Faculty of Cognitive Science and Human Development

ATTRIBUTION APPROACH AND STUDENTS’ ACADEMIC ACHIEVEMENT:
A STUDY OF THE ATTRIBUTIONAL APPROACH AND ITS IMPACT ON
UNDERGRADUATES STUDENTS IN UNIMAS

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ATTRIBUTION APPROACH AND STUDENTS' ACADEMIC ACHIEVEMENT: A STUDY OF THE ATTRIBUTIONAL APPROACH AND ITS IMPACT ON UNDERGRADUATE STUDENTS IN UNIMAS

by

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This project is submitted in partial fulfillment of the requirement to obtain a Bachelor of Science (Cognitive Science) from Faculty of Cognitive Sciences and Human Development, University Malaysia Sarawak.
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ABSTRAK

PENDEKATAN ATRIBUT DAN PRESTASI AKADEMIK PELAJAR: SATU KAJIAN MENINGKATI KESAN PENDEKATAN ATRIBUT KE ATAS PELAJAR-PELAJAR PRASISWA/ZAH DI UNIMA

LAW THONG HAN

ABSTRACT

ATTRIBUTION APPROACH AND STUDENTS’ ACADEMIC ACHIEVEMENT: A STUDY OF THE ATTRIBUTIONAL APPROACH AND ITS IMPACT ON UNDERGRADUATES STUDENTS IN UNIMAS

LAW THONG HAN

The purpose of this study was to examine the impact of attribution approach on undergraduate students’ academic achievement. Attribution criterions used in this study were effort, attitude, perception, study technique, cooperation with course mates, understanding of the course materials, revision and interest. The study was conducted in both experimental and correlational research. In the experimental research, a program was developed to increase students’ motivation for their study by using the attributional approach. 25 undergraduates in experimental group received the testimonies from the senior students regarding their success in the academic learning. However, results from the experiment showed that this attributional approach had no effect on undergraduates’ academic achievement. Demographic factors of gender, ethnic and academic ability level were examined and results indicated that only academic ability level has significant effect on students’ academic achievement. Correlational research conducted in this study indicated that the respondents were more tending to apply the criterions of effort, interest and study technique in their academic learning.

1.0 Introduction

Attribution inferences. It is generally believed that attribution (Weinberg, 1984) is a powerful tool in explaining academic learning. Research concern causal of lack of success or failure which results in Overwalla, Seger, (1979) who psychologists think students are integrating the achievement of ability, effort and the cognitive strategies. Therefore, towards student achievement research, much achievement is believed to be a result of the application of attributional approach. This study aims to test the assumption that ability, effort and cognitive strategies are related to academic achievement.
1.0 Introduction

Attribution theory is a collection of ideas about when and how people form causal inferences. It examines how individuals combine and use information to reach causal judgements. Perception of the cause of achievement outcomes is referred as causal attribution (Weiner, 1986).

Generally, success and failure tend to produce different attributions. In formal academic learning, one of the major concerns is the students' academic achievement. Research concerned with students' academic achievement were conducted to determine the cause of success or failure in academic learning (Travers, Elliot, Kratochwill, 1993, 284-294). Findings from the research were constantly providing new proven methods that improved the students' academic achievement and persistence. One of the methods that widely applied was through attributional approach.

In academic learning, students often attribute their success or failure to factors such as ability, effort, task difficulty and luck. Hence, Attribution approach is used to investigate these factors that might affect the students' academic achievement. Weiner (1979) indicated that low achievers attribute success to luck and failure to lack of ability meanwhile high achievers attribute success to sufficient effort plus ability and failure to lack of effort. Through attributional approach, students were motivated in their learning which results in better and improved academic achievement (Wilson, Linville, 1984; Overwalle, Segebarth, Goldstein, 1989; Overwalle, Metsenare, 1990).

The development of attributional approach in academic study was seminal and psychologists were recommending new ideas in their research. Nowadays, psychologists are integrating different attributional approach in their attempt to improve the academic achievement of students in all different educational level.

