INDONESIAN STUDENTS' PERCEPTIONS OF BEHAVIORAL OBJECTIVES

By

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ABSTRACT

INDONESIANS' STUDENTS PERCEPTIONS OF BEHAVIORAL OBJECTIVES

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Since its establishment in the early 1960s, the Faculty of Social Studies Education, Institute Of Teacher Training And Education YOGYAKARTA has greatly emphasized the content area courses of its curriculum to the detriment of courses dealing with delivery systems. It was not until 1982 that the Faculty introduced delivery system courses into its program for all majors within the Faculty. However, to date, it is not known what effects those courses have had on students' perceptions of behavioral objectives.

The purposes of this study were to assess students' perceptions of behavioral objectives at this Faculty and to investigate certain variables having significant relationships with those perceptions. The study was carried out by utilizing a cross-sectional survey design. The data were collected by using a self-administered questionnaire. The sample of this study was 327 students drawn from 1,776 population members by using a proportional-stratified random sampling technique. The analyses of data were conducted by using both descriptive and inferential

statistics. The statistical procedures of analysis of variance, univariate and multivariate regressions, and multiple comparison (Tukey's test) were employed in testing hypotheses.

The study found that, of the eight null hypothesis involving eight independent variables, the three null hypotheses rejected involved independent variables of college preferences, types of high school certificates, and students' majors. This rejection indicated that these three independent variables were significantly related to students' perceptions of behavioral objectives.

The other five null hypotheses involving the independent variables of sex, knowledge of behavioral objective components, instructors' use of behavioral objectives, students' length of study in the Faculty, and grade point average, were not able to be rejected. Failure to reject these null hypotheses indicated that those five independent variables were not significantly related to students' perceptions of behavioral objectives. The variable, length of study, however, when analyzed by using a group analysis technique, showed that this variable had a significant nonlinear relationship with students' perceptions of behavioral objectives.

Dedicated to:

My mother and late father who taught me the value of hard work and perseverence.

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BACKGROUND AND THE PROBLEM

INTRODUCTION

The educational system in Indonesia has been totally centralized since the country declared its independence on August 17, 1945. By fostering this system, the national government constitutionally is mandated to establish and control all of the educational policies within the country. The Ministry of Education and Culture acts as a single policy maker in deciding, planning, programming, and budgeting as well as supervising all of educational activities at all levels of education, primary through higher education.

In Indonesia the institutions responsible for preparing secondary school teachers are the Institutes of Teacher Training and Education and Colleges of Education at certain Universities. Among these is the Institute of Teacher Training And Education YOGYAKARTA, the institution with which the author of this dissertation is affiliated.

The Faculty of Social Studies Education is one of six faculties existing in the Institute. This Faculty, similar in composition and function to a US college of education, has the sole purpose of educating and training prospective

secondary social studies teachers in Indonesia. Therefore, this Faculty plays a crucial role in determining the quality of social studies education throughout the nation.

Chart 1 and 2 illustrate the educational system in Indonesia and the position held by the Faculty of Social Studies Education, The Institute of Teacher Training and Education YOGYAKARTA.

CHART 1: EDUCATIONAL SYSTEM IN INDONESIA

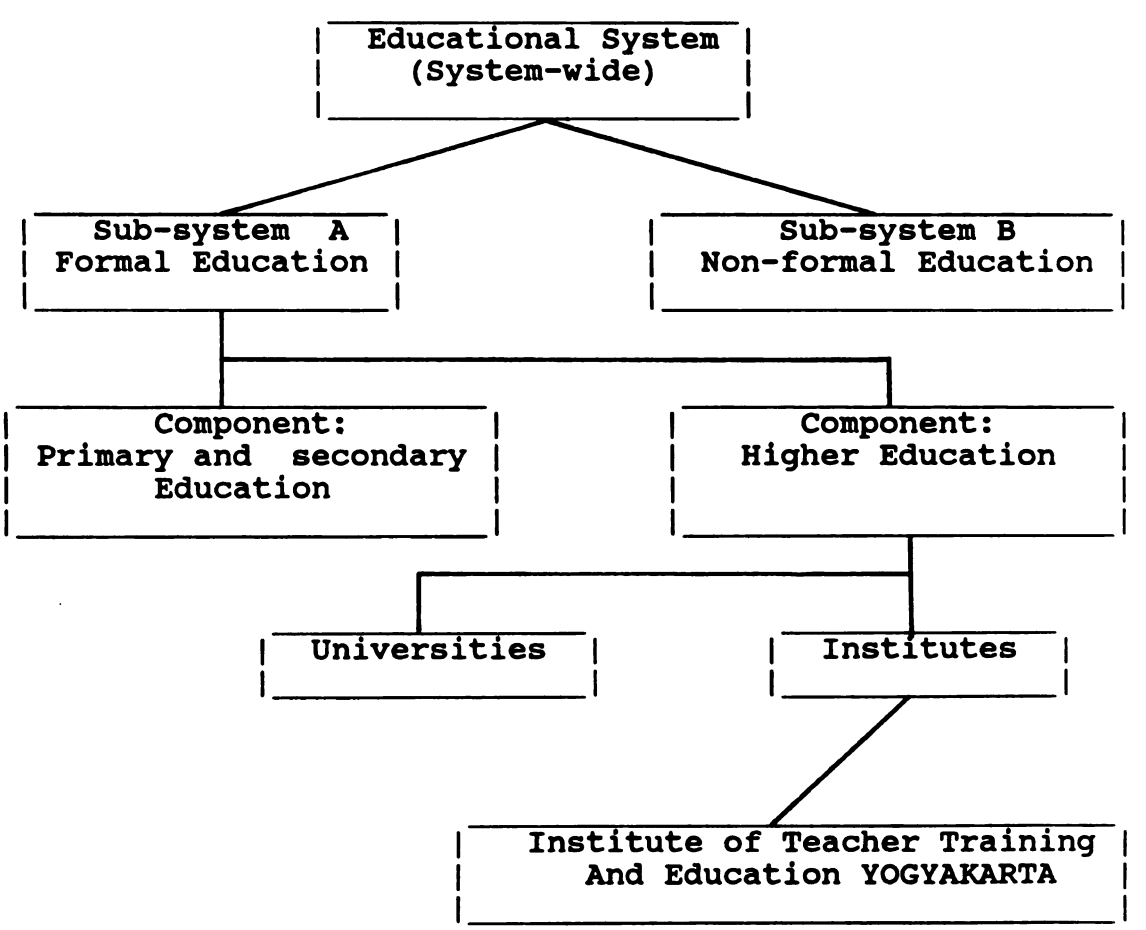
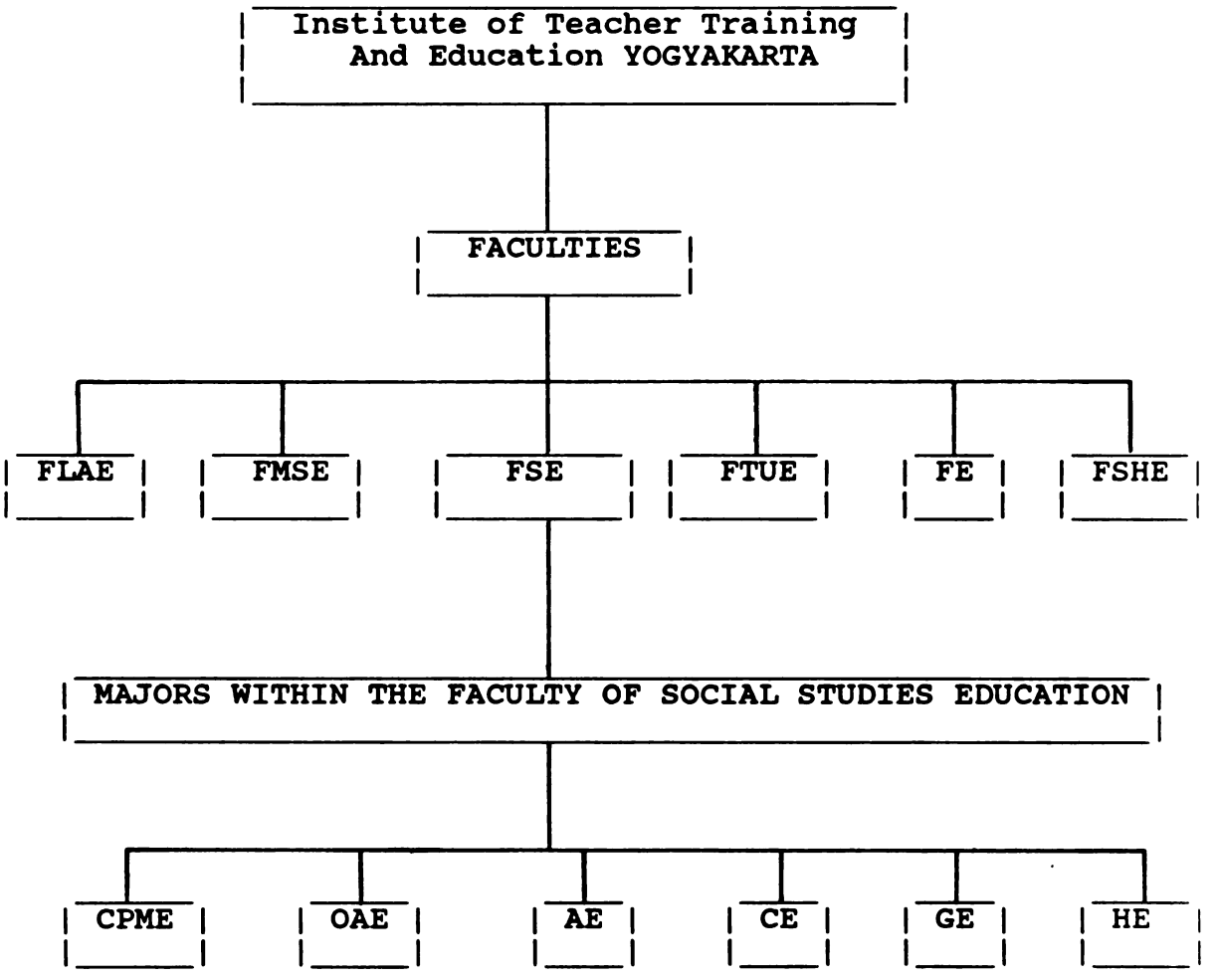


CHART 2: EDUCATIONAL SYSTEM IN THE FACULTY OF SOCIAL STUDIES EDUCATION - INSTITUTE OF TEACHER TRAINING AND EDUCATION YOGYAKARTA



Legend : For Faculties.

1.FLAE : Faculty of Language and Arts Education.
2.FMSE : Faculty of Math and Science Education.
3.FSE : Faculty of Social Studies Education **(The site of this study).**
4.FTUE : Faculty of Vocational and Technical Education.
5.FE : Faculty of Education.
6.FSHE : Faculty of Sport and Health Education.

Legend : For majors within the Faculty of Social Studies Education.

1.CPME : Civics and Pancasila Moral Education.
2.OAE : Office Administration Education.
3.AE : Accounting Education.
4.CE : Cooperative Education.
5.GE : Geography Education.
6.HE : History Education.

STATEMENT OF THE PROBLEM

Since its establishment in the early 1960s, the Faculty of Social Studies Education has greatly emphasized the content area courses of its curriculum to the detriment of courses dealing with delivery systems. Until recent years no major discipline within the Faculty offered any substantive courses in the area of delivery of instruction. As a result, students have neither strong knowledge nor skills in how appropriately to teach the subject matter in which they are majoring.

In considering the mission of the Faculty, that is, to prepare qualified prospective high school social studies teachers, this situation is really far from the ideal. If prospective high school social studies teachers do not possess adequate teaching knowledge and skills, it is likely that they will be unable to design appropriate instruction when they assume their teaching positions. As a result, the process of student learning in high schools

will be jeopardized.

Being a good teacher requires the ability to design viable instruction in order that learning outcomes can be accomplished and maximized. As Bloom (1982) suggests, the quality of instruction affects students' learning tasks, which in turn, will influence their learning outcomes (p.108). Thus, the quality of instruction is one of the prerequisites in accomplishing students learning outcomes.

It was not until 1982 that the Faculty introduced delivery system courses into its program for all majors within the Faculty. Such courses as instructional planning, classroom management, teaching-learning strategy, and teaching-learning interaction are intended to provide prospective teachers with the skills and knowledge necessary to teach the subject matter they are specializing in when they become actual teachers. These courses, of course, should equip prospective teachers with the knowledge and skills in how to generate, formulate, and communicate behavioral objectives to learners.

However, to date it is not known what effects the delivery system courses have had on students' perceptions of behavioral objectives. In fact, there has been no research conducted to find out the effects of those courses on students' perceptions of behavioral objectives at the Faculty.

PURPOSE AND SIGNIFICANCE OF THE STUDY

MAIN PURPOSE

The purpose of this study is to assess students' perceptions of behavioral objectives and to describe certain variables relating to the students' perceptions of behavioral objectives in the Faculty of Social Studies Education, Institute of Teacher Training And Education YOGYAKARTA. This study will also investigate certain variables which have significant relationships to students' perceptions of behavioral objectives.

IMPORTANCE OF THE STUDY TO THE FACULTY

Investigating prospective teachers' perceptions of behavioral objectives is very important in terms of the mission of the Faculty. As the teacher training college, the Faculty is responsible for educating and training its students design up objectives for instructional purposes when they become teachers. This skill is very important for students to master, since teachers in Indonesia are required to state their instructional objectives in their instructional planning. By knowing students' perceptions of behavioral objectives, the Faculty would be better able to predict the students' likelihood of adopting behavioral objectives in their instructional planning when they become full-fledged teachers.

PERCEPTIONS OF BEHAVIORAL OBJECTIVES AND THEIR ADOPTION

It is very important to know students' perceptions of behavioral objectives from the very beginning of their study in the Faculty and long before the students assume their teaching positions. They are required by the government to formulate behavioral objectives for their teaching activities when these students finally do assume their high school social studies posts. If, during their studies in the Faculty, the students already hold negative perceptions of behavioral objectives, it is unlikely that they would be willing to adopt, generate, formulate, and communicate behavioral objectives in their classroom teaching activities.

If students, when they become teachers, are willing to adopt and formulate behavioral objectives based on their own will and initiative, despite the fact that they are required to do so, the process of classroom teaching might be encouraged and thus, the process of education in Indonesia as a whole will also benefit.

Prospective teachers who hold positive perceptions of behavioral objectives might indicate that they pay great attention to the importance of those objectives to promote students learning. People would pay relatively more attention to ideas or events if they hold positive perceptions of those events. As Woolfolk and Nicolich

(1984) stated, "We do not perceive what we ignore" (p.196). When students in the Faculty have positive perceptions of behavioral objectives, it might be predicted that they would be willing to adopt those behavioral objectives when they become actual teachers.

Stahl (1972) in his study, Teacher Perception And Attitudes, Innovation Characteristics And The Adoption of Behavioral Objectives, indicates that the more favorable the perception of teachers toward the characteristics of behavioral objectives, the greater the probability of adoption of behavioral objectives. Further, this study suggests that in order for one to be willing to adopt an innovation (in this case behavioral objectives), it is important that he/she know and learn the characteristics of that innovation itself.

