

CHAPTER 3

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### **RESEARCH METHODOLOGY**

#### **Research Design**

The survey method was utilised to obtain primary data for analysis purposes. A total of 182 ex-trainees and their supervisors from various units were identified and selected based on random sampling.

Self-administered questionnaire were distributed personally by the researcher to the ex-trainees designated units and supervisors. The researcher then explained to the respondents the purpose of the survey and gave instructions on how to fill in the questionnaires. The respondents were given one week to complete the questionnaires which was then collected with the help of the units administration officers.

#### **Questionnaire Design**

Three set of questionnaires were used for each respondent groups; the Vehicle Mechanic Class 1, Vehicle Mechanic Class 2 and the Supervisors. A six paged questionnaire (consisting of 49 statements) was developed for data collection for the Vehicle Mechanic Class 1 respondent group (See Appendix 1). Meanwhile, for the Vehicle Mechanic Class 2, a five paged questionnaire with 45 statements was developed for data collection (See Appendix 2). The supervisors questionnaire consist of six pages with 25 statements (See Appendix 3). The questionnaires for Vehicle Mechanic Class 1 and Vehicle Mechanic Class 2 were divided into two sections. Generally, Section 1 was divided into three parts (Part A - To find whether the knowledge, skills and techniques taught during the course were useful and relevant to the ex-trainees in their job, Part B - To find out whether the ex-trainees level of knowledge and skill in performing their current job has increased after they have attended the course and Part C - To find out the validation aspect of their training). There are a total of 40 questions in Section

I; 16 questions in Part A, 16 questions in Part B and eight questions in Part C for the ex-trainees of Vehicle Mechanics Class 1. Meanwhile, for the ex-trainees of Vehicle Mechanic Class 2, there is a total number of 36 questions in Section I; 14 questions in Part A, 14 questions in Part B and eight questions in Part C. There are a total number of 16 questions in Section I; eight questions in Part A (to find whether the knowledge, skills and techniques taught during the course were useful and relevant to the ex-trainees in their job and also to find out whether the ex-trainees level of knowledge and skill in performing their current job has increased after they have attended the course) and eight questions in Part B (to find out the validation aspect of the ex-trainees training) for their supervisors.

Section 2 for all the respondent groups contained nine questions concerning the respondent's profile in terms of their rank, number of years in the service, gender, age, race, religion, academic qualification, number of courses attended and marital status.

The language used in the questionnaire is English. However, back-to-back translation was done to cater for the ex-trainees lack of proficiency in English. All questions in Part A and Part B of Section I for the ex-trainees used the five-point Likert-Scale whereas Part C used the category scale combined with open ended questions. Meanwhile for the supervisors, the Part A and Part B of Section one used the category scale combined with open ended questions and also the five-point Likert Scale. The five-point Likert-Scale ranges from 1 which indicate not useful at all to 5 which indicates very useful and also indicates no improvement at all for the scale of 1 to 5 which indicates great improvement.

### Sample Design

The questionnaire was distributed to 182 ex-trainees and their supervisors who were based in Negeri Sembilan, Johor, Kuala Lumpur, Malacca, Kedah and Perak. The ex-trainees were selected from those who have successfully attended their basic and intermediate training as vehicle mechanics and their performance can be easily assessed as individual. The ex-trainees from the tactical training

are not selected because the difficulties to assess them as individuals. They are assessed as a group at the unit training level.

The ex-trainees were selected from the basic and intermediate group because they are inter-related in terms of work (they can be considered as the direct workers). The ex-trainees from the advance group were not selected because they are not direct workers. They are inclined towards doing supervisory or middle managers work. The ex-trainees were selected from the vehicle mechanic trade because it is the largest trade in the technical branch of the Malaysian Army (the biggest number of technicians come from this trade).

The number of ex-trainees who have completed their vehicle mechanic basic and intermediate training from January 1999 till June 2000 is 240 personnel. Out of this number, 182 has been assigned to their respective units more than six months. The number of ex-trainees selected for sample in this research is 126 and this represents 69 percent of the total population of vehicle mechanic (basic and intermediate level) trained within the period stated earlier.

### **Data Collection**

Primary and secondary data were collected in this study. A field survey was conducted to gather information from the respondents. The primary data was collected through a survey of ex-trainees and their supervisors. Personal interviews are conducted on personalities (i.e. Chief Instructors and Training Development Officers) and instructors from the Training Development Wing of Army Institute of Management. The secondary data was obtained from journals, books, project papers, theses, magazines and newspapers, from the library of the Faculty of Business and Accountancy, the main library of the University of Malaya, the Ministry of Defence library, the Army Institute of Management library and the Army Training Command. Besides that, the secondary data was also obtained from the Internet, CD-ROM and micro-fiche. These data were analysed and used to support the information gathered from the primary data. Specifically, the sources of information were:

- a. Previous survey or studies conducted by organisations or departments, independent bodies and individuals on validation or evaluation and other related subject;
- b. Training and development books, magazines and journals, and seminar papers on training issues and validation or evaluation were also referred to; and
- c. Reports from the Army Training Command were read and analysed to form the basis of analysis and recommendations.

As a whole, this will provide a description of the sampling procedure, the design of the research instrument data collection procedures and data analysis.

### **Data Analysis Procedures**

In order to reduce inaccuracies, the data collected were vetted by a pre-analytical process which included data editing, variable development, data coding, error check, data structure development, pre-analytical computer check, tabulation and finally data storing into the computer.

After this procedure has been completed, the data were analysed by means of the Statistical Package for Social Sciences (SPSS). Three analyses were carried out:

- a. **Analysis of the Respondents' Profile**

An analysis of the respondents' personal characteristics was carried out by frequency distribution according to their age groups, gender, ethnicity, marital status, academic qualifications, rank, functional groups, years of service and job designation. Analysis on the usefulness of the course, the level of knowledge and skill and the conduct of external validation on them was also done.

- b. Comparing of Mean Scores was used to determine whether the courses attended by the ex-trainees were useful and have improved their knowledge and skills. The comparison was also done on each subject for both courses.