1.1 Background of the Study

Research has been conducted to determine the significance of attributional approach towards students' academic achievement. Findings from the research indicated that attributional approach provided motivation to the students in their academic learning and thus achieve better academic results (Wilson, Linville, 1983; Overwalle, Segebarth, Goldstein, 1989; Overwalle, Metsenare, 1990).

Much of the attribution research has been guided by the assumption that the causes predominantly perceived as responsible for success and failure in academic achievement were ability, effort, task difficulties and luck.
Besides, much of the research was concentrated on how to help the failure students to improve their performance in the remedial course (Overwalle, Segebarth, Goldstein, 1989; Overwalle, Matesaere, 1990). Findings exhibited the improvement of university students during their remedial course with the assistance of attributional approach.

The analyses of achievement motivation theory (Eichler, Snowman, 1963) help to explain some of the query in education field such as: (a) Why some students have higher level of aspiration than others, (b) Why high-achieving students may resolve to try harder after having a failure experience and (c) Why low-achieving students may not really be encouraged by successful experience.

Different psychologists presented different attributional approach in their research. All their effort and hard work was based on the attempt to develop better attributional approach that might help the failure students to improve their academic achievement. As present, psychologists are still in their progress of integrating better attributional approach that may provide optimum motivation for students' in academic learning and thus achieve better academic results.

1.2 Statement of Problem

Majority of the research concerned with the significance of attributional approach towards students' academic achievement were carried out in the western countries. Therefore, the findings from the research might not reflect the real situation in eastern countries, such as Malaysia. Hence, this study is attempting to examine the significance of attributional approach towards students' academic achievement in Universiti Malaysia Sarawak (UNIMAS).

Previous research were more concentrated in the aspect of how to improve the failure students in the remedial program. As for this study; the attributional approach is applied to the non-failure students to examine whether attributional approach was also applicable in providing motivation to them in their academic learning. This is an important effort to determine whether the attributional approach provide any significant influence to the non-failure students in their academic achievement.

1.3 Objectives of the Research

The general purpose of this study is to investigate the attributional approach and its impact on undergraduate students' academic achievement in UNIMAS. The results of this study can contribute towards the identification of important attribution criteria that may affect the undergraduate students' academic performance.

There are three specific objectives generated for the purpose of this study. The first objective is to investigate the effectiveness of attributional approach towards undergraduate students' academic achievement through an experimental research. The second objective is to identify which criteria of attributional approach is significantly correlated to the undergraduate students' academic achievement through a correlational research. The third objective is to investigate the influence of demographic factors, gender, ethnicity and academic ability level towards undergraduate students' academic achievement.

1.4 Hypothetical Correlational Research

The following are hypothetical correlational researches:

(i) The mathematical achievement of students from different ethnicity.

(ii) The mathematical achievement of students from different ethnic groups.

(iii) The mathematical achievement of students from different ethnic backgrounds.

(iv) The mathematical achievement of students from different ethnic identities.

(v) The mathematical achievement of students from different ethnic affiliations.

(vi) The mathematical achievement of students from different ethnic origins.

(vii) The mathematical achievement of students from different ethnic communities.

(viii) The mathematical achievement of students from different ethnic traditions.

(ix) The mathematical achievement of students from different ethnic practices.

(x) The mathematical achievement of students from different ethnic beliefs.

(xi) The mathematical achievement of students from different ethnic values.

(xii) The mathematical achievement of students from different ethnic norms.

1.5 Limitation

This study is a preliminary research. Both the methodology and the data analyses are still under development. Therefore, this study is not expected to provide in-depth and comprehensive results. However, this study is expected to provide a preliminary understanding of the impact of attributional approach on undergraduate students' academic achievement.