If prospective teachers are expected to utilize behavioral objectives when they become teachers, it is necessary that they be taught what behavioral objectives are and how they should be incorporated into later teaching practices. In addition, it is necessary that prospective teachers hold a positive perceptions toward these objectives and thus believe that the adoption of behavioral objectives can facilitate and promote classroom teaching and learning activities. In other words, how prospective teachers feel about the use and importance of behavioral objectives will influence them in whether or not they adopt

those objectives in their own teaching practices. When one learns something, it is not necessary that he/she will act upon what has been learned, unless he/she has developed positive perceptions and feelings about it.

Kohl (1969) maintains that knowledge of the common characteristics of innovations can be very useful to educators in progressing through the stages leading to the adoption of innovation. Furthermore, Carlson (1965), provides five common characteristics of an innovation that can lead to more precise analysis of its rate of diffusion during the adoption process, the adoption process being the mental process through which an individual passes in the time from first hearing about an innovation to its final adoption. These characteristics are:

1.Relative advantage

2.Compatibility

3.Complexity

4.Divisibility

5.Communicability

In using these characteristics, it is important to note that Carlson depicts the adoption of a new idea as a personal matter even though it may occur within a system.

Relative advantage refers to the degree to which an innovation is superior to ideas it supersedes. According to Carlson (1965), the perceived characteristic, relative advantage of an innovation, was found to have a significant

positive correlation to the adoption stage rather than the awareness stage. The adoption stage is where the individual decides to continue the full use of the innovation into the future, and the awareness stage is where the individual is exposed to the innovation but lacks complete information about it (Kohl, 1969). The inclusion of behavioral objectives in teaching activities may have advantages compared to those activities not containing behavioral objectives because their presence may provide a more clear view of what is to be taught and learned for both teachers and students. By adopting behavioral objectives both teachers and students will benefit from them because the implementation of these objectives will facilitate for them clearer directions and goals of classroom instruction.

Compatibility refers to the degree to which an innovation is consistent with existing values and past experience of the adopters. The adoption of behavioral objectives into classroom teaching activities may be compatible to those activities, because their adoption is not essentially contrary to the nature of these activities. Research has indicated that at the adoption stage, the characteristic of compatibility is perceived more often than the others (Carlson, 1969).

Complexity can be described as the degree to which an innovation is relatively difficult to use. At the adoption stage there has been a tendency to perceive this

characteristic less readily than others, but it has been perceived most often at the interest stage. The interest stage is where the individual becomes interested in the new idea and seeks additional information about it. Adopting behavioral objectives does not necessarily need to be a difficult undertaking, therefore the adoption of these objectives ought not to be viewed as threatening to teachers. The adoption of behavioral objectives can be very simple for those who have already learned about their components and procedures.

Divisibility is the degree to which innovation may be tried on a limited basis. Carlson's research indicates that divisibility is perceived more often at the interest stage than at any other stage (Carlson, 1969). Behavioral objectives do not need to be derived and formulated for the entire subject over the whole teaching year, but can be broken down into manageable teaching units. Thus behavioral objectives need not be a burdensome task for teachers who would consider adopting them.

The last characteristic of innovation, communicability, refers to the degree to which the results of an innovation may be diffused to others. The difficulty to communicate has been perceived more often at the interest stage than at the other stages (Carlson,1969). In fact, behavioral objectives can aid in communication between teachers and students, teachers and parents, students and

students and others interested in classroom teaching and learning and the like. In examining communicability, no legitimate obstacle exists which, in turn, would prevent teachers from adopting behavioral objectives.

RELATION OF OBJECTIVES TO CLASSROOM INSTRUCTION

In the process of education, classroom teaching plays a very important role in achieving educational goals. To determine objectives in any classroom teaching situation is very essential for all qualified teachers in Indonesia. Without objectives, teachers and students would have no way of knowing in which direction teaching-learning activities were heading. As Mehrens and Lehmann (1984) pointed out,

> ".... objectives give direction to education: They tell us which way to head, a decision necessary before taking the first step on an educational journey. Specifically, objectives help a teacher plan instruction, guide student learning, and provide criteria for evaluating student outcomes" (p.35).

As Tyler (1950, p.4) stated: "Education is a process of changing the behavior patterns of people." If this is true, then prospective teachers in the Faculty of Social Studies Education must acquire some knowledge of how to state objectives in behavioral terms as well as acquire the ability to implement changes to affect the behavior of their students. Effective planning utilizing behavioral objectives then becomes an integral part of effective teaching.

Furthermore, Plowman (1971,p.xxiii), testified as to the worth of behavioral objectives:

> Teachers who are most effective in improving the behaviors of pupils are adept at assessing each pupil's uniqueness, preparing assignments and programs for individual learners, setting the stage for learning, and monitoring improvement in individual performance. Behavioral objectives can be instrumental in producing this kind of effective teaching."

Since the formulation of instructional objectives in planning a unit of lesson is very crucial and required in teaching practices in Indonesia, it is very important, therefore, to train and educate the prospective teachers in the Faculty to generate and formulate behavioral objectives in order that they are able to perceive them positively and use them properly.

Once behavioral objectives are set, teaching-learning activities can be carried out in a clear and unambiguous manner. In any instructional system, the direction of teaching-learning activities needs to be understood by both teachers and students involved in those activities in the system. In other words, direction is the hallmark of every instructional system. Whether the reason for the existence of a particular educational structure is to induct youngsters into the mysteries of a tribal culture, to train them to exercise technical skills in a world of specialized work, or to prepare them to apply complex cognitive processes to a variety of tasks, goals may be found as guiding principles of the establishment. There must be purpose or

there can be no organized process of education; and the underlying purpose of all education, formal or informal, is to bring about change in students (Frymier, 1965).

Teachers have always had goals for themselves and their students. Goals can be found in almost every study guide, syllabus, course of study, textbook preface, or college catalog. However, even if communicated, they tend to be rather vague and general. Thus, they are of little aid in providing the teacher and student with clear direction in the pursuit of a course of study.

Traditional objectives, such as educating students to become good citizens on a local and national level, instilling an awareness of the importance of world peace, and motivating students to fully understand the causes of inflation fail for many reasons to provide direction. In particular, two seem to be most fundamental. First is the level of specificity at which objectives are written. Krathwohl (1965), made the following observation concerning the levels of objectives: "The most general levels of objectives are most relevant to program planning, the intermediate level to curriculum development, and the most specific level to instructional material development." This latter level, when conceived from the standpoint of the learners and when concerned with the learners' change of behavior, has variously been referred to as behavioral objectives, instructional objectives, learning objectives,

operational objectives, or performance objectives.

The second reason for lack of direction provided by traditionally stated objectives is the manner in which they are established. Tyler (1959) suggested a rationale for curriculum construction. His rationale is stated in the form of four fundamental questions which must be answered. These are :

1. What educational purposes should the school seek to attain?
2. What educational experiences can be provided that are likely to attain these purposes?
3. How can these educational experiences be effectively organized?
4. How can we determine whether these purposes are being attained?

According to this rationale, learning experiences could not be planned and organized clearly, nor could the outcomes of an educational program be evaluated intelligently without determining the purposes to be attained. These broad curriculum goals could then be broken down until they reach the level of behavioral objectives which are to be used by the classroom teacher and student.

Thus, again, the implementation of this study in the Faculty is very important, not only because it will describe the variables relating to students' perceptions of behavioral objectives, but also because through this study

the role and the importance of behavioral objectives in the process of learning will be explored. This study should help the Faculty of Social Studies Education, the Institute of Teacher Training and Education YOGYAKARTA in planning and manipulating the educational practices for the purpose of preparing more qualified, prospective teachers. Therefore, the implementation of this study is very important and is consistent with the recent government efforts in upgrading and improving the quality of primary and secondary education throughout the nation.

USEFULNESS OF THE STUDY

To investigate students' perceptions of behavioral objectives in the Faculty of Social Studies Education, Institute of Teacher Training And Education YOYGAKARTA, would be very useful for helping the Faculty develop a strong academic program. The strengthening of the academic program of the Faculty should result in the enhancement of the quality of its graduates, which in turn, will affect the quality of the teaching process in secondary education when these graduates assume their teaching positions.

By knowing certain variables relating to students' perceptions of behavioral objectives, the Faculty can develop and modify its instructional programs in order that students acquire positive perceptions of those objectives. When certain variables such as sex, knowledge of behavioral

objective components and types of high schools prospective teachers had attended have been proven to have significant relationship to students' perceptions of behavioral objectives, the Faculty can consider and manipulate those variables in improving its academic programs. All variables that will be investigated in this study can be seen on pages 25 and 26.

RESEARCH QUESTIONS

This study will address the following research questions:

A. How do students perceive the usefulness of behavioral objectives in promoting classroom teaching and learning, instructional planning, and learning evaluation?

B. What variables significantly relate to students' perceptions of behavioral objectives?

1. Is sex (gender) related to the students' perceptions of behavioral objectives?

The sex variable might relate to the students' perceptions of behavioral objectives because of the difference in role expectations between male and female students. In Indonesia, different cultural perceptions exist concerning employment and what is considered appropriate and desireable employment for both males and females. Males are perceived to have

different employment expectations than females would have. A male usually does not consider a teaching position to be a good job. If he were to assume a teaching position, it might not be taken as his first employment choice. Society would also expect that a male be responsible for the economic life of his family. A husband should, therefore, provide his family with financial support. It is his responsibility to maintain the economic life of the family. On the other hand, a wife is not supposed to be solely responsible for the financial support of the family. Therefore, it is culturally desireable for a male to try to seek a job with a high salary. Unfortunately, teaching positions in Indonesia do not offer high salaries. Thus, there is a strong tendency for male high school graduates to enroll in the Faculty not as a first choice, but as a result of being rejected by other Faculties of other universities. It might be argued that since teaching is not their primary career choice, they might not perceive behavioral objectives as positively as would students having chosen teaching as their first choice of careers. This situation might relate to their perceptions of behavioral objectives as students themselves and when they become prospective teachers.

In addition, the theory of brain lateralization

might be used to explain differences among male and female students with respect to their perceptions of behavioral objectives. Recently a few psychologists have turned their attention to studying this phenomenon. They argue, that in human beings, the brain is organized so that the two hemispheres or halves of the brain are involved in somewhat different abilities. It appears that, for most people, the right hemisphere of the brain controls nonverbal, spatial abilities and the left side of the brain tends to be involved with verbal skills, language, and verbal reasoning. It has been suggested lately (Fairweather, 1980), that men's brains tend to be more lateralized or specialized, while women tend to use both sides of the brain for verbal and spatial reasoning. Perhaps this finding can be brought foreward as an explanation of how the sex variable might relate to students' perceptions of behavioral objectives. Based on the result of the research done by Fairweather, it might be plausible that males and females view behavioral objectives differently. It might be hypothesized that females interpret behavioral objectives from a more encompassing viewpoint and thus might perceive them more positively than might males.

2. Does the students' knowledge of behavioral objective components relate to their perceptions of these objectives?

In this question the researcher wants to investigate if students' knowledge of behavioral objective components will relate to their perceptions of behavioral objectives. The students who have enough information and knowledge of the components of behavioral objectives might have more positive perceptions toward these objectives. By knowing these components they might become more aware of their usefulness in formulating appropriate behavioral objectives. The knowledge may be gained by students through the delivery courses offered by the Faculty. In fact, through such courses offered as teaching-learning interaction, instructional planning, classroom management and teaching-learning strategy, students not only gain knowledge, but also experiences and information concerning behavioral objectives. An empirical study done by Hebb (1949), indicated that learning does influence one's perceptions. When one learns something, he/she will possess experience and knowledge, which, in turn would influence the way he/she thinks and perceives objects surrounding him. When one learns something, what was learned would lead to the types of perceptions eventually held. As

also stated by Kimble (1956) in his work entitled: Principles of General Psychology, "... perception is relatively more dependent upon learning, motivational, social, and personality factors than sensation." One would develop his/her perception either positively or negatively through the processes of learning and acting upon his social and personal environments. All of these processes would also depend on the motivational and personality factors possessed.

3. Do the type of high school certificates relate to students' perceptions of behavioral objectives?

The types of high school certificates students held might relate to their perceptions of behavioral objectives, because, in fact, there are differences between the vocational and non-vocational (general) high schools in regard to their goals and curriculum. Vocational schools are designed to educate students who, formally, should not continue onto college education, while general high schools are designed to prepare their students for further education in college. Of course, the difference of the school goals and functions as well as curricula will offer different information, knowledge, and experience to the high school graduates. Different knowledge and

experience that students have might relate to their perceptions. In his book, Psychology of Perception, Dember (1964) establishes that experiences affect one's perceptions. Other psychologists such as Gibson and Walk (1963), Held and Hein (1963), Wilding (1982) also believe that experience has significant relationship to one's perceptions. Perhaps students holding vocational high school certificates might have different perceptions of behavioral objectives from those holding general high school certificates, because of the very different high school knowledge and experience as a result of the different curriculum encountered.

4. To what extent does the instructors' use of behavioral objectives in their classes relate to students perceptions of these objectives?

In this research question, the researcher wants to investigate if there is a modeling pattern among students. This research question is inspired by theory of vicarious learning proposed by Bandura. In this theory he explains that, basically, people can learn by observing and modeling what another person does (Bandura, 1979). The students whose instructors use behavioral objectives in their classes might perceive positively the use of these objectives in

promoting the process of teaching and learning.

5. Do the students' grade point averages (GPA) relate to their perceptions of behavioral objectives?

In this research question the researcher wants to investigate if the students' academic achievement measured by their grade point averages (GPA) will have a positive or negative relationship with their perceptions of behavioral objectives. Students with higher GPAs might have different perceptions of behavioral objectives than those with comparatively lower GPA. It might be possible that these students would have a greater understanding and comprehension of the Faculty's expectations of them in their present coursework and future teaching performance. Thus, a relationship might exist between students' GPA and their perceptions of behavioral objectives.

6. Do the students' length of study in the Faculty relate to their perceptions of behavioral objectives?

The students' length of study in the Faculty might have significant relationship to their perceptions of behavioral objectives, because the longer the students study in the Faculty, the broader and more varied the knowledge and experience they will attain. The possibility may exist that the broader

and more varied their experience, the stronger the students receptivity towards innovations. Therefore, the students' lengths of study may relate to their perceptions of behavioral objectives.

7. Do the students' college preferences relate to their perceptions of behavioral objectives?

Students who initially chose the Faculty might have positive perceptions of behavioral objectives, since from the beginning they might realize that the Faculty mission is to educate them to be teachers. Thus, any course content dealing with teaching-related skills, especially behavioral objectives, might be perceived positively.

8. Do the students' majors relate to their perceptions of behavioral objectives?

Students' majors might relate to their perceptions of behavioral objectives, because each major in the Faculty has a different curriculum, and thus offers different experiences and knowledge. The inherent nature of some subject matter is such that behavioral objectives are more easily identified and exercised.

Subject matter which is more technical in nature would be more easily defined in terms of behavioral

objectives. On the other hand, subject matter that is less technical would have objectives that are more difficult to define behaviorally. Each major in the Faculty provides students with different subject matter characteristics and thus may lead them to have different perceptions of behavioral objectives.

HYPOTHESES

L.R.Gay (1981) defines a hypothesis as "a tentative explanation for certain behaviors, phenomena, or events that have occurred or will occur. A hypothesis states the researcher's expectations concerning the relationship between the variables in the research problem." This study will investigate and describe the relationship between the following dependent (outcome) and independent (predictor) variables:

-Dependent variable: Students' perceptions of behavioral objectives.

