance and recommendations by Jamaludin and Sidek (2001 & 2005). The researcher applied the approach of creating question items based on the steps of module activities, since it has systematic steps for activities to achieve the goal. Moreover, this approach is known as the best and can be used as one of the methods in determining a module's reliability (Sidek & Jamaludin, 2005). There are 85 items related to the steps in the activities in the module, in the form of a five-choice Likert scale, namely, (5) strongly agree, (4) agree, (3) not sure, (2) disagree, and (1) strongly disagree. All these items were divided into 15 sets according to the number of sessions and the theme applied.

The coefficient value of module reliability measurement is based on Cronbach's Alpha method as suggested by Jamaludin (2007). Results which were gathered showed that the module's reliability coefficient value is 0.97, an excellent reliability coefficient value. This result indicates that the module, which had been specifically developed, achieves the minimum reliability level as suggested by the researchers, both local and from abroad (Jamaludin, 2007).

### **3.8 Data collection**

All data was collected at CCRC Jelebu, Negeri Sembilan and involved 46 respondents at three stages, known as pretest, posttest and follow-up-test. (One respondent was disqualified when the test was administered, and two respondents did not turn up during the follow-up test.) Since the respondents involved in this study were drug addicts who were going through the treatment and rehabilitation program

(inmates), one written application enclosed with the research proposal was submitted to the Chief Director, National Anti-Drug Agency.

After approval was received, the researcher conducted a screening test by using the SoCS instrument on 88 inmates who met the initial criteria, which was to have been in treatment and rehabilitation for more than 14 days and up to six months (14 days to 6 months). From this test, 46 inmates qualified to participate in the study. Later, they were randomly divided into four groups who attempted the SES and DBS instruments as a pretest. The procedure in completing the SoCS instrument was not repeated to the respondents to prevent error in the measurement instrument. Data from the SoCS screening test was used as the pretest data. Posttest was conducted after all 15 group therapy sessions had been carried out on the same respondent groups using SoCS, SES and DBS instruments. The last or follow-up test was given after three months from the date that the posttest was administered.

All pretest, posttest and follow-up-tests were given to the respondents in their own groups (separately according to the research group). The method to complete the instrument was a self-report. In general, this data collection process ran smoothly and went well during the six months.

### **3.9 Data Analysis**

The research data was analyzed using the program known as Special Package for Social Science (SPSS) version 21. Two parts of the data analysis was carried out in this study, as follows:

### **3.9.1 Descriptive analysis**

This section is for reports on information and research respondents' descriptive data regarding demography, stages of change, self-efficacy and decisional balance level. The statistic method used was frequency, mean and standard deviation.

### **3.9.2 Effects of treatment analysis**

This section reported the effects of treatment on research groups and hypotheses testing. Data analysis was done at two stages according to the research designs used, which were the within-group and between-group designs. Data obtained from these tests were tested with suitable tests. Table 3.19 briefly explains the hypotheses developed based on research objectives, variables involved, tests, instruments and techniques conducted.

The within-group design method was used to trace the effects of treatment among pre and posttests for each independent variable, according to the experiment group which was studied. The statistical method used was one-way ANOVA for repeated measure, followed by post hoc test using Bonferroni multiple-paired comparison (Kinnear & Gray, 1997) as suggested by Chua (2009), Saedah (2004), Bonate (2000), and Green, Salkind and Akey (2000). The hypotheses involved in the statistical test were 1a, 2a, 3a, 4a, 5a, 6a, 10, 11, 12, 13, 14 and 15.





The between-group design was used to view the effects of treatment for each variable among the research groups at the post and follow-up tests. The statistical method used was covariant analysis test (ANCOVA), followed by post hoc through the use of Bonferroni's multiple-paired comparison tests. ANCOVA was used since it could statistically control extraneous variable, which is known as covariate (Chua, 2009) for all independent variables. The hypotheses in this statistical test were hypotheses 1b, 2b, 3b, 4b, 5b, 6b, 7, 8, 9, 16, 17 and 18.

Since the number of respondents in this experimental research was rather small, for both ANOVA and ANCOVA tests that were used to measure all hypotheses in this study, one test of statistical power would be conducted.

To measure of the magnitude of treatment effect of the PGT, effect size calculation has been used. According to Cohen (1988), effect size ( $d$ ) can be measured by subtracting the means (difference between the means,  $M1 - M2$ ) and divided by standard deviation (SD) of either group. This measurement called Cohen's  $d$ . Effect size is defined as "small,  $d = .2$ ", "medium,  $d = .5$ ", and "large,  $d = .8$ " (Cohen, 1988, p.25).

### **3.10 Chapter summary**

This chapter has discussed in detail the research design, subjects, PGT module which encompasses module development, managing the module and early research, measurement instruments which consists of its development, management and initial research for measurement instruments, and analysis procedures.

The research design for this study is made up of pre, post and follow-up tests with four types of research groups, consisting of two psychoeducational group therapy research groups and two control groups, and involving 45 respondents. The effects of

treatment on respondents studied were viewed from the aspects of stages of changes, self-efficacy and decisional balance. There were two main types of instruments used in this research. The first was the PGT instrument that covered the PGT module, module content validity scale (SKKM) and module reliability scale (SKM). The second instrument was used to measure the effects of treatment, as it covered three different types of scale, namely, Stages of Change Scale (SoCS), Self-efficacy Scale (SES), and Decisional Balance Scale (DBS). Effects of treatment on three dependent variables could be viewed by applying the research design using within-subject and between-subject designs, through 24 hypotheses which were developed.