1.5.1 International Correlational Research

The impact of attributional approach on undergraduate students' academic achievement is expected to be influenced by various factors, such as demographic factors, ethnicity, academic ability level and other related factors. Therefore, it is important to consider these factors in future research.
1.4 Hypothesis

The following hypotheses are formulated therefore the experimental research and correlational research may be well conducted to obtain the purpose of this study:
(i). There is no significant difference in Social Cognition mid-semester examination result between subjects in control group and subjects in condition group.
(ii). There is no significant difference in Social Cognition mid-semester examination result between the subjects from different Curricular Grade Point Average in experiment group.
(iii). There is no significant difference in Social Cognition mid-semester examination result between the subjects from different gender in experiment group.
(iv). There is no significant difference in Social Cognition mid-semester examination result between the subjects from different ethnic in experiment group.
(v). There is no significant relationship between students’ effort and Social Cognition mid-semester examination result.
(vi). There is no significant relationship between students’ attitude and Social Cognition mid-semester examination result.
(vii). There is no significant relationship between students’ perception and Social Cognition mid-semester examination result.
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(ix). There is no significant relationship between students’ study technique and Social Cognition mid-semester examination result.
(x). There is no significant relationship between students’ revision and Social Cognition mid-semester examination result.
(xi). There is no significant relationship between students’ interest and Social Cognition mid-semester examination result.
(xii). There is no significant relationship between students’ understanding and Social Cognition mid-semester examination result.

1.5 Limitations of the Research

This study is conducted by using both the experimental research and correlational research. Both experimental research and correlational research have their own limitations in the attempt to draw valid conclusions from the research.

1.5.1 Internal Validity in Experimental Research

The experimental research is focused only at specified attribution criteria's and it's impact on student academic achievement, namely effort, attitude, perception, sufficient revision, good understanding for the course materials, co-operation with course mate, study technique and interest. Therefore, the outcome of this research may not be the case reflective other attribution criteria's and also respondents’ internal attributions that may be responsible for the outcomes of the experimental research.
In this study, it is very difficult for the researcher to assure that the respondents in experimental group will not leak any information concerns the attributional approach to the members in control group. If such situation occurs, the reliability of the experimental research may be affected. The implemented attributional approach may not generate the desired outcomes as respondents in both control and experimental group have experienced the same attributional criteria. Therefore, there are possibilities that attribution criteria may lose its impact on the students' academic achievement.

1.5.2 External Validity in Experimental Research

External validity occurs due to the failure to generalize results from the study's particular subjects, times and settings to other conditions.

Due to geographical limitation, only 55 second year undergraduate students majoring in Cognitive Science Program in Universiti Malaysia Sarawak (UNIMAS) were selected as the respondents for the experimental research. As the number of respondents is small, thus their point of views may not represent to what the total population of examiners across UNIMAS or Malaysia.

Due to time limitation, only Social Cognition mid-semester examination result was taken into consideration for the analysis. Therefore, the respondents unable to generate a solid conclusion for the respondents' overall performance in academic learning based on the evaluations of the respondents' performance in this study.

1.5.3 Limitations of Correlational Research

Questionnaires are used in the correlational research for the purpose of gathering large number of information from many respondents in a short time. However, several limitations of the questionnaires have been identified.

The questionnaires method only can gathers information from questions asked in the questionnaires. Hence, researcher is unable to enquire or clarify any further query or doubt in the questionnaires.

Additionally, the validity of the findings in the questionnaires is limited by the sample chosen in this study. As the number of respondents is small with 55 undergraduates, thus their point of views may not represent to what the total population of examiners across UNIMAS or Malaysia.

Another limitation of the correlational research may be due to the incorrect interpretations by the respondents. Respondents may perceive wrongly the meaning of questions in the questionnaires. As a result, the respondents will give false attributional answers that may influence the results in this study.

Furthermore, the genuineness of each respondent in answering the questionnaire can be questionable. The questionnaires used in this study cannot prevent the respondents from being untruthful in their responses. Some of the subjects may not think carefully before answering the questions. Consequently, any dishonest answers from the respondents will directly affect the accuracy of the findings.
1.6 Significance of the Research

The experimental research used in this study can truly establish cause-effect relationship between attributational approach and student academic achievement. It is the basis attempt to find out the effects of attributational approach in relation to students' formal academic learning in UNIMAS context. From the results gathered, academicians can practice the approach on the students from different academic level.