-Independent variables:

1. Sex (gender)
2. Knowledge of behavioral objective components
3. Types of high school certificates
4. Instructors' use of behavioral objectives
6. Students' lengths of study in the Faculty

5. Grade point average (GPA)
7. Students' college preferences
8. Students' majors

In this study, the null hypotheses will be employed because to the researcher's knowledge, no clear-cut research findings have been found which address the variables related to students' perceptions of behavioral objectives. No research findings have been reported yet which investigate the relationships between certain independent variables with students' perceptions of behavioral objectives. Therefore, the null hypotheses of this study can be formulated as follows:

1. There will be no significant difference between male and female students with respect to their perceptions of behavioral objectives.
2. There will be no significant difference among students according to their knowledge of the components of behavioral objectives with respect to their perceptions of those objectives.
3. There will be no significant difference among students according to the type of their high school certificates with respect to their perceptions of behavioral objectives.
4. There will be no significant difference among students according to whether or not their instructors use behavioral objectives with respect to

their perceptions of those objectives.

5. There will be no significant difference among students according to their grade point averages (GPA) with respect to their perceptions of behavioral objectives.
6. There will be no significant difference among students according to the length of their study in the Faculty with respect to their perceptions of behavioral objectives.
7. There will be no significant difference among students according to their college preferences with respect to their perceptions of behavioral objectives.
8. There will be no significant difference among students according to their majors with respect to their perceptions of behavioral objectives.

LIMITATIONS OF THE STUDY

This study has the following limitations:

1. The findings in this study can only be generalized strictly to the Faculty of Social Studies Education, Institute of Teacher Training And Education YOGYAKARTA; they cannot be generalized to other Faculties within the Institute or to other

Faculties within the country (Indonesia). However, the findings of this study may suggest similar patterns in other institutions, which might be tested by further research.

2. The accuracy of the findings will be entirely dependent upon the students' honesty in responding to the instruments (questionnaires) of this study. However, it is unrealistic to assume that all students are dishonest in responding to the instruments of this study.

DEFINITIONS OF TERMS

In this study, specific terms will be employed. Following are the definitions of terms owing to their specialized use in this study.

Perception: the way in which students think about behavioral objectives in terms of their importance in the process of classroom teaching. For example, if students have positive perceptions, they will think that behavioral objectives are important for both teachers and students to promote learning; conversely, those who have negative perceptions of behavioral objectives will have contrary views.

Behavioral objectives: "A precise statement indicating the performance expected of the learner in terms of specific skills and concepts as a result of exposure to the instructional material. The objectives may include components which indicate what the learner should be able to do, under what conditions, and at what level of competence" (AECT, 1979, p.60). Synonymous with behavioral objectives are "instructional objectives, learning objectives, and performance objectives" (Roberts, 1982, p. 15).

Faculty of Social Studies Education: is one of the six colleges belonging to Institute of Teacher Training And Education YOGYAKARTA. This Faculty has six majors; Civics and Pancasila Moral Education, Office Administration Education, Accounting Education, Cooperative Education, Geography Education, and History Education. This Faculty is responsible for educating secondary school teachers in the area of social studies instruction.

Institute of Teacher Training And Education YOGYAKARTA: is one of the state Institutes which has the responsibility for educating junior and senior high school teachers in various areas. This Institute has six Faculties, including the Faculty of Social Studies Education; the Institute offers forty-four majors in various disciplines.

Pancasila: the five principles that are considered essential to the Indonesian way of life, national ideology, and as the national foundation of the state. The five principles in Pancasila are: (1)Belief in The One Supreme God, (2)A Just and Civilized Humanity, (3)The Unity of Indonesia, (4)Democracy led by the Wisdom of Deliberations among Representatives, and (5)Social Justice for All the People of Indonesia.

Prospective teachers: these are the students in the Faculty of Social Studies Education, Institute of Teacher Training and Education YOGYAKARTA. This term is used only to differentiate between high school students and the students enrolled in the Faculty especially when the researcher has to refer to those two types of students at the same time.

Instructors: are those who officially and legally teach in the Faculty. They can be professors or non professors; but to meet the requirement of being an instructor one has to graduate from college.

College preference: refers to the students' decision in choosing the Faculty over other universities and other Faculties within the Institute of Teacher Training And Education YOGYAKARTA.

SUMMARY

This chapter discusses the background of the study and the problem, under investigation, statement of the problem, purpose and significance of the study, research questions, hypotheses, limitation of the study, and the definition of terms. Nationally, the educational system in Indonesia is totally centralized. The central government acts as a single policy maker in the educational arena. Institutionally, the function of the Faculty of Social Studies Education is to prepare social studies high school teachers in Indonesia.

Since its establishment in the early 1960s, the Faculty has greatly emphasized the content area courses of its curriculum to the detriment of delivery courses. It was not until 1982 that the Faculty introduced delivery courses into its program for all majors within the Faculty. Such courses as instructional planning, classroom management, teaching-learning strategy, and teaching-learning interaction are intended to provide prospective teachers with the skills and knowledge necessary to teach the subject matter they are specializing in when they become actual teachers.

The purpose of this study is to describe certain variables relating to the students' perceptions of

behavioral objectives in the Faculty of Social Studies Education, Institute of Teacher Training And Education YOGYAKARTA. This study will investigate certain variables which have significant relationship with students' perceptions of behavioral objectives.

There are two main research questions formulated in this study. Those are:

A. How do students perceive the usefulness of behavioral objectives in promoting classroom teaching and learning, instructional planning and learning evaluation?

B. What variables relate to students' perceptions of behavioral objectives?

From these research questions, eight sub-research questions were developed. Basically, these eight questions focus on whether the chosen independent variables in this study have significant relationships with students' perceptions of behavioral objectives. Those eight proposed independent variables are as follows:

1. Sex (gender)
2. Knowledge of behavioral objective components
3. Types of high school certificates
4. Instructors' use of behavioral objectives
6. Students' lengths of study in the Faculty
5. Grade point average (GPA)
7. Students' college preferences
8. Students' majors

Eight null hypotheses were formed from these independent variables and research questions. These were posed as null hypotheses in this study because, to date, to the researcher's knowledge, no clear-cut research findings have been found which address the variables related to students' perceptions of behavioral objectives. No research findings have been reported which investigate the relationships between certain independent variables with students' perceptions of behavioral objectives.

Limitations of the study has been described in order that the policy makers who might want to make decisions based upon the findings of this study be aware of their limitations, and thus they would not be inclined to make erroneous decisions. Finally, definitions of terms have also been developed to assure that the readers of this study will not be confused by the use of specific terms for specific purposes.

CHAPTER II

LITERATURE REVIEW

This chapter will review the related literature on behavioral objectives pertinent to historical and theoretical aspects of those objectives.

A review of past empirical research cannot be carried out in this study because, to date, no research investigation on students' perceptions of behavioral objectives has been found. The bulk of the research completed to date had focused on the effects behavioral objectives had had on students' achievement. To the researcher's knowledge, no one has conducted a research to describe whether students themselves perceive behavioral objectives positively or negatively.

Payne (1972) conducted a review of 35 doctoral dissertations completed in 1970 and 1971 which investigated the effectiveness of the use of behavioral objectives. He found that the literature cited could be grouped into the following five areas:

1. The effects of the use of behavioral objectives on the achievement of students
2. The teacher effect on the achievement of students and the use of behavioral objectives
3. The use of behavioral objectives in evaluation and measurement of courses and curriculums

4. The effects of the use of behavioral objectives on retention and acquisition of materials studied
5. The effect of achieving certain hierarchical learning tasks by the use of behavioral objectives

Furthermore, Duchastel and Merrill (1973, p.54) focused a review of empirical studies on the issue: "Does communicating behavioral objectives to students have a facilitative effect on their learning?" Twenty-eight investigations completed or published during 1967-1971 were grouped into the following four categories:

1. Investigations of the general issues of the effect of objectives on learning
2. Investigations of the effect on learning according the type of learning involved
3. Investigations of possible interactions between availability of objectives and certain learner characteristics
4. Investigations utilizing time to criterion as the major dependent variable.

Although more recent (i.e., Post 1971) research has continued to investigate varied aspects of the use of instructional objectives, effect on student achievement has remained the principal dependent variable. Of the studies involving student learning, many of those reviewed simply distinguished between furnishing specific objectives and furnishing no objectives. A few have provided more than one type of objectives and several have supplied training, practice, or special instruction in the use of objectives. Other investigators have attempted to find interactions between achievement and the manner in which the objectives are presented, whether to the student, to the teacher, at

the beginning of instruction, repeatedly, or in some other manner. The main discussion in this chapter will focus on the historical and theoretical aspects of behavioral objectives, and the process of diffusion of innovation.

A.HISTORICAL ASPECTS OF BEHAVIORAL OBJECTIVES

In its course of development, behavioral objectives were greatly influenced by other fields of study, such as, psychology, curriculum, and measurement. There were also individuals who made important contributions and played significant roles in the historical development of behavioral objectives.

A discussion of the historical aspects of behavioral objectives will cover the following topics:

1.Influence of curriculum theorists

2.Influence of Bloom's and Krathwohl's Taxonomy

3.Influence of behavioral psychologists

4.Influence of testing and measurement fields

1.INFLUENCE OF CURRICULUM THEORISTS

The subject of behavioral objectives as aids to curriculum development, instruction, and acquisition of knowledge has an interesting and controversy-filled history. The related literature, which began to appear in the early part of this century, has expanded at an exceedingly rapid pace, to the extent that presently

several full-length books as well as countless articles and monographs are available for the interested reader.

The beginning of the "educational objectives movement" is clearly attributed to Bobbitt (1918), who wrote what is considered to be the first full length book on curriculum theory. It was in this publication that he stated the following:

> "Our profession is confronted with the huge, practical task of defining innumerable specific objectives; and then of determining the countless pupil experiences that must be induced by way of bringing the children to attain the objectives" (p. 282).

A succeeding publication (Bobbitt, 1924) expanded upon his original ideas and provided the setting for the development of a comprehensive set of educational objectives. He recommended that the curriculum maker analyze the broad range of human experience into major fields (p.8). Bobbitt listed ten major fields and then broke each down into specific components on activities for student performance. These specifics became the objectives of the curriculum, to be stated in definite terms. "General unanalyzed objectives... that are only vague, high sounding hopes and aspirations are to be avoided" (Bobbitt, 1924, p.3). Bobbitt felt that "almost every objective of education can be stated as the ability to do something, whether subjective or objective."

Although Bobbitt's ideas and objectives were accepted and implemented by many, they did not escape criticism.

For example, the feasibility of such an approach was argued by Bode (1927). His displeasure was evident in such statement as the following: "No scientific analysis known to man can determine the desirability or the need of anything" (p.80). In spite of his critics, Bobbitt's influence persisted into the early 1930s and is reflected by Hopkins (1931) and Dale (1931) in the very first issue of the Review of Educational Research, which was devoted in its entirety to curriculum.

The middle 1930s ushered in the era of Progressivism in which the child was viewed as a growing organism who ought to be highly involved in planning his own educational goals. This view did not correspond well with the earlier held perception of the child as a complex machine and as a result there was a decline in the "objectives movement" which was not reawakened until the following decade when Progressivism was likewise beginning its rapid decline (Eisner, 1967). Smith and Tyler (1942) were quick to restimulate an interest in the use of educational objectives and, more specifically, the stating of those objectives in behavioral terms. They stated that in developing an evaluation program one should do the following:

> "Define each ... type of objective in terms of behavior. This step is always necessary in any list because some objectives are stated in terms so vague and nebulous that the kind of behavior they imply is not clear. Thus, a type of objective such as the development of effective methods of thinking may mean different things to different people. Only as

> 'effective methods of thinking' is defined in terms of the range of reactions expected of students can we be sure what is to be evaluated under this classification. In similar fashion, such a classification as 'useful work habits and study skills' needs to be defined by listing the work habits the student is expected to develop and the study skills which he may be expected to acquire" (p.19).

Tyler's insistence on stating objectives behaviorally continued into the 1950s (Tyler, 1951) and was supported by a massive study of behavioral outcomes of general education in high school (French, 1957). Tyler advocated that specific objectives should not only serve as guides to select learning experiences in the curriculum, (1950,pp.41-44) but they would also provide the specific sources for the testing program of the school (1949, pp.391-407).

Taxonomic lists of school-wide objectives, based on pupil behaviors, were authored by Kearney (1953) for the elementary school and by French (1957) at the secondary level. Both writers stressed behavioral goals in terms of pupil acquisitions.

INFLUENCE OF BLOOM'S AND KRATHWOHL'S TAXONOMY

Benjamin Bloom's Taxonomy of Educational Objectives, Handbook I: Cognitive Domain (1956) together with the Taxonomy of Educational Objectives, Handbook II: Affective Domain (Krathwohl, Bloom, and Masia, 1964) provided more encouragement for teachers at all levels to adopt the objectives approach. The Bloom Taxonomy presents an

analysis of clearly stated objectives in the cognitive domain. The analysis is based upon hierarchical levels of increasing complexity. The Taxonomy is impartial with regard to views in education and does not imply a preference at which level the school should teach (Krathwohl, p. 21).

Krathwohl's Handbook on the affective domain contributes a similar systemization of objectives for the affective domain in ascending levels of complexity. Analogous to classification schemes in biology, the taxonomies edited by Bloom and Krathwohl provide a framework for classifying and des-cribing educational objectives stated as pupil behaviors. Both taxonomies were intended to promote more precise communication among teachers, curriculum developers, writers, and researchers. Bloom's Taxonomy of Educational Objectives was published in 1956. However, the original concept was formulated at a meeting of college examiners at the 1948 American Psychological Association Convention in Boston (Bloom, 1956,p.4). The intent was to develop a theoretical framework which could be used to facilitate communication among examiners. With this, a series of informal annual meetings began in order to build a means of organizing and classifying educational objectives.

Early discussions led to several points of agreement: (1) Behavior that can be observed and described can

be classified; (2) The Taxonomy would not lead to fragmentation of educational purposes, if it were general enough; (3) The Taxonomy should be consistent with relevant and accepted principles and theories of education and psychology, as well as be logically consistent; (4) Objectives from all philosophic orientation should be included, if they are behaviorally based (Bloom, et.al, 1956, pp. 6-7). With these points of ideas in mind, the group began to create a taxonomy.

The original plan called for the production of a complete taxonomy comprised of three domains: the cognitive, the affective, and the psychomotor. Historically, most of the work had been carried out in the cognitive domain and as a result the clearest definitions of objectives in terms of student behavior had been produced. This provided the group with a logical starting point to initiate work on the Taxonomy with this domain. The affective domain, consisting of objectives of interest, attitudes, and values, soon followed the cognitive domain. Work on the affective domain was delayed because of the inherent problems encountered in describing covert as well as overt behavior of the domain, and the lack of adequate measures in testing the behavioral manifestations in this domain. The psychomotor or motor-skills were recognized as a separate and distinct domain, but were not considered useful enough to be developed at that particular time (Bloom, et.al, 1956, pp. 7-8).

Therefore, creation of the taxonomy started with the organization and classification of the cognitive domain.

The Taxonomy was designed to classify behaviors representative of intended outcomes of education. The assumption was that across all content areas, grade levels and types of schools, classified behaviors could be generalized (Bloom, et.al, 1956, p.12). To begin a classification of this type, a long list of objectives was examined. Objectives formulated in vague and ambiguous terms such as "understanding" or "desirable citizen" were not utilized. The remaining objectives were analyzed as to their content and behavior components. Afterwards similar behavior components were classified into various groupings (Bloom, et.al, 1956, p.15).

The groups were structured in such a way that the properties and interrelationships between each category were consistent. All classifications were organized from simple to complex and from concrete to abstract. As a general rule, each single behavior was placed in the most complex class to which it was appropriate (Bloom, et.al, 1956, p.16). The utilization of this procedure resulted in a hierarchical structure by which each classification required the skills and abilities which were lower in the classification order. To illustrate the hierarchical nature of the taxonomy, the following outline was taken from the condensed version of the Taxonomy:

1.00 Knowledge
1.10 Of Specifics
1.11 Terminology
1.12 Specific Facts
1.20 Of ways and Means of Dealing With Specifics
1.21 Conventions
1.22 Trends and Sequences
1.23 Classification and Categories
1.24 Criteria
1.25 Methodology
1.30 Of Universal and Abstraction in a Field
1.31 Principles and Generalizations
1.32 Theories and Structures
2.00 Comprehension
2.10 Translation
2.20 Interpretation
2.30 Extrapolation
3.00 Application
4.00 Analysis
4.10 Elements
4.20 Relationships
4.30 Organizational Principles
5.00 Synthesis
5.10 Production of a Unique Communication
5.20 Production of a Plan, or Proposed Set of Operations
5.30 Derivation of a Set of Abstract Relations
6.00 Evaluation
6.10 In terms of Internal Evidence
6.20 In Terms of External Criteria (Bloom, et.al, 1956, pp.107-201).

Hence, each successive class was dependent upon classes lower in the classification order, beginning with basic knowledge and ascending in order through increasingly complex and abstract intellectual skills and abilities. Each class or sub-class of objectives was further defined in three ways. First, each class and sub-class was verbally defined or described. Second, each sub-class was illustrated by a list of appropriate educational objectives, definitions were formulated by presenting examples. Third, to elucidate the intended behavior, each category included

sample examination questions and problems (Bloom, et.al, 1956, p.44). Several excerpts from the knowledge class and the sub-class of terminology are demonstrated by this type of definition.

DEFINITION

"Knowledge, as defined here, involves the recall of specifics and universals, the recall of methods and processes, or the recall of pattern, structure, or setting. For measurement purposes, the recall situation involves little more than bringing to mind the appropriate material. Although some alteration of the material may be required, this is relatively minor part of the task. Those objectives which were stated in such general terms as **"understanding"** or **"desirable citizen"** were discarded. The knowledge objectives emphasize most the psychological processes of remembering. The process of relating is also involved in that a knowledge test situation requires the organization and reorganization of a problem such that it will furnish the appropriate signals and cues for the information and knowledge the individual possesses "(Bloom, et.al, 1956, p.201).

EDUCATIONAL OBJECTIVE

"To define technical terms by giving their attributes, properties, or relations." (p.64).

TEST ITEM

"Directions: ... select the numbered word or phrase which most nearly corresponds in meaning to the word at the head of that group, and put its number in the parentheses at the right.

3. antelope

1.fruit 2.animal 3.prelude 4.feeler 5.gallop

_____( )

(p.79)

Therefore, each type of behavior was assigned to one of six major classes, categorized into sub-classes, and given a definition. Following these prescribed steps, the Taxonomy was completed.

3.INFLUENCE OF BEHAVIORAL PSYCHOLOGISTS

In the course of their development behavioral objectives were greatly influenced by the field of behavioral psychology. Thorndike's work in the application of science in the field of psychology influenced education, behaviorism, and lastly behavioral objectives. In his book The Principle of Teaching, Thorndike translated his psychological theories into teaching principles:

> "Stimulus and response. ... Using psychological terms, the art of teaching may be defined as the art of giving and withholding stimuli with the result of producing or preventing certain responses. In this definition the term stimulus is used widely for any event which influences a person, ... for a word spoken to him, ... a new thought, a feeling of interest, a bodily act, any mental or bodily condition resulting from the stimulus" (1906, pp.7-8).

> "Principles of Teaching. ...The practical consequence of the fact of the individual differences is that very general law of teaching has to be applied with consideration of the particular person in question... The responses of children to any stimulus will not be invariable like the responses of atoms of hydrogen or of fillings of iron, but will vary with their individual capacities, interest and previous experience" (1906,p. 83).

In all likelihood, the most noteworthy statement in Thorndike's book on teaching anticipates the application of behavioral objectives:

> "To know whether anyone has a given mental state, see if he can use it; to know whether anyone will make a given response to a certain situation, put him in the situation arranged so that that response and that response alone will produce a certain result and see if that result is produced.
>
> This is not given as a principle of psychology or

> logic, but as a rule for teaching. We are not here concerned with an ultimate criterion for the existence of a mental state in a given individual, but with a practical means of being assured that John has a certain concept of the class "dog", that Mary knows what "seven" means and the like" (1906, p.260).

This excerpt closely parallels the intention of behavioral objectives. This description was a practical method of evaluating a mental state. This description emphasized that it was more of a practical method of evaluating a mental state rather than an experimentally or theoretically based one.

Behavioral psychologists such as Watson, Pressey, and Skinner represent early behaviorism, programed teaching, and empirical behaviorism respectively. Watson's classic text, Behaviorism was written as a series of lectures (1925, p.1). In the introduction he assured his reader that, factual and accurate statements of theory were retained, even though popular language was used. Examination of his 1919 text, Psychology From The Standpoint of a Behaviorist, demonstrated that the content and exposition of the book were actually parallel, and that behaviorism was the less technical version.

Watson contrasted the old introspective psychologies with the new behaviorism. The old psychologies asserted "consciousness" to be their basis, while behaviorism rejected subjectivity and based its psychology on the human being's behavior or activities (Watson, 1925, p.3).

Throughout behaviorism, subjective terms such as perception, thought, and memory were described in terms of behavior. For example : "The behaviorist advances the view that what the psychologists have hitherto called thought is in short nothing but talking to ourselves" (Watson, 1925, p.191).

The behaviorist was limited to only behaviors that could be observed and revealed what a human actually said or did; and framed these observations in terms of stimulus and response (Watson, 1925, p.6). Stimulus, which is what causes a reaction, was classified as external: sight, sounds, and smell; and as internal, the psychological changes such as hunger constrictions, rapid breathing, or muscular change. (Watson, 1925, p.59). Response was classified as an external, observable reaction to stimuli; internal responses were those difficult to observe because they were hidden from sight; learned responses were all complex habits and conditioned responses; and unlearned responses were the behaviors of infancy prior to conditioning and formation and establishment of habits (Watson, 1925, p.15).

Watson defined behaviorism as "a natural science that takes the whole field of human adjustments as its own," and is "intrinsically interested in what the whole animal will do from morning to night and from night to morning" (1925, p.11). Though Watson relied heavily on animal experiments

to explain behaviorism, he also carried out extensive experiments with newborns and infants to substantiate his theories. His argument was: "The only way you can show 'memory' or organization in such cases is to put the child in the situation where he can exhibit that bodily organization" (Watson, 1925, p.209). Subsequently, this method was expanded to include classroom application in the utilization of behavioral objectives.

As a summarization, Watson's view of the organism as reacting to its environment reduced the psychological phenomenon of behavior to a mechanistic one. He defined a psychological system limited to observable behavior, yet his proposed hidden stimulus and response systems were incongruous to the former. What were unobservable or inexplicable behaviors he viewed as due to internal psychological function.

4.INFLUENCE OF TESTING AND MEASUREMENT FIELDS

Another contribution belonging to Thorndike was in the field of measurement. In a 1914 address at Indiana University he made the following assumption :

> "If anything real is ever achieved, it can be measured. Not perhaps now, and not perhaps in fifty years; but if a thing exists, it exists in some amount; and if it exists in some amount, it can be measured. I am suspicious of educational achievements which are so subtle and refined and spiritual that they cannot be measured. I fear that they do not exist" (1934,pp.38-39).

Through this statement, Thorndike showed that he believed the possibility of applying measurement to educational data existed. He implied that if anything is able to be measured, it can be broken down into unit and cardinal numbers, and be objective and reliable. Later this assumption lead to the measurement of behavior.

At 1924 and 1925 meetings of the American Psychological Association, Pressey presented a pioneering version of the teaching machine. A 1926 description of this instrument was entitled A Simple Apparatus Which Gives Test And Scores--and Teaches (Pressey, p.373). The appearance of the instrument resembled that of a four-key typewriter. It was originally designed for the purpose of giving objective tests and scoring them automatically, utilizing a counting mechanism. The machine was also intended to teach information and drill material automatically (Pressey,1926,p.374).

Material was introduced into the machine in a fashion similar to that of typewriter. The learner would then respond to the choices presented by pressing a key. The machine would then shift to the next question when a correct response was made. If the response was incorrectly made, it would not advance, but the counting mechanism would record the attempt. Thus the subject was immediately informed when a mistake was made. The machine also had an attachment which dropped a small piece of candy into a container for the learner who did select a preset number of

correct responses (Pressey, 1926, p.374).

This teaching machine incorporated the well-known principles of teaching and learning proposed by Thorndike. This was described by Pressey as:

> "The somewhat astounding way in which the functioning of the apparatus seems to fit in with the so-called **'laws of learning'** deserves mention in this connection. The **'law of recency'** operates to establish the correct answer in the mind of the subject, since it is always the last answer also which is the right one. The **'law of frequency'** also cooperates; by chance the right response tends to be made most often, since it is the only response by which the subject can go on to the next question. Further, with the addition of a simple attachment the apparatus will present the subject with a piece of candy or other reward upon his making any given score for which the experimenter may have set the device; that is, the **'law of effect'** also can be made, automatically, to aid in the establishing of the right answer" (1926,p.375).

Indeed, the contribution of this machine was very unique. Its uniqueness lay in the concrete application of the psychology of learning. It was also a forerunner of Skinnerian experiments. The similarities between the functioning of this machine and Skinner's "rat box" was remarkable: the pressing of a key or bar, the counting of responses, and the reinforcement of reward in a container (Skinner, 1938, pp.47-51).

In The Behavior of Organisms, Skinner refined, reinterpreted and tested behaviorism. This was anticipated in his statement of intent: "I am interested, first, in setting up a system of behavior in terms of which the facts of a science may be stated and, second, in testing the

system experimentally at some of its more important points" (1938, p.5). He continued, "I shall consider some factual material fitting into this scheme" (Skinner, 1938, p.5).

In contrast to Watson's definition of behavior, Skinner limited behavior to, "What an organism is doing--or more accurately, what it is observed by another organism to be doing" (1938, p.6). He extended and refined this definition:

> "By behavior, then, I mean simply the movement of an organism or of its parts in a frame of reference provided by the organism itself or by various external object or fields of force. It is convenient to speak of this as the action of the organism upon the outside world and it is often desirable to deal with an effect rather than with the movement itself, as in case of the production of sounds"(Skinner, 1938, p.6)

Thus, this excerpt suggests that behavior could be defined as observable movement of an organism or in an operational sense, the effect produced by the movement. Conversely, the implication was that if no movement or effect was observed, then there was no behavior. Therefore, the definition of behavior was inclusive and exclusive.

Finally, the measurement influence on the development of behavioral objectives can also be traced from the work of Tyler. In his publication entitled, Constructing Achievement Tests, he forwarded a radical departure in the techniques of test construction. In dealing with content, rather than analyzing textbook content, he turned to the

analysis of the objectives of a course. In determining form, test items were identified through the analysis of objectives and stated in terms of student behavior, rather than selecting them from existing standardized tests. Lastly, for validity, the test was validated against a preliminary form of the test, rather than subjective teacher's marks (Tyler, 1934, pp.13-14).

The following general techniques for constructing achievement tests were adopted by Tyler:

1. Formulation of course objectives
2. Definition of each objective in terms of student behavior
3. Collection of situations in which students will reveal presence or absence of each objective
4. Presentation of situations to students
5. Evaluation of student reaction in light of each objective
6. Determination of objectivity of evaluation
7. Improvement of objectivity, when necessary
8. Determination of reliability
9. Improvement of reliability, when necessary
10. Development of more practicable methods of measurement, when necessary (1934, pp.5-6).

A careful scrutiny of each step uncovered the unique approach Tyler used to construct tests. To formulate objectives for a course, he combined two procedures to identify objectives: he broke the general function or purpose of a course down into its subfunctions, then subsequently examined each topic and asked questions pertaining to the topic's purpose (Tyler, 1934, pp 16-17). This first step indicated what was to be measured by the tests and the variety of measures necessary for comprehensive testing.

Each objective was defined in terms of student behavior in order to clarify and characterize the behavior of students who had reached the objectives. These definitions enabled anyone to tell when an objective had been attained. Tyler used the term behavior as much as Watson did, "...in the broad sense to mean any sort of appropriate reactions of students, mental, physical, emotional, and the like" (pp.18-19).

Once the objectives had been formulated and accompanied by lists of situations, facts, principles, and experiments, the basic material was ordered for constructing examinations. After the material had been collected, it served as a reservoir for making new tests. Tyler pointed out additional functions of these lists: "... many of these lists are helpful means of checking the content of the course and are useful as guides in preparing lectures, planning laboratory work, and in outlining other class assignments" (1934,pp.20-21).

Once a reservoir of testable material was collected, the test designer developed a means of administering the examination, then presented the situations to students and wrote down their reactions. With the data from the initial test, the test designer established the standards for use in evaluation and the objectivity required. For non-objective items the teachers designed standards and means of evaluation. If any significant differences among

teachers' grading were found, step seven was implemented. Then, if objectivity needed to be improved, the teachers scored each non-objective response again. This was done by sorting all responses into piles ranging from poorest to best. Then the mean grade was accepted as the most appropriate rating for each response (Tyler, 1934,p.10).

Smith and Tyler (1934), in the following excerpts, illustrate the six steps in formulating objectives for the purpose of interpreting data:

MAJOR OBJECTIVE

The development of effective methods of thinking (Smith and Tyler, 1942,p.18)

BEHAVIOR PATTERNS

1.The ability to formulate reasonable generalizations from specific data
2.The ability to apply principles to new situations
3.The ability to evaluate material purporting to be argument, that is, to judge the logic of argument (pp.19-20).

COMPONENTS OF MAJOR OBJECTIVES

The ability to interpret data
The ability to apply principles
An understanding of the nature of proof (p.36)

ANALYSIS OF QUESTIONS

What do students do when they interpret data well?
What kinds of data should they be able to interpret? (p.38).

SPECIFIC OBJECTIVES

1.The ability to perceive relationships in data
2.The ability to recognize the limitations of data (p.38).

TEST CONSTRUCTION ON INTERPRETATION OF DATA

1.The data were selected according to the criteria set up by the committee.
2.Fifteen interpretative statements were made from each set of data. ... These interpretations involve the following types of behaviors: comparisons of points of data, recognition and comparison of trends, judgments of cause, effect, purpose, value, analogy, extrapolation, interpolation, and sampling.
3.The types of relationships involved in the interpretations which the students are asked to judge were distributed among the five response categories as follows: ... true.....probably true.....insufficient data.... probably false.....false
4.Within each test exercise the interpretations were arranged in random order (pp. 48-50).

An analysis of the preceding excerpts reveals a systematic integration of curriculum development and test construction, based on behavioral criteria. The major objective was a general statement of intent or a goal statement in curriculum. The components of the major objective, were also general statement of intent or about curricular goals, but could be classified as curricular objectives as well. The analytic questions indicated that there was a focus on what a student does rather than an emphasis on the teacher's role. In a broad interpretation, the specific objectives were actually statements indicating performance expected of the students in terms of specific skills as a result of their education. Therefore, they were, behavioral objectives.