The academicians may practise the attributational approach to the respondents since primary school to build a strong and positive attribution for the students. An ideal attributational approach is to let the students have a clear overview about the importance of attribution criteria in determining the students' success or failure in academic learning.

This study also identifies particular characteristics of attributational approach that have positive effects on students' academic achievement. With this information, academicians will aware the importance of attributational approach in improving students' academic performance. With the understanding of attribution criteria, academicians may observe what attribution criteria students have. Therefore, better and suitable learning environment can be set to optimise the efficiency of attributational approach towards students' academic learning. This study will benefit the unmotivated students who did not have positive attributions in their academic learning. They will learn to appreciate the contributions of attributational approach in helping themselves to change their negative perception into positive attribution.

Demographic factors are manipulated in this study to identify the contribution and effects of gender, ethnic and academic ability level in determining the students' success or failure in academic learning. Academicians will notify about the demographic factors that have the strongest influence towards the students either positively or negatively. It is difficult the change the consequences of demographic factors what the academicians can adapt the positive side of demographic factors in order to increase the students' academic performance.

1.7 Operational Definitions

For the purpose of this study, the terms below are defined as follows:

1.7.1 Attribution

Attribution theory deals with the rules that most people use when they attempt to infer the causes of behaviour they observe. In general, people tend to attribute their own behaviour to the situation or circumstances in which they find themselves, while they attribute other people's behaviour to personality factor.

1.7.2 Attributational approach

Attributational approach in this study refers to the ways in which student react, the reasons why they attribute, how they attribute and the conditions under which they do and do not attribute in their academic curricular. Werner (1979) indicated that how achievers attribute success to lack and failure to lack of ability meanwhile high achievers attribute success to sufficient effort plus ability and failure to lack of effort.
1.7.3 Student

A student is defined as a person who takes upon a role as an active learner in the formal school environment. In the environment for this study, the student is a participant in the process of learning in the university level.

1.7.4 Achievement motivation

Achievement motivation is defined as the need to perform well or the striving for success, and evidenced by the persistence and effort in the face of difficulties.

1.7.5 Achievement

Achievement is defined as the successful accomplishment of, or performance in a socially defined task or goal.

1.7.6 Academic achievement

In this study, academic achievement refers to the undergraduate students' success or failure in the examination.

2.0 Introduction

To support the attributional approach approach related to academic achievement.

This chapter ethnicity and academic achievement.

2.1 Attribution

What is lean process by which b (Hamachek, 1995).

In formal ac determines the rate of individuals high in individuals low in a Self concept Ross and Lau (1981) difficult to shake their academic self esteem.

Cronbach (1972) achievement. He p another and achieve. Therefore, intelligence backward the most Griffin. Core effort was the pred the evidence of W students to an inc cause of the failure.

Wilson and ef affects, on both sh and stability informal especially who are
CHAPTER 2
LITERATURE REVIEW

2.0 Introduction

To support this study, review of literature has looked into the development of attributional approach in the academic field. Different characteristics of attributional approach related to the academic field were reviewed.

This chapter also reviewed literature on socio-demographic factors such as gender, ethnicity and academic ability level that may also contribute to the existence of different academic achievement among students.

2.1 Attribution Approach and Academic Achievement

What is learning? Most psychologists and educators indicated that learning is a process by which behaviour is either changed or modified through experience or training (Hamachek, 1995).

In formal academic learning, academic achievement is an important factor that determines the success or failure of a student. Weiner and Kulka (1970) indicated that individuals high in academic achievement motivation had a positive causal attribution than individuals low in academic achievement motivation.

Self concept and academic achievement are often linked. According to Lepper, Ross and Lau (1986), when students are locked in on a perception on what they are, it is difficult to shake them away from it. Their findings indicated that students who failed in their academic persisted in their negative self-evaluations even when it was made clear that their failures were due to clearly inferior instructions.