Furthermore, if the specific objectives were associated with student behavior patterns and test development, then these statements met the standards that behavioral objectives should have, that of indicating what the student

should do, under what circumstances, and with what degree of competence. These, therefore, satisfied another definition of a behavioral objective. This interpretation would point to Tyler as a strong proponent of behavioral objectives.

B.THEORETICAL ASPECTS OF BEHAVIORAL OBJECTIVES

The discussion of theoretical aspects of behavioral objectives will cover the following topics: (1) Concepts of instructional objectives, (2) Components of behavioral objectives, (3) Deriving behavioral objectives (4) Rationale for use of behavioral objectives, and (5) Problems and criticisms.

1.CONCEPTS OF INSTRUCTIONAL OBJECTIVES

In all likelihood, instructional objectives (behavioral objectives) have concerned teachers since the earliest beginnings of the art of instruction. Popham (1969a) speculated that even primitive men while tutoring their young in the crafting of hand axes surely considered what kinds of axe-makers they wished the initiates to become. Socrates seems to have had very definite objectives in mind when, in questioning passersby, shopkeepers, students, and senators, he sought to have men perceive their ignorance or discover a truth (Compayre, 1886).

One ambiguity which arises in a discussion of

behavioral objectives (instructional objectives) stems from the lack of fixed meanings for many of the terms. Although numerous volumes have been published classifying objectives within different "domains" (see for example, Bloom, 1956), earlier in this chapter it was noted that, there is no standard taxonomy of such terms as educational, instructional, performance, behavioral, or non-behavioral when applied to objectives. Popham (1972, p.432) observed that "Some educators use the terms objectives, goals, aims, intents, etc. interchangeably, depending on the level of generality involved."

Depending upon what book, course, or instructional development project an instructional developer is involved with, he or she will encounter one or more of the terms frequently used interchangeably with objectives. In relation to this issue, Roberts (1982, p.15) has collected thirteen terms that have been employed by authors when referring to objectives. Those terms are as follows:

1. Instructional objectives
2. Learner objectives
3. Performance objectives
4. Training objectives
5. Learning objectives
6. Behavioral objectives
7. Criterion-Referenced objectives
8. Functional objectives
9. Educational objectives
10. Performance objectives
11. Measurable objectives
12. Terminal objectives
13. Performance standards

What was listed by Roberts, the thirteen-various ter-

minologies for objectives, have been in existence for a long time. Davis, Alexander, and Yelon (1974), for example, prefer to use the term learning objective instead of instructional objective. They define that "a learning objective is a description of the behavior expected of the learner after instruction" (p.29). Popham (1970) used the term "objectives" and "instructional objectives" interchangeably, whereas Mager (1962) prefers the term instructional objectives instead of learning objectives, learner objectives, or educational objectives. Furthermore, Eisner (1967), and Bloom et.al. favored the term educational objective. Bloom defined educational objectives as "explicit formulations of the ways in which students are expected to be changed by the educative process" (p.26).

Specifications of the performance to be acquired by a learner is refered to by Mager (1962) as behavioral objectives; by Tyler (1964) as educational objectives; by Esbensen (1967) as performance objectives. To minimize confusion in this study, the researcher prefers to use both behavioral objectives and instructional objectives interchangeably for the same meaning.

Kibler, Cegala, Barker, and Miles (1974) divide educational objectives into two groups: general, non-specific objectives written to indicate broad goals of education (general educational objectives); and highly specific objectives formulated to communicate instructional intentions

to learners (instructional objectives). They admit, however, that there are some educational objectives that do not neatly fit into either category and include as examples (1) outlines of objectives, (2) some objectives that have been developed for language arts, and (3) the types of objectives exemplified in the first two volumes of the Taxonomy of Educational Objectives proposed by Bloom and Krathwohl et.al, (1956).

Examining the research regarding educational objectives and outcomes, Ammons (1969, p.908) recognized several important factors:

> "... First, the terms themselves have no universally accepted definition, so discourse about objectives occurs upon several levels of generality. Second, a statement of objectives or a recommended methodology for determining objectives is almost couched in value terms, which renders empirical research in the classical sense difficult. Third, the question of what objectives ought to be sought has a history which dates at least from Plato. Fourth, pronouncement about objectives are more or less explicitly analyzed and justified opinions."

After reviewing some of the important twentieth century contributions to the development of objectives, Ammons (1969) concluded:

> "The authors cited ... tend to make a distinction between objectives and other statements of goals, restricting to the use of term the 'objectives' to those statements which describe desired student behavior and appropriate content. Other kinds of statements of purpose may be called goals, aims, or purposes" (pp. 911-912).

According to Kibler et.al (1974, p.2), "Instructional

objectives are statements that describe what students will be able to do after completing a prescribed unit of instruction." Furthermore, The Curriculum Committee of the American Chemical Society (1972, p.484) defined a performance objective as:

> "... a statement which clearly and explicitly specifies what a student should do in response to a request to act which suggests (to the teacher, by that action) that the student has mastered a portion (usually) or the whole of a topic (concept, principle, fact, set of facts, etc.) or has mastered interrelationships between and among different topics."

Payne (1968, p.11) stated more simply that, "An educational objective may be broadly defined as a statement of desired change in pupil behavior." Montague and Butts (1968, p.33), on the other hand, emphasized that in behavioral objectives the learning, or outcome, must be "..... expressed in terms of observable behavior." Mager (1962) in his classical programmed text was even more explicit in requiring that objectives describe behaviors that are not only observable but, also terminal. Ammons (1969) appended the provision that, in addition to describing desired student behavior, behavioral objectives should indicate the content through which the behavior is to be developed. She also (1967) presented a case for behavioral objectives in which the behaviors might not be observable but could be inferred according to definitions mutually acceptable to parties concerned. She further identified objectives as descriptions of direction rather than as descriptions of

terminal behavior, pointing out that Herrick (Anderson et. al,1965) also sees objectives as direction setters.

Kepner and Sparks (1972, pp.3-4) explain the difference between general objectives and performance objectives in the following metaphor:

> "One of the most significant differences between objectives in general and performance objectives is similar to the difference between a shotgun and rifle. The shotgun discharge pattern expands to cover a larger and larger area as it moves further from the weapon. A performance objective should be tightly defined with minimum possibility of the learner misunderstanding what is to be done" (p.3).

Kepner and Sparks also represented an operational example to clarify their metaphor. Following are the excerpts from their examples:

GENERAL OBJECTIVE:

> Make a pie.

PERFORMANCE OBJECTIVES:

> "Each student in the nutrition unit of the junior high homemaking course will make a fruit pie from the materials furnished within one normal class period which will indicate mastery of crust construction, making the filling, and baking the product. It will be served at the faculty lunch room where it will be evaluated by those eating it using the Betty Crocker check list with a minimum average score of 32" (p.3).

Finally, they pointed out some differences between general and performance objectives of making a pie in the following counts:

> "We at least know in the performance objective that it is food to be eaten. It is not a mud-pie, a pie chart, or a meat pie. It is a fruit pie.
>
> We also learn in the performance objectives who is

expected to make this pie. The defining of the audience tells us that it is in the nutritional unit and also by identifying it as junior high sets a first standard for final evaluation.

When the performance objectives says "with materials furnished and within one normal class period" the conditions for the performance are not only stated but further limited to the materials and time made available.

In the performance objective the student will be expected to perform in three areas: (1)crust construction; (2)filling preparation; (3)baking technique; this is the behavior of the performance.

When the pie is baked it will be evaluated at once by those eating it in the faculty lunch room and the means for conducting the evaluation are stated. This is the degree of mastery.

The level of achievement based on the evaluation is stated in the performance objective which is the measurement of degree (p.5).

Those eating it in the faculty lunch room and the means for conducting the evaluation are stated. This is the degree of mastery.

The level of achievement based on the evaluation is stated in the performance objective which is the measurement of degree (p.5).

2.COMPONENTS OF BEHAVIORAL OBJECTIVES

A number of writers and researchers have prescribed the requirements or components for preparing behavioral objectives. Mager (1962), perhaps the most quoted in the literature, listed three requirements that must be written into the objective to describe the terminal behavior:

1.Identify and name the over-all behavior act

2.Define the important conditions under which the be-

havior is to occur (the givens or restrictions or both)

3. Define the criterion of acceptable performance (p. 53).

This objective, therefore, would meet all of Mager's requirements: Given a lists of factors leading to significant historical events (the conditions), the learner must be able to select (behavioral act) at least five factors contributing to the depression of 1929 without any mistakes (the criterion of performance).

Esbensen and Smith included requirements similar to Mager, with slight word variation. Gagne(1969) required these four components in formulating behavioral objectives:

1. A verb denoting observable action
2. A description of the class of stimuli being responded to (the givens)
3. A word or phrase denoting the object used for action
4. A description of the class of correct responses (p.243).

Paulson (1967) required four parts in the objective which form a useful mnemonic device (ABCD): Audience (students), Behavior, Conditions, and Degree (of performance) (pp.9-).

Kepner and Sparks (1972), furthermore, discuss the ABCD components of behavioral objectives systematically and explicitly. A is for the Audience which is to perform the objectives: Who is to be doing the learning? What is the

entry level of the students expected to perform the objectives? **B** is for the expected **Behavior** of the performer: What observable action will the learner do? **C** is for the **Condition** under which the audience will perform when assessed: What resources will be used? What time limitations or resource limitations will be placed on the student's performance when he is being evaluated to determine if he has achieved the objectives? When and where will the student perform the indicated objectives? Finally, **D** is for **Degree** of measurement used to determine an acceptable performance level: Has the student mastered the objectives satisfactorily? (20 out of 20, 19 out of 20; 4 out of 5, 70% for a minimum grade of C, etc.) (p.6).

Davis, Alexander, and Yelon (1974), on the other hand, did not include audience component explicitly in learning (behavioral) objectives. Instead, they determined three components have to be included in any objectives: (1) terminal behavior; (2) test conditions; and (3) standards (p.33).

> What they meant by **terminal behavior** is, ".... the intended outcome of instruction. It describes what the student will be able to do in order to demonstrate that he has achieved the objectives. It is the behavior that will be accepted as evidence that the student has learned" (p.33).

Such verbs as **identify**, **draw**, **present**, **design**, **select**, are among the action verbs which are appropriate to formulate terminal behavior.

The second component, **conditions**, has been defined by Davis, Alexander and Yelon (1974) as "... the situation in which the student will be required to demonstrate the terminal behavior. It is the component that describes the test condition" (p.37). Finally, they described **standards** component as the ..."minimal level of performance that will be accepted as evidence the learner has achieved the objective" (p.38).

In fact, there are other writers who propose different components of behavioral objectives. In the following table is an example of how writers prescribe various components for behavioral objectives differently and inconsistently (Roberts, 1982, p.15).

TABLE 1

COMPONENTS OF OBJECTIVES AS SPECIFIED IN 14 REFERENCES

Author(s)	Components of Objectives
1. Anderson & Faust (1974)	1.Behavior, action 2.Conditions 3.Standard
2. Boston (1972)	1.A task 2.Conditions of performance 3.Instructional variable 4.Methods of measurement
3. Armstrong, et.al. (1968)	1.Institutional variables 2.Behavioral variables 3.Instructional variable 4.Method of measurement
4. Butler (1972)	1.Overt Behavior 2.Conditions 3.Performance standard
5.Davis et.al.(1974)	1.Terminal behavior 2.Test conditions 3.Standard
6.Dilman et.al.(1972)	1.Level of specificity 2.Principal performance

Table 1 (cont'd.).

Author(s)	Components of Objectives
	3.Overt behavior 4.Method 5.Evaluation or performance criteria 6.Relevant conditions 7.Student-directed performance 8.Appropriate reading level and vocabulary
7.Kaufman	1.Skills, knowledge and attitudes (SKAs) to be displayed 2.List who or what will display the SKAs 3.Conditions under which SKAs will be observed 4.Criteria for measuring results
8.Gagne (1970)	1.Observable action 2.Description of stimuli of being responded to 3.A word or phrase denoting the object used for action 4.A description of the class of correct response
9.Gagne (1974)	1.Situation 2.Outcome performance 3.Action 4.(Sometimes) additional description of tools or means
10.Gagne & Briggs (1974)	1.Action 2.Object 3.Situation 4.Tools and other constrains 5.Capability to be learned
11.Mager (1962)	1.Behavior; 2.Conditions; 3.Criterion
12.Mager (1975)	1.Performance; 2.Criteria; 3.Conditions
13.Pipe (1975)	1.Observable action; 2.Criteria; 3.Conditions
14.Silva (1979)	1.Material; 2.Space; 3.Time; 4.Desired behavior; 5.Ratio.

Table 1 demonstrates that many noted and experienced authors use different terms to describe the same operational components of an objectives (e.g., action, behavior, performance, task, and evaluation). Variations are also found with the inconsistency in the number of components prescribed for objectives, regardless of how they are labeled or to be used. Further, two prominent authors, Gagne (1970, 1974) and Mager (1962, 1975) have modified earlier prescriptions, demonstrating changes in the characterization of objectives over time.

A crucial element in a behavioral objective is the "action verb." The verb denotes the specific and observable behavior the student will be doing as a response to the instructional practice. Ammerman and Melching (1966, p.32) believe that the action verb is one of the more useful clues in determining how relevant the action statement is for the particular instructional situation.

Behavioral objectives should not be formulated by using ambiguous verbs in their components of terminal behavior or performance. Such ambiguous verbs as "understand", "appreciate", "know" must be avoided since those verbs are so vague as to be almost meaningless.

The following Table has examples of words that are ambiguous, and therefore should not be used to formulate terminal behavior, and the action verbs that are appropri-

ate to formulate terminal behavior (Davis, Alexander, and Yelon, 1974, p.35).

TABLE 2

INSTRUCTIONAL OUTCOMES EXPRESSED BOTH AMBIGUOUSLY AND BY ACTION VERBS

Ambiguous Words	Action Verbs
know	discriminate (or distinguish between).
understand (or really understand)	choose (or select)
determine	assemble
appreciate (the value of)	adjust
grasp (the significance of)	identify (the ones which____)
become familiar with	solve
	apply
	align
	list (the properties of_____)

Mehrens and Lehmann (1984), also agree that behavioral objectives never be formulated by using ambiguous words. They believe that "The key to making an objective behavioral and therefore subject to measurement lies in the verbs used" (p.48). As they continued their statement, those authors presented their arguments why behavioral objectives should not be formulated by using ambiguous words:

> "General objectives such as to 'become cognizant of', 'familiar with', 'knowledgeable about', 'mature', or 'self-confident' are not behavioral. They do not tell us what the learner will be doing when demonstrating his achievement of the objective. For behavioral

objectives, action verbs are needed."

3.DERIVING BEHAVIORAL OBJECTIVES

Objectives do not come into being by themselves. They need to be derived and then formulated into operational ones. It is the task of the instructional staff (teachers, specialist, curriculum developer, etc.) of the school to translate the broad objectives into more useful specific objectives. They should be specific enough to facilitate the selection of instructional practices for lesson plans and instructional materials (Krathwohl, 1965, p.83-84).

In deriving objectives, one needs to develop criteria. Paulson identified three criteria: "(1) It is defined clearly enough that we can recognize it; (2) We can carry out whatever activities are necessary to make it occur; (3) We seriously intend to achieve it, even at considerable cost" (1967, p.4). Smith suggested that the objective should be stated clearly enough so "that another person can construct a test item acceptable to the writer of the objective as measuring the performance desired" (1964, p.67).

Lindvall (1961) indicated that the objectives should be written in terms of what the student is supposed to do rather than in terms of what the teacher will do (p 334). The objective should be relevant and needed for

instruction, according to Ammerman and Melching (1966, p.23). Carroll (1975, p.254) added the criterion of "time". Some objectives would not be valid for some students simply because it would take too long to reach the objective. In a similar vein, Craik (1966,p.2) advocated that the objective should be attainable by instruction, realistic, and should fit the grade level (or students) for which it was written.

In deriving behavioral objectives, one also needs a strategy. The strategy should lead the writer in formulating objectives logically. Davis, Alexander, and Yelon (1974) advocated that four steps need to be taken for the formulation of behavioral objectives. These are as follows:

> 1.Write a general instructional goal
> 2.Select a situation outside the course, in which achieving the goal is important to students (for example, another course,a job, an avocation). We call this a **referent situation.**
> 3.Describe the behavior a student must exhibit to succeed in the referent situation.
> 4.Write the objective for the course that is the closest possible copy of the conditions and performance requirements of the referent situation. (pp.53-54).

In addition to these steps, sources of instructional goals were also identified by the three authors. They suggest that instructional goals can be derived from three sources: (1) the subject matter; (2) the educational philosophy of the instructor; and (3) the characteristics of students (Davis, Alexander, and Yelon, 1974, p.54).

4.RATIONALE FOR USE OF BEHAVIORAL OBJECTIVES

Most writers seem to be in general agreement on the purpose of objectives, or at least there is considerable overlap in their statements. Esbensen (1967, p.246) for example, gave his opinion that "the purpose of instructional objectives is to make clear to teachers, students, and other interested persons what it is that needs to be taught--or what it is that has been taught." After focusing on the characteristics of well-written objectives and illustrating how the student and teacher can benefit therefrom, he concluded, "If teachers at all levels of schooling would be this explicit in writing instructional objectives, they might reasonably hope to eliminate almost immediately one major cause of learning failure among students: the traditional fuzziness of classroom assignments" (p.247).

In Plowman's (1971, p.ii) introduction to his small, but practical volume on behavioral objectives, he defined an objective ".... as an aim or desirable outcome of action." He stated that objectives are to be used "... first to direct our effort and then as yardsticks to assess our degree of achievement ... In this context the objectives is useful in proportion, first, to how specific it is and, second, to how well we can see or measure its attainment."

Similarly, Baker and Popham (1973), in their pro-

grammed text relating humanism and behaviorism, indicated that objectives should be prepared for the double purpose of helping instructional designers delineate their activities so that learning is effective and enjoyable, and providing a sound basis for determining whether desired learning has taken place.

Eisner (1969) summarized the characteristics of educational (behavioral) objectives as follows:

> "For one, it is argued that educational objectives should describe pupil behavior, not teacher behavior: that is, they should describe how pupils are to perform after having had educational experiences. Second, objectives should describe both the behavior to be displayed and the content in which the behavior is to occur ... Third, objectives should be stated at a level of specificity that makes it possible to recognize the behavior should it be displayed..."(p.1-2).

Eisner then concluded that once the aspiring curriculum maker has formulated objectives according to these criteria, the following functions are facilitated:

> "First, a clear statement of educational objectives gives direction to curriculum planning. Second, they provide criteria for selecting content and organizing curriculum activities. Third, they provide cues for formulating evaluation procedures inasmuch as evaluation should proceed from specifications set forth by objectives" (p.2).

Duchastel and Merrill (1973) echoed a similar viewpoint in their review of empirical studies of the effects of behavioral objectives on learning. They recognized that numerous rationales for the specification of behavioral objectives can be and have been expressed by various

authors (e.g. Lindval, 1964; Popham, 1969a; and Tyler, 1969). However, for the purpose of clarity, Duchastel and Merrill deemed it appropriate "....to view behavioral objectives as serving three main instructional functions: (a) direction for teaching and curriculum development; (b) guidance in evaluation; and (c) facilitation of learning" (p.53).

Gagne (1971), on the other hand, distinguished four major reasons for specifying objectives. There is widespread agreement that the first two, "revealing the nature of the terminal behavior" and "specifying post-learning behavior for measurement", are important bases for specifying objectives. The last two, "distinguishing the varieties of behavior which can be modified by instruction," and defining the reinforcement situation for the learner," are not widely cited but neither are they antithetical to the rationales previously cited.

Substantiating the effect of evaluation and objectives on facilitation of student learning, Ausubel (1968, p.568) stated, "It has been shown that students distribute their study time and apportion their learning effort in direct proportion to the predicted likelihood of various topics and kinds of information being represented on the examination."

In Learning System Design, the authors stress the importance of specifying objectives as an early step in the

process of designing an instructional system. As they put it, "Whatever the nature of the system to be designed, an early step in the process is the specification of objectives. Decisions about sequence, method of instruction, and evaluation inevitably depend upon a precise, operational and unambiguous statement of learning objectives" (Davis, Alexander, and Yelon, 1974, p.11). Mager (1962), in Preparing Instructional Objectives suggested that once the objectives were specified, not only would the instructor have a clear idea of instructional intent, but the student would be provided with a "means to evaluate his own progress to organize his efforts into relevant activities" (p.4). McAshan, in his work entitled Writing Behavioral Objectives (1970), states that quality education refers to the effectiveness of any educational program in meeting its own specifically defined objectives. He reasons that the current emphasis upon writing behavioral objectives aims to : "(1) aid in curriculum planning, (2) promote increased pupil achievement, and (3) improve the techniques and skills of program evaluation" (p.4). In Essentials of Learning For Instruction, Gagne (1975) discusses objectives for learning that, according to him, sometimes are called "instructional objectives" or "behavioral objectives" (p.72). Furthermore, he asserts that learning objectives can bring about advantages in several purposes of communication among the teacher, students,

school principal, or educational manager, evaluator of instruction, and parent (p.47).

From the foregoing discussion of the literature, the rationale for using of behavioral objectives can be summarized as follows:

1. They provide specific guides for selecting appropriate instructional practices.
2. They provide specific guides for measuring the extent to which the objectives have been attained.
3. They improve communication among educators, parents, and students.
4. They provide the student with a means for self-direction and self-measurement when the objectives are given to him.
5. They make the teacher more aware of the need to assess prerequisite learning or entry behavior of the student.
6. They provide a means for comparing the outcomes in different instructional programs, especially in research investigations.
7. They provide a useful technique for analyzing the instructional process.

5. PROBLEMS AND CRITICISMS

A number of problems are related to the recommended procedure of stating instructional objectives in behavioral terms. Some of the problems were identified by critics of

behavioral objectives; some were recognized by advocates.

The problems are reviewed within these categories: (1) lack of precise behavioral taxonomies; (2) semantics; (3) level of specification; (4) use of objectives by teachers. Remedies for some of the problems are included in this section.

One of the more pressing problems is the need to develop a system or taxonomy for precisely categorizing the instructional behaviors performed by students (Miller, 1962, p.194, Glasser, 1962, p.8). The classification system developed by Bloom, Gagne, and others, previously discussed, are valuable initial contributions. However, all lack the capacity to make sharp distinctions among different classes of behavior, a shortcoming recognized by the authors. In writing about Future Developments And Innovations In Education, Lange (1967) expressed an urgent need for the joint cooperation of the education specialists (subject matter, media, etc.), manufacturers, producers, and behavioral scientists in developing programs. However, according to him, this joint cooperation has been critically hampered by the lack of a system and a language for communicating about the curriculum in behavioral terms.

The advocates of behavioral objectives have generally described broadly stated objectives with such pejorative terms as: "glittering generalities", "verbal obfuscations", "fuzzy", "conveniently vague", "ambiguous", "meaningless",

and "global". These terms were used because the objectives failed to communicate instructional intent in any meaningful way. However, the behavioral advocates have semantic problems of their own. Therefore, for more effective communication, a standardization of terms with a careful definition provided for each term is necessary.

Ebel accepted the usefulness of behavioral objectives, but had some reservations about certain aspects of these objectives. He stated, "The virtue of specificity involves the burden of multiplicity... behavioral objectives tend to become books..." (Ebel, 1963, p.34). At what level of specificity should the instructional designer stop writing objectives? Gagne (1965) advocated stopping at the "smallest unit of performance which can be identified as having a distinct and independent purpose" (p.12). Tyler suggested that the objectives should be stated at the level of specificity for generalizing learning that the student is supposed to acquire (p.79). For example, to acquire "ability to add", one specific level might be -- "ability to add whole numbers." The ability then is generalized to the ability to add <u>all</u> whole numbers. Goodlad (1963) would have the specificity detailed enough "to establish criteria for selecting and organizing what is to be taught" (p.2 - 26). Evidently this would mean stopping at the level for which an instructional practice would have to be provided.

Eisner (1967) was critical of behavioral objectives on

several counts. (1) The dynamic and complex act of teaching yields outcomes far too numerous to be specified in behavioral terms; (2) Many of these outcomes are not amenable to measurement, especially in behavioral terms; (3) Planning instruction preceded by objectives may be logically sound, but psychologically inefficient (pp. 253-257). He suggested that much instruction should be open-ended, similar to the manner in which scientific and artistic inventions occur. A number of pertinent questions were suggested by Eisner which can be reformulated into two general questions. If behavioral objectives (or any objectives) are so desirable, why don't teachers use them? When teachers do use them, does this usage improve teaching and student learning? (p.281).

C.DIFFUSION OF INNOVATION

Since the government of Indonesia does require the use of behavioral objectives in classroom teaching, this study concerns itself also with whether or not prospective teachers will employ these objectives voluntarily. As the adoption of required behavioral objectives in Indonesian schools is relatively recent, their utilization can be viewed as a matter of educational innovation.

In order that the adoption of an innovation such as behavioral objectives be successful, it would be beneficial if prospective teachers were to perceive this innovation

positively. This section will review the factors pertaining to innovation adoption.

As generally stated in the literature reviewed, factors such as attitude, knowledge, teacher expectation and involvement play a decisive role in whether or not innovations will be adopted. The researcher believes that a correlation might exist between these factors and the willingness of prospective teachers to voluntarily adopt behavioral objectives. However, he has emphasized the factors of perceptions of behavioral objectives as the focus of his study. Nonetheless, this literature review section investigates those factors related to perceptions, such as attitude and knowledge. The reason is, as mentioned earlier in this chapter, no research has been reported concerning students' perceptions of behavioral objectives.

Voelz maintains that the attitudes of teachers toward an adopted innovation contribute significantly to its effective and successful implementation (Voelz, 1969, p.). With greater teacher enthusiasm about the innovation, there is greater likelihood that it will succeed.

An awareness of students' perceptions of behavioral objectives in the Faculty of Social Studies Education, Institute of Teacher Training and Education YOGYAKARTA, might help in predicting the degree of voluntary adoption of those objectives. Students holding positive perceptions

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of behavioral objectives tend to have positive attitudes towards them, which, in turn would lead to their adoption.

Rogers (1983, p. 259) summarized the characteristics of the earlier adopters compared to later adopters, according to their communication behaviors: earlier adopters display more social participation, are more highly interconnected in the social system, are more cosmopolitan, have more change agent contact, and seek more information about innovations. Therefore, if it were expected that prospective teachers would become earlier adopter of behavioral objectives, then the Faculty should provide students with sufficient information and knowledge regarding those objectives.

Griffin contends that direct and meaningful participation by teachers in the decision to adopt an innovation leads to better understanding of it through the acquisition of knowledge (1967, pp.26 - 27). Butts and Raun conclude that people tend to have a more positive attitude toward an innovation when they have more knowledge of it (1969, p.101). Therefore, as Chesler and Fox maintain, in-service training can promote a better teacher attitude change, signified by the success of the innovation, and can lead to more meaningful changes and activities which will promote enthusiasm toward new educational approaches (1967, p.26). Additionally, for the innovation to better serve a viable educational purpose in the long run, the teachers

must have adequate knowledge and understanding of its content, procedures and outcomes (Miller, 1967, p.27).

Therefore, it is very important that the Faculty provides students with a strong, working knowledge of what behavioral objectives are and how to operationalize them in real teaching situations if these students are expected to adopt those objectives.

If the efforts to involve teachers in the decision to adopt an innovation is interpreted by teachers as insincere and functionary, the opportunity given them will mean little, and their attitudes toward the innovation will tend to shift in a negative direction (Johansen, 1967, p.82). According to Chesler and Fox, researchers suggest that when teachers as a group feel powerless, isolated, uninvolved, and dissatisfied with their roles, their attitude toward initiating change will tend to be poor (Chesler and Fox, 1967, p.26). Teachers' perceptions of themselves as direct and meaningful participants in the decision to adopt an innovation will be strengthened by their internal feelings of empathy with the change and the teachers will be motivated toward more enthusiasm for its success (Voelz, 1969, pp.77 - 78).

Therefore, teacher attitude and its close relationship with teacher participation in the decision-making process in adopting innovations cannot justifiably be ignored by innovators. In the adoption of behavioral objectives, the

type of perceptions held by students is an important factor influencing the degree of the success of the adoption. Attitudes reflect perceptions maintained by individuals, and these perceptions tend to structure their behavior. The degree to which their attitudes are positive or negative toward a proposed change may well be a key factor in providing for that change or improvement (Butts and Raun, 1969, p.101). As indicated, it is beneficial to understand the subject of concern and have direct personal experience with it in order to develop an increased understanding and a more positive attitude toward it (Newcomb, 1965, p.112).

Davis (1979) suggested that some contemporary organizational psychologists have developed a model of the motivational process that has been tested with considerable success in industrial settings (Vroom 1964, Lawler 1973, Porter, et.al, 1975). The model explains that the tendency of a worker to behave in a particular way depends largely on his expectations of the consequences of that behavior. Based on this theory, therefore, if we wish to predict whether students in the Faculty of Social Studies Education will adopt behavioral objectives when they assume teaching positions, it is necessary to assess their expectations about the outcomes of adopting the behavioral objectives in their teaching practices. If they perceive that behavioral objectives can promote students' learning, can help

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teachers in determining their teaching activities, can help teachers in developing evaluation systems, there will be a tendency that the prospective teachers will adopt the behavioral objectives into their teaching activities.

Teachers' acceptance of an adopted innovation can be made greater through their increased participation in the decision to adopt it because they develop an empathy for it and a desire to see it be a success (Haley and Brendan, 1971, pp.150 - 152)

SUMMARY

This chapter has discussed the review of literature pertinent to historical and theoretical aspects of behavioral objectives and diffusion of innovations. A review of past empirical research, however, cannot be carried out in this study because, to the researcher's knowledge, to date, no research investigation on students' perceptions of behavioral objectives has been documented. Most of the research reported in the literature focused on the effects of behavioral objectives on students' achievement. No one has conducted research to describe whether students themselves perceive behavioral objectives positively or negatively.

Historically, the development of behavioral objectives was greatly influenced by the field of curriculum,

psychology and measurement. The works of Bobbit, Thorndike, Watson, Tyler, and Bloom are among those which profoundly influenced the development of behavioral objectives. Bobbit (1918, p.282) stated that:

> "Our profession is confronted with the huge practical task of defining innumerable specific objectives; and then of determining the countless pupil experiences that must be induced by way of bringing the children to attain the objectives."