Cronbach (1984) examined the differences between intelligence and academic achievement. He perceived intelligence as what has been learned from one situation to another and achievement as specific learning resulting from direct training and instruction. Therefore, intelligence looked forward possible future learning while achievement looked backward the measurement of past learning.

Griffin, Combs, Land and Combs (1983) indicated that positive attribution such as effort was the predominant cause of academic achievement. Their findings had nourished the evidence of Weiner (1979) that failure in academic has often been found to lead students to an increased tendency to seek information and to make attributions about the cause of the failure.

Wilson and Linville (1984) highlighted that attributional techniques have beneficial effects on both short-term and long-term academic performance. Consensus information and stability information are the useful attributional techniques that may guide the student especially who are experiencing study difficulty to improve their academic performance.
They reviewed that individuals who receive information about unstable causes perform better in long-term academic achievement. Causes for low grades are unstable and consensus information are basically the components that contribute to the improvement of grades in the students' long-term formal curriculum.

Van Overwalle, Segebarth and Goldstein (1989) summarized the efficiency of attributional approaches in improving the performance of university freshmen. They applied the locus, stability and controllability approaches in their studies. Their findings concluded that students were able to increase their examination scores as well as their average mark at the end of the year after the training.

Van Overwalle and Metensae (1990) in their study echoed the importance of attribution that influenced the student's academic achievement. The attribution approaches test showed significant effects on the student's long-term academic achievement.

2.2 Criteria of Attribution Approach

There are several different combinations of attributional approach in understanding the causal of student academic achievement. Weiner (1970) indicated two attributional variables: effort and level of ability in academic learning and further developed into four traditional attributions: ability, effort, task difficulty and luck that were used as the fundamental for the attributional approach in this field of research.

The development of the attributional approach was very encouraging. Other researchers came out with different combination of ideas such as Griffin, Combs, Land and Combs (1983) with added additional attributions such as gender differences, teacher's performance, interest in the course and past training.

However, there is no limitation for the characteristics used in this field of research. Different researches still throw out their own ideas such as Van Overwalle, Segebarth and Goldstein (1989) that integrated other factors in their study: study techniques, co-operation with course mate, sufficient revision of the course, time of study spent for the course and good understanding of the course.

In this study, eight characteristics of attributional approach are discussed: effort, study technique, interest, understanding of the course materials, co-operation with course mate, revision, attitude and perception.

2.2.1 Effort

Effort was concluded as the main factor that contributed towards the students' success or failure in formal academic system. Every research come into contact with this factor because the students themselves are the reason for their success or failure in their academic. Efforts they put in the course will be a decisive what result they may get at the end of the course.

Three dimensions of causal attribution - locus of causality, stability and controllability (Weiner, 1970) clearly echoed the importance of effort in deciding students' academic achievement.

According to Liu (1996), attributing success to ability will not cause greater task persistence and that should not affect academic achievement. Moreover, attributing success to effort will cause increased task persistence thus resulting in greater achievement. Through his research that examines the relations among attributions, self-concept, and achievement, Liu concluded that achievement affects self-concept (effort) which in turn affects a person's attributions.
Other research conducted also presented the important of effort in academic learning. Griffin, Combs, Land and Combs (1983), Wilson and Linville (1984) and Van Overwalle, Segebarth and Goldchtein (1989) came across the same conclusions that effort was the most important character in determining the students' performance in academic. The findings revealed differences in attributions made by successful and unsuccessful students. Both successful and unsuccessful students attributed their academic achievement to effort and academic ability.

Hau and Sailli (1996) examined how Chinese students integrate effort and ability information to predict academic performance. The research was conducted by asking the respondents to predict the performance of hypothetical students whose effort, ability, and study skill levels were given. Results from the research supported the concept that Chinese students believe greater effort could compensate for the lack of ability in academic learning.

2.2.2 Study Technique

One of the important aspect to achieve good results in the examination is to have suitable and sufficient study technique. Van Overwalle, Segebarth and Goldchtein (1989) considered the study technique as an attribution factor in their study. Efficient study technique is beneficial to the student to structure the course content. The outcomes from the study indicated that study technique contributes in improving students' short-term and long-term academic achievement.