Tyler's insistence on stating objectives behaviorally continued into the 1950s (Tyler, 1951) and was supported by a massive study of behavioral outcomes of general education in high school (French, 1957). Tyler advocated that specific objectives should not only serve as guides to select learning experiences in the curriculum, (1950,pp.41-44) but they should also provide the specific sources for the testing program of the school (1949, pp. 391-407).

Theoretically, behavioral objectives raise some controversies. They relate to the components, terminology, and procedures by which they are to be derived, formulated, and communicated.

The most important components that have to be included in behavioral objectives are behavior, conditions, and standards. Behavioral objectives can be derived from a curriculum of a study field, text books being used in a course, instructor philosophy, and students' characteristics.

The problems concerning behavioral objectives have to

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do with their lack of precise behavioral taxonomies, semantic disagreement and levels of specification. How teachers perceive the use of behavioral objectives also may give rise to controversies.

In Indonesia, the relatively recent adoption of behavioral objectives in teaching practices can be considered an innovation in education. As the literature suggests, the adoption of this innovation is influenced by such factors as attitude, knowledge, teacher expectations and perceptions.

CHAPTER III

RESEARCH METHODOLOGY

This chapter reports and discusses the methods and procedures employed in this study. The following topics will be discussed:

1. Design and procedure of the study
2. Population and sample of the study
3. Sampling technique
4. Instrumentation
5. Data analysis design

1. DESIGN AND PROCEDURE OF THE STUDY

Since the major purpose of this study is to assess and describe students' perceptions of behavioral objectives as well as to investigate certain variables relating to these perceptions, a cross-sectional survey design was utilized. The decision to utilize this design is consistent with the observations of Babbie who wrote:

> "In a cross-sectional survey, data are collected at one point in time from a sample selected to describe some larger population at that time. Such a survey can be used not only for purposes of description, but also for the determination of relationships between variables at the time of the study" (Babbie, 1973, p.62).

This cross-sectional survey design was considered the

most appropriate means by which data from members of a select population (the Faculty of Social Studies Education, Institute of Teacher Training And Education YOGYAKARTA) could be secured properly in order to meet the specified research purposes. The utilization of this design allowed the researcher to investigate and describe the students' perceptions of behavioral objectives with respect to certain independent variables assigned in this study. The independent variables investigated here were: sex, students' knowledge of behavioral objective components, types of students' high school certificates, instructors' use of behavioral objectives, grade point averages(GPA), students' lengths of study in the Faculty, students' college preferences and students' majors.

The subjects of this study were the students of the Faculty of Social Studies Education, Institute Of Teacher Training And Education YOGYAKARTA, who were enrolled in the Strata-1 (S-1) program. These students were chosen as the subjects of this study because the Faculty has to carry out the program as its main and regular function. In this program, students have to complete 120 credit hours in a semester system in order to qualify for the "sarjana" degree (midway between a bachelor's and a master's degree offered by a U.S. college or university) in social studies education.

In collecting data, the researcher employed a self-

administered questionnaire. The utilization of this questionnaire saved time and energy, and permitted students to answer all of the questions as freely as possible without direct influences from the researcher or interviewers. It was delivered by the researcher and his research assistants to students who had been selected as the samples for this study in classes where the respondents had scheduled class meetings.

Formal approval to collect data for this study was secured from the Department chairpersons, the Faculty dean, and the rector of the Institute of Teacher Training And Education YOGYAKARTA prior to the distribution of questionnaires to all respondents in their classes. Without formal research approval and the subsequent knowledge of this approval on the part of the students, this study could not have been conducted. Indeed, without such approval, the students would have been hesitant to participate in this study. Lack of formal approval often results in low participation because of students' concerns regarding legitimate sanctions.

With the help of the faculty member, who, at that time was scheduled to lecture in the class meeting, the questionnaires were distributed to the respondents present. The respondents, then, were asked to answer all questions in the questionnaire. Before they completed the questionnaire, however, they were informed as to the nature and

purpose of the study, the procedures to follow in responding to the questionnaire, the importance of their participation as well as the confidentiality of their responses in answering the questionnaire. This was done to assure their full and positive cooperation in this study. To assure that their responses would not be recognized, the respondents were not required to identify themselves by their names and student numbers.

In addition, written explanations and directions were also provided in the questionnaire in order that all respondents be informed at all times about the nature and the purpose of this study in answering the questionnaire. While the respondents completed the questionnaire, either the faculty member in charge of the class at that time, a research assistant, or the researcher himself remained in the class to answer any questions which might have arisen from the students on how to answer all of the designated questions.

The response rate among students was very high, in fact, it was 100 %. All the questionnaires for the subjects required for this study (327) were collected. Those students chosen as the sample of this study participated, and thus there was no attrition among the respondents in this study.

2. POPULATION OF THE STUDY

The population of this study was the Strata-1 (S-1) program students in the Faculty of Social Studies Education, Institute Of Teacher Training And Education YOGYAKARTA. The Faculty has 1,776 students enrolled in the S-1 program. This program consists of six major areas or disciplines: Civics and Pancasila Moral Education (CPME), Office Administration Education (OAE), Accounting Education (AE), Cooperative Education (CE), Geography Education (GE), and History Education (HE). The characteristics of the population of this study can be seen in Table 3.

TABLE 3

THE POPULATION OF S-1 STUDENT AT THE FACULTY OF SOCIAL STUDIES EDUCATION IN JANUARY 1986

Majors	Sex		TOTAL
	Male	Female	
Civics & Pancasila	186	112	298
Office Administration	115	178	293
Accounting	170	151	321
Cooperative	117	150	267
Geography	204	100	304
History	185	108	293
T O T A L :	977	799	1,776

3.SAMPLE OF THE STUDY

In conducting a research study, the selection of a sample is a very crucial step. The "representativeness" of the sample determines the generalizability of the findings. The sample of this study was drawn from the students who had been in the (S-1) program for at least two years or four semesters. The main reason for imposing this requirement is that these students have already taken such delivery-system related courses as instructional planning, classroom management, teaching-learning strategy and teaching-learning interaction. It was assumed that the students had already studied behavioral objectives.

Therefore, it was appropriate and methodologically correct to ask students, who had learned about and are informed of behavioral objectives, their perceptions concerning those objectives as designed in the questionnaire of this study. That is why the researcher chose students who had been enrolled in the Faculty for at least four semesters as the respondents of this study.

4.SAMPLING TECHNIQUE

To draw the sample from the population, a proportional stratified random sampling technique was employed in this study. This technique was used because the population consisted of six-different groups having different characteristics. Thus, the use of a stratified random sampling

technique in this study was intended to assure the representativeness of the sample over its population, which in turn, can increase the generality of the findings of this research.

This technique can be carried out by "separating the population elements into non-overlapping groups, called strata, and then selecting a simple random sample from each stratum."(Scheaffer, Mendenhall, and Ott, 1979,p.59). To implement this procedure, the population was stratified into six strata according to the majors that exist in the Faculty. Therefore, the stratifying variables in the sampling design are the majors of: (1)Civics And Pancasila Moral Education, (2)Office Administration Education,(3)Accounting Education, (4)Cooperative Education, (5)Geography Education and (6)History Education.

Determining a sample size is a very crucial decision in any survey research activities, because it involves not only the costs of the research itself, but also the precision or representativeness of the findings over its population. Basically, the bigger the sample, the more precise and representative the findings of a research over its population. However, the question of "how big" of a sample is considered to be big enough becomes a very delicate problem. To overcome this problem, therefore, the researcher utilized the two following formulae in determining the sample size drawn from the six strata in

the population of this study. (Scheaffer, Mendenhall, and Ott, 1979,p.66 and 69). These two formulae were:

(1)
$$n = \frac{\sum_{i=1}^{i} \frac{N_i \sigma_i^2}{W_i}}{N^2(B^2/4) + \sum_{i=1}^{i} N_i^2 \sigma_i^2}$$

Where: W_i is the fraction of observations allocated to stratum i, σ_i^2 is the population variance for stratum i, and B is the bound on error of estimation.

(2)
$$n_i = n \frac{N_i \sigma_i / VC_i}{\sum_{i=1}^{i} N_i \sigma_i / VC_i}$$

Where : N denotes the size of the i^{th} stratum, σ_i denotes population standard deviation for i^{th} stratum, and C_i denotes the cost of obtaining a single observation from the i^{th} stratum.

Formula (1), was used to determine the sample size from all six strata. Whereas formula (2), was to determine the fraction or allocation of the sample drawn from each stratum.

Since the information concerning the standard

deviation (σ) of the population in each stratum was not available from earlier research findings, an estimation of the population standard deviation was based on the range categories of the instrument (questionnaire) divided by four. In this study the Likert scale having five categories was used in measuring the dependent (outcome) variable, that is, students' perceptions of behavioral objectives. Therefore, the estimation of the population standard deviation (σ) is 5/4 = 1.25. In this study the 95 % confidence interval was secured. The bound on error of estimation was determined to be as large as 10 % from the estimated-population standard deviation. Thus, the bound on error of estimation (B) was 0.125. By using these assumptions and applying those two formulae, the sample size was determined to be as big as 327 students drawn randomly from the six strata. The allocation of the sample for each stratum (major) was as follows:

1.Civics and Pancasila Moral Education (CPME) : 55
2.Office Administration Education (OAE) : 54
3.Accounting Education (AE) : 59
4.Cooperative Education (CE) : 49
5.Geography Education (GE) : 56
6.History Education (HE) : 54

To be more comprehensive, this sampling design can be summarized in Table 4.

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TABLE 4

SUMMARY OF THE SAMPLING DESIGN

CATEGORIES	Strata (Majors)						TOTAL
	CPME	OAE	AE	CE	GE	HE	
Std.Dev(σ)	1.25	1.25	1.25	1.25	1.25	1.25	
Cost (C_i)	1C	1C	1C	1C	1C	1C	
Pop. (N_i)	298	293	321	267	304	293	1,776
Fraction	.168	.165	.181	.150	.171	.165	1.00
Sample (n)	55	54	59	49	56	54	327

This sample size (327) was very reasonable and is consistent with the size suggested by Krejcie and Morgan (1970, p.607) in Table For Determining Sample Size From A Given Population. According to the table, when the population size (N) is 1,800, the suggested sample size (n) is 317. In this study, however, the sample size was slightly bigger than what Krajcie and Morgan have suggested in their table. This situation ensured the representativeness of the sample over its population. The computation and the application of the two formulae used to determine this sample size can be seen in Appendix E.

5.INSTRUMENTATION

In this study, a self-administered questionnaire was the primary method of collecting data. There are three parts to this questionnaire: Part one is an 'open and closed-ended' questionnaire intended to elicit demographic

data from respondents. Part two is a closed-ended questionnaire intended to elicit information about the respondents' knowledge of behavioral objectives. These two parts of the questionnaire were designed to measure the independent (predictor) variables, those are: (1)sex, (2)students' knowledge of behavioral objective components, (3)type of students' high school certificates, (4)instructors' use of behavioral objectives, (5)students' grade point averages (GPA), (6)students' length of study in the Faculty, (7)students' college preferences and (8)students' majors. Finally, the last part of the questionnaire is the Likert Attitude Scale having five ranges of categories (strongly agree, agree, neutral, disagree, and strongly disagree). This scale was used to measure the dependent (outcome) variable, that is, the students' perceptions of behavioral objectives.

All students' responses to this questionnaire were coded and scored quantitatively in order to be analyzed statistically. The rules of coding and scoring can be seen in Appendix D.

In part one of the questionnaire, all responses concerning students' demographic data were coded quantitatively to allow the researcher to categorize respondents' responses systematically. By doing so, tabulation of this data can be performed easily.

Part two of this questionnaire is a test consisting of

twenty items intended to determine students' knowledge of components of behavioral objectives. This test was constructed and developed by the researcher, because there was no established instrument available that met the researcher's needs. After the test items were completed, the researcher had them face and content validated. To do so, the researcher asked five full professors in the College of Education at Michigan State University, including members of the researcher's doctoral dissertation committee to overview the test items. Basically, the five professors agreed with the content of the test items as measuring students' knowledge of the components comprised in behavioral objectives. Based on their feedback, however, some minor editorial and technical problems were corrected.

To find out if the test had discriminating powers, the researcher administered it to two groups of people with different academic backgrounds. The first group was considered as expert in the field of behavioral objectives. This group consisted of four professors in the College of Education, Michigan State University. The second group possessed no expertise in the field of behavioral objectives. They had not taken courses in instructional design, instructional technology, or the like, which, had they done so, would have provided them an opportunity to learn about behavioral objectives. This group consisted of ten Indonesian graduate students, who, at the time were

studying at Michigan State University. These students are majoring in various areas of studies outside of the College of Education.

The result of the administration of the test suggested that the test, indeed, had a discriminating power. The first group of four professors, scored significantly better than the second group of ten Indonesian graduate students. The four professors could answer all of twenty questions in the test correctly, while the ten Indonesian graduate students could only individually answer between two to five questions correctly. Thus, these results suggested that the test can measure what is supposed to be measured, that is, the people's knowledge of behavioral objective components. Therefore, the researcher was satisfied with the test's validity.

The instrument was also piloted prior to its administration to the respondents. Before piloting, however, the researcher translated all questions into Indonesian. To establish the clarity of the Indonesian version of the instrument, the researcher asked several Indonesian colleagues to review and attempt to answer the questionnaire. Based on their feedback, minor problems concerning the translation were corrected and subsequently the questionnaire was revised. The Indonesian version of the questionnaire can be seen in Appendix B.

The main purpose of the piloting was to check if all

items in the questionnaire could potentially be understood by the respondents. Having clear and understandable questions would unquestionably increase the reliability and validity of the questionnaire. Accordingly, the translation of the English version of the questionnaire into its Indonesian version was done with unusual care and precision

As far as the reliability of part two of the questionnaire was concerned, the researcher had the test piloted by administering it to twenty students chosen randomly from the population of this study. Then, based on their responses, the estimate of reliability was computed. To determine the reliability of this section, the test of students' knowledge of behavioral objective components, the measure of internal consistency estimate (Kuder Richadson-21 formula) often called K-R 21, was utilized. From this technique, it was found that the reliability estimate of the knowledge test of behavioral objective components is 0.77. Following is the K-R 21 formula (Mehrens, 1984, p.276) used to find out the reliability estimate of the knowledge test:

$$\text{K-R 21 :} \quad r_{xx} = \frac{n}{n-1}\left[1 - \frac{\bar{X}(n - \bar{X})}{nS_x^2}\right]$$

Where : n = number of items in the test

S_x^2 = variance of the total test

$\bar{X}$ = mean of the total test.

The last part of the instrument is the Likert-type scale intended to measure students' perception of behavioral objectives. As mentioned earlier, this scale has five ranges of categories: strongly agree, agree, neutral, disagree, and strongly disagree. Within this scale, there are four subscales each of which has five questions or statements which needed to be responded to by the respondents. As a total, the perception scale has twenty items or statements. Each of these four subscales represents the following students' perceptions of:

A. The importance of behavioral objectives in terms of instructional planning

B. The importance of behavioral objectives in terms of students' learning

C. The importance of behavioral objectives in terms of classroom teaching

D. The importance of behavioral objectives in terms of learning evaluation

The total of four subscales: A, B, C, and D represents the students' perceptions of behavioral objectives.