Bajoni (2000) studied about the relation of study technique and prediction of school success among secondary school students in Italy. His findings indicated that study technique strategies were highly associated with students' better academic performance.

2.2.3 Interest

In the process of formal learning, interest plays an important role in motivating the student to work hard in the course. Interest is a form of intrinsic motivation that will motivates the individual to really study to acquire more knowledge about the course rather than study for the exam purpose. Griffin, Combs, Land and Combs (1983) indicated that successful students tended to make higher attributions to their interest about the course while the failure students did not.

Krapp (1999) addressed interest as an independent variable that affect the dependent variables of students’ learning outcomes such as knowledge structure and academic achievement. He also highlighted the concern of more and more researchers in investigate the role of interest in the field of educational psychology.

Harackiewicz, Barron, Carter, Lehto and Elliot (1997) investigated personality predictors of achievement goals as well as the consequences for the motivation and performance in an introductory psychology class. Results indicated that students adopting mastery goals were more interested in the class. Students adopting performance goals achieved higher levels of performance. These results suggested that both mastery goal (interest) and performance goal (grade) are important factors that contributed to students' better academic achievement.

Corbie (1997) had conducted variety of questionnaires measuring academic motivation, self-perception, self-esteem, interest in academic subjects and attitudes toward the academic achievement at different high school levels in French. Results from his study
indicated that respondent’s interest in academic subjects was the best predictor of educational achievement compared to other criterions of attribution that were observed.

### 2.2.4 Understanding of The Course Materials

This is another approach used in the study of Van Overwalle, Segarbarth and Goldstein (1989). With good understanding in the course, the student will perform better in their academic learning. Therefore, the increase of attribution in course understanding may be another alternative to help students to perform well in the examination.

### 2.2.5 Co-operation with The Course Mate

In university, students are facing with new learning environment that requires cooperation among students. Therefore, students need to cooperate with course mates in accomplish group projects and assignments.

According to Pekaj and Vodoparvin (1999), cooperative learning illustrates strong positive effects on students’ academic achievement in both mathematics and Slovene language curriculum. Thus, cooperative learning is a method applicable to both technical and non-technical courses.

Wrede (1997) investigated the cooperative, competitive, and individualistic goal structures effect on achievement in middle school and junior high head programs in America. The independent variables included competitive goal structure, cooperative goal structure, individualistic goal structure, individual musical groups, and gender. The dependent variables were the performance achievement. Findings showed that the cooperative goal structure provided the highest group performance rating, followed by the competitive and individualistic goal structures. A strong relationship was found between student personality and individual student achievement in each goal structure.

### 2.2.6 Revision

Van Overwalle, Segarbarth and Goldstein (1989) considered the revision as an attributional component in improving students’ academic achievement. Usually, the examination question is based on what the student have learned before. Therefore, by revising the text sufficiently, it is impossible for the student to perform badly in their examination.

Hence, sufficient revision is an important component to assure the consistency in students’ academic performance.

### 2.2.7 Attitude

The structural analysis revealed that ‘attitudes to school’ indirectly influence achievement, but only indirectly. Level of aspiration had significant direct effect on achievement and mediated between ‘attitudes’ and achievement.

According to Sankar R., Sankar D. and Bai (2009), students tend to enrol in the format based on their attitude and learning strategies. Their learning outcomes will be affected when they failed to do so. They concluded that matching course formats with students’ attitude and learning strategies enhance learning performance in academic field.
2.3 Socio-Demographic Variables

In academic achievement, socio-demographic factors such as ethnicity, gender, expectation and socio-economic background are important and should be taken into consideration. In this study, the characteristics of gender and academic ability will be studied which correlate the academic achievement to attribution variables.

2.3.1 Gender

Griffin, Combs, Land and Combs (1983) provided the evidence for sex differences in attributing academic achievement in their study. There is high tendency for the female to correlate their success with unstable attribution, such as effort and interest. Meanwhile, findings showed that male learners are more likely to make ability attribution towards their success in the academic.