In this part, each student's responses were scored based on the range category he chose for every-related statement or question. As a rule, the score for each category was:

- Strongly agree was scored : 5
- Agree was scored : 4
- Neutral was scored : 3
- Disagree was scored : 2
- Strongly disagree was scored : 1

Since each subscale consists of five statements, a student's score for each subscale can be found by adding up all of his response scores in the subscale and then dividing by five. Analogously, a student's perception of behavioral objectives can be found simply by summing up all of his responses in the scale entirely and then dividing by twenty (the number of statements in the entire scale). The students' perception scores analyzed in this study were the mean score of their responses. The rule to interpret the mean of students' perception scores can be seen in the following table.

TABLE 5

INTERPRETATIONS OF PERCEPTION MEAN SCORES

Means	Original scale	Interpretations
1.00 - 1.49	1	Strongly disagree
1.50 - 2.49	2	Disagree
2.50 - 3.49	3	Neutral
3.50 - 4.49	4	Agree
4.50 - 5.00	5	Strongly agree

A positive direction toward perception of behavioral objectives was indicated by a mean score of 3.50 through 4.49. The mean score between 4.50 and 5.00 indicated a strongly positive perception. The neutral perception lay between mean scores of 2.50 to 3.49. The tendency towards a negative perception began with the score of 2.49 through 1.50. The score category between 1.49 to 1.00 indicated a strongly negative perception.

As in the knowledge test, the reliability of the perception scale of behavioral objectives in this instrument was also established. However, the technique used to find out the reliability estimate of this scale was different. Instead of using K-R 21 (measure of internal consistency), a measure of stability, also often called the test-retest estimate of reliability, was employed. Actually, K-R 21 is only appropriately used if responses of the instrument are based upon correct and incorrect options. In fact, the use of the Likert Scale in this study was intended to measure students' perceptions of behavioral objectives. Consequently, students' responses to this scale are not able to be considered as either right or wrong. Therefore, the use of the test-retest technique in determining the reliability of the Likert Scale in this study was very appropriate.

This test-retest technique was conducted by administering the scale to twenty students chosen randomly from

the population of this study and readministering the same scale to the same students two weeks later, and correlating the two sets of scores. This technique, indicated that the reliability of this perception scale is 0.81.

6.DATA ANALYSIS DESIGN

After all students' responses were coded, they were recorded and tabulated in the fortran coding form. Based on this form, the process of raw data input into the computer was accomplished. The data representing coded-students' responses can be seen in Appendix D. This raw data can be easily interpreted by using the coding plan and guide as attached in Appendix C.

Data analyses were done by using both descriptive and inferential statistics. Descriptive statistics such as measures of central tendency, variability, and relationship were used to describe the characteristics and properties of the sample in such a way that allowed all of the data collected to be easily presented and understood. Then, the use of inferential statistics were designed to predict or estimate characteristics of 1,776 students of the Faculty (the population of the study) from a knowledge of the characteristics of only 327 students (the sample of the study).

The sole purpose of the data analyses was to test the proposed hypotheses. In so doing, analyses of variance

(ANOVA), bivariate and multivariate regression, group analysis, and multiple comparison (Tukey's test) were utilized. Specific statistical analyses used in testing each hypothesis were as follows:

A. Hypothesis 1: - There will be no significant difference between male and female students with respect to their perception of behavioral objectives.

Type of data: - Predictor variable (sex) is the discrete datum.

- Outcome variable (students' perceptions of behavioral objectives) is the continuous datum.

Statistical test: - **One-Way ANOVA.**

B. Hypothesis 2: - There will be no significant difference among students according to their knowledge on the components of behavioral objectives with respect to their perceptions of those objectives.

Types of data: - Predictor variable (knowledge of behavioral objectives) is the continuous datum.

- Outcome variable (students' perceptions of behavioral objectives) is the continuous datum.

Statistical test: - **Regression.**

C. Hypothesis 3: - There will be no significant difference among students according to the type of their high school certificate with respect to their perceptions of behavioral objectives.

Type of data: - Predictor variable (students' secondary education is the discrete datum.

- Outcome variable (students' perceptions of behavioral objectives) is the continuous datum.

Statistical test: - **One-Way ANOVA.**

D. Hypothesis 4: - There will be no significant difference among students according to whether or not their instructors use behavioral objectives with respect to their perceptions of those objectives.

Type of data: - Predictor variable (instructors' use of behavioral objectives) is the discrete datum.

- Outcome variable (students' perceptions of behavioral objectives) is the continuous datum.

Statistical test: - **One-Way ANOVA.**

E. Hypothesis 5: - There will be no significant difference among students according to their grade point averages (GPA) with respect to their perceptions of behavioral objectives.

Type of data: - Predictor variable (students' grade point averages) is the continuous datum.

- Outcome variable (students' perceptions of behavioral objectives) is the continuous datum.

Statistical test: - Regression.

F. Hypothesis 6: - There will be no significant difference among students according to the length of their study in the Faculty with respect to their perception of behavioral objectives.

Type of data: - Predictor variable (students' lengths of study) is the continuous datum.

- Outcome variable (students' perceptions of behavioral objectives) is the continuous datum.

Statistical test: - Regression.

G. Hypothesis 7: - There will be no significant difference among students according to their college preferences with

respect to their perceptions of behavioral objectives.

Type of data: - Predictor variable (students' college preferences) is the discrete datum.
- Outcome variable (students' perceptions of behavioral objectives) is the continuous datum.

Statistical test: - **One-Way ANOVA.**

H. Hypothesis 8: - There will be no significant difference among students according to their majors with respect to their perceptions of behavioral objectives.

Type of data: - predictor variable (students' majors) is the discrete datum.
- Outcome variable (students' perceptions of behavioral objectives) is the continuous datum.

Statistical test :- **One-Way ANOVA.**

Finally, a multiple regression analysis was also administered to discover the most parsimonious model in explaining independent (predictor) variables having significant relationships with the dependent (outcome) variable, that is, students' perceptions of behavioral objectives. All of these statistical analyses were conducted by using SPSS (Statistical Package for The Social Sciences) version 9.0 on the CDC Cyber 750 computer at the Michigan State

University computer center. In all hypotheses testing, the significance level of 0.05 was secured.

SUMMARY

This chapter discusses six topics: (1)the design and procedure of the study, (2)the population of the study, (3)the sample of the study, (4)the sampling technique, (5)the instrumentation and (6)the data analyses design.

The researcher utilized a cross-sectional survey design for assessing students' perceptions of behavioral objectives and investigating certain related independent variables.

The random selection of 327 respondents in six different areas of study from the Strata-1 (S-1) program composed of 1,776 students in the Faculty of Social Studies Education, Institute of Teacher Training And Education YOGYAKARTA, Indonesia comprised the population of this study.

The sample was selected using a stratified random sampling technique as the population consisted of six-different groups having different characteristics.

The researcher employed a three-part, self-administered questionnaire to collect the necessary data. Students' response rate was 100 %: no attrition among respondents occurred. Questionnaire responses were coded and

scored quantitatively to facilitate statistical analyses.

Descriptive and inferential statistics were employed in analyzing data and testing hypotheses. In testing hypotheses, the researcher employed such techniques as analyses of variance (ANOVA), bivariate and multivariate regression, group analysis, and multiple comparison (Tukey's Test). The Statistical Package for the Social Sciences (SPSS), version 9.0 on the CDC Cyber 750 computer at the Michigan State University computer center was utilized. In all hypothesis testings the significance level of 0.05 was secured.

CHAPTER IV

DATA ANALYSES

The primary purpose of this study was to investigate students' perceptions of behavioral objectives in the Faculty of Social Studies Education, Institute of Teacher Training and Education YOGYAKARTA, in Indonesia. The data analyses were based upon the responses of 327 respondents to the research questionnaire.

The first section of this chapter presents the descriptive statistics of the respondents with respect to the independent and dependent variables of this study. The second section describes the results of the testing of the hypotheses. In this section, the primary purpose is to prove whether the proposed hypotheses are accepted or rejected by the data gathered from the sample of this study.

RESPONDENTS' CHARACTERISTICS

As reported in Chapter III, 327 respondents answered the research questionnaires. The following tables describe the characteristics of these respondents. Table 6, on the next page, shows the distribution of 327 respondents by sex.

TABLE 6

Respondents' Distribution By Sex

Sex	N	%
Male	181	55.40
Female	146	44.60
T O T A L	327	100.00

As indicated in this table, the respondents of this study consisted of 181 (55.40 %) male students and 146 (44.60 %) female students. Table 6 also suggests that respondents of this study consisted of more male students than female.

TABLE 7

Respondents' Distribution By Majors

Majors	N	%
Civics and Pancasila	55	16.80
Office Administration	55	16.80
Accounting	59	18.00
Cooperative Education	49	15.00
Geography	55	16.80
History	54	16.50
TOTAL	327	100.00

Table 7 shows the distribution of 327 respondents based upon their majors in the Faculty. As the table illustrates,

the greatest number of respondents came from Accounting Education (59 or 18 %). In contrast, the smallest number of respondents came from the major of Cooperative Education (49 or 15 %).

TABLE 8

Respondents' Distribution By High School Certificate

Type of High School	N	%
General High School	265	81
Vocational High School	62	19
T O T A L :	327	100

Table 8 shows the distribution of the 327 respondents by the type of high school certificates they held. As illustrated in the table, the respondents in this study consisted of 265 (81 %) graduates from general high schools and 62 (19 %) graduates from vocational high schools.

Table 9 demonstrates the distribution of 327 respondents based upon their college preferences. As illustrated in the table, the respondents who had chosen the Faculty of Social Studies Education as their first choice of college study, consisted of 190 students or 58.10 % from the total number of respondents. The rest of the respondents, 137 students (41.90 %), had chosen this Faculty as their second choice of their college education.

TABLE 9

Respondents' Distribution By Faculty Of Social Studies Education Preferences

College Preferences	N	%
This Faculty was their first choice	190	58.10
This Faculty was their second choice	137	41.90
T O T A L :	327	100.00

TABLE 10

Respondents' Distribution By The Length Of Study At The Faculty Of Social Studies Education

Length of Study (Semesters)	N	%
4 - 6	161	49.30
7 - 9	150	45.90
10 - 12	10	3.00
13 - 15	6	1.80
T O T A L :	327	100.00

Table 10 suggests that the majority of the respondents, 161 or 49.30 %, were students who had studied at the Faculty for less than six semesters. There were one hundred-fifty respondents (45.90 %) who had studied at the Faculty between seven and nine semesters and ten respondents (3 %) between ten and twelve semesters. Only six respondents (1.80 %) had been studying at the Faculty

for thirteen to fifteen semesters.

TABLE 11

Respondents Distribution By Their Grade Point Averages

Grade Point Average Category	N	%
1.00 - 1.75	13	4.00
1.76 - 2.51	259	79.20
2.52 - 3.27	55	16.80
T O T A L :	327	100.00

As illustrated in Table 11, the majority of the respondents, 259 or 79 %, had Grade Point Averages (GPA) between 1.76 and 2.51. Fifty-five respondents or 16.80 % had GPA between 2.52 and 3.27, while the remaining respondents, thirteen students or 4 %, had GPA between 1.00 and 1.75.

TABLE 12

Respondents' Distribution Based On Their Knowledge Of Behavioral Objective Components

Test Scores*	N	%
1 - 5	12	3.60
6 - 10	79	24.20
11 - 15	156	47.70
16 - 20	80	24.50
T O T A L :	327	100.00

*The test scores ranged from 1 to 20.

Table 12 suggests that only twelve respondents or 3.6% scored between one and five on the knowledge of behavioral objective components test. Seventy-nine or 24.2 % of the respondents scored between six and ten. The majority of respondents, one hundred and fifty-six or 47.70 %, scored between eleven and fifteen. Only eighty (24.50 %) respondents did they score between sixteen and twenty.

TABLE 13

Respondents' Mean Scores On Perceptions
Of Behavioral Objectives
(N = 327)

Category	Std.Deviation	Std.Error	Mean
Subscale A	.562	.031	4.14
Subscale B	.575	.032	3.84
Subscale C	.540	.030	4.08
Subscale D	.556	.031	3.80
Total Scale*	.432	.024	3.97

*Scale on perceptions of behavioral objectives (A+B+C+D).

As indicated in Table 13, respondents' perceptions of behavioral objectives were positive. The mean response of the total scale (the scale of students' perceptions of behavioral objectives) was 3.97 which fell into the positive category.

Respondents' perceptions on all subscales were also positive. However, the response means among the four

subscales varied slightly. The mean of 4.14 was gained on subscale A which represented the importance of behavioral objectives in terms of instructional planning. Subscale B, dealing with the importance of behavioral objectives in terms of students learning, resulted in a mean of 3.84. Subscale C, the importance of behavioral objectives in terms of classroom teaching, reported student responses as having a 4.08 mean. Lastly, subscale D, regarding the importance of behavioral objectives in terms of learning evaluation, had a mean score of 3.80 from students' responses. It seems, as indicated in Table 13, that subscales A and C were rated by the respondents as more positive than subscales B and D.

HYPOTHESES TESTING

In this section all proposed hypotheses will be presented and tested sequentially. By using statistical analyses, the researcher will present evidence as to whether the proposed hypotheses are supported or rejected by the data collected from the respondents. When a proposed null hypothesis is rejected, the same statistical analysis for each individual subscale of students' perceptions will be reported.

HYPOTHESIS 1

There will be no significant difference between male and female students with respect to their perceptions of behavioral objectives.

Type of data: - Predictor variable (sex) is the discrete datum.

- Outcome variable (students' perceptions of behavioral objectives is the continuous datum.

Statistical test: **One-way ANOVA.**

The results of analysis testing this hypothesis are presented in Table 14.

TABLE 14

ANOVA: The Means, Standard Deviations, and F Values Of Students' Perceptions Of Behavioral Objectives By Sex (DF = 1, 325)

Sex	N	Mean	SD	F	P
Male	181	3.95	.45	.498	.480[1]
Female	146	3.98	.40		
T O T A L :	327				

[1]Not significant at P = .05.

As illustrated in Table 14, the F value of .498 with

the degrees of freedom (DF) = 1, 325, was not significant at alpha level of .05; the probability of the F value (P) was greater than .05. Therefore, the null hypothesis stating that there will be no significant difference between male and female students with respect to their perceptions of behavioral objectives was not able to be rejected.

This finding reveals, that sex was not significantly related to students' perception of behavioral objectives. As Table 14 indicates, both male and female students statistically held the same positive perceptions of behavioral objectives. Their mean responses of 3.95 and 3.98 were not significantly different.

HYPOTHESIS 2

There will be no significant difference among students according to their knowledge on the components of behavioral objectives with respect to their perceptions of those objectives.

Type of data: - Predictor variable (knowledge of behavioral objectives) is the continuous datum.
- Outcome variable (students' perceptions of behavioral objectives) is the continuous datum.

Statistical test: **Regression.**

The results of the analysis in testing this hypothesis

are presented in Table 15. As illustrated in Table 15, the F value of 1.66 with 1,325 degrees of freedom was not significant at .05 alpha level. In fact, the probability of this F value (P) was .199. This P value was greater than the specified alpha level.

TABLE 15

Regression Analysis Of Students' Perceptions Of Behavioral Objectives According To Knowledge Of Their Components (N = 327)

Source of Variance	DF	SS	MS	F	P
Regression	1	.31	.31	1.66	.199[1]
Residual	325	60.66	.19		
TOTAL :	326				

[1]Not significant at P = .05

The null hypothesis stating that there will be no significant difference among students according to their knowledge on the components of behavioral objectives with respect to their perceptions of those objectives was not able to be rejected.

Based on results