Settipain and Johnson (1950) summarized that there exists a significant gender and attributional style differences between male and female on academic performance. Results suggested that female have the self-deteriorating attributional style and male subjects show the self-serving attributional style. The self-deteriorating attributional style showed that negative attributions do not occur in female unless noted by others. This situation does not occur in male.

2.3.2 Academic ability

Student's academic ability is an important factor that determines their success in academic learning. Different individuals have different academic abilities that enable them to profit from experience and to adapt to new situations.

In academic, students attribute their success or failure to factors such as ability, effort, task difficulty and luck. Weiner (1979) indicated that low achievers attribute success to luck and failure to lack of ability whereas high achievers attribute success to sufficient effort plus ability and failure to lack of effort.

2.4 Summary

The review of the literature points overwhelmingly towards the attributional approach and its impact on students' academic achievement. Eight attribution criteria were introduced in this study which were effort, study technique, interest, understanding of the course materials, cooperation with course mate, revision, attitude and perception.

Literatures on the effects of demographic factors towards students' academic achievement were also reviewed.
3.0 Introduction

This chapter discusses the research design, research instrument, research sample, research venue and data analysis used in the study.

3.1 Research Design

The research designs used in this study are experimental research and correlational research. Experimental research is applied to measure the causal relationship between attributional approach and students' academic achievement at university level. Correlation between the criteria of attributional approach and students' academic achievement is determined through the correlational research.

3.1.1 Experimental Research

Experimental research is the only type of research that can truly test hypotheses concerning cause-and-effect relationship. The procedures in experimental research include the selection and definition of problem, selection of respondents and measuring instruments, selection of a design, execution of procedures, analysis of data, and finally formulation of conclusions.

3.1.1.1 Experimental Design

In this study, attributional approach is the independent variable while students' academic achievement is the dependent variable. Eight criteria of attributional approach are studied: effort, attitude, perception, study technique, revision, cooperation with course mate, interest and good understanding for the course materials. The independent variable are manipulated and changes occurs in the dependent variables are observed and measured. Figure 3.1 indicates the research design used in the experimental research.

3.1.1.2 Research

Stratified random sampling was used. A probability level of 0.80 was adopted. A total of 30 respondents from different groups were selected in each group. The study was conducted at Universiti Malaysia S. The respondents were from the Faculty of Cognitive Sciences and the Faculty of Education. The study was conducted during the first semester of the academic year. The data was collected using a questionnaire which included questions related to attributional approach and academic achievement. The distribution of the data was analyzed using descriptive statistics.
### Figure 3.1: Experimental design of the study

#### Attributitional Approach
(Independent variable)
- Effort
- Attitude
- Perception
- Study technique
- Interest
- Cooperation with course mate
- Revision
- Good understanding for course materials

#### Students' Academic Achievement
(Independent Variable)
- Mid Semester Examination Result for Social Cognition Course

### 3.1.1.2 Research Sample

Stratified random sampling is used in this experiment to examine the students’ academic achievement with regard to individual differences in gender, ethnic and academic ability level (in the form of Curricular Grade Point Average). By using this method, various subgroups of the population will be represented in the research. Therefore, important subgroups in the population will be identified and then subjects will be randomly selected from each group (Heiman, 1995). Figure 3.2 summarizes the sample used in this study based on different demographic factors.

This study was carried out between 55 second year undergraduate students from the Faculty of Cognitive Science and Human Development majoring in Cognitive Science in Universiti Malaysia Sarawak. Both the condition and control group consist of members from different gender, ethnic and academic ability level. Table 3.1 shows the frequency and percentage of selected demographic characteristics of the respondents in this experimental research.

Out of the 55 respondents, 23 (41.8%) were male respondents and 32 (58.2%) were female respondents. The majority ethnic group is Malay ethnic with 29 respondents (52.7%) followed by Chinese ethnic group with 19 respondents (34.6%). There are 6 Iban respondents (10.9%) and 1 other ethnic group respondent (1.8%) of the total respondents. The distribution of respondents based on different academic ability level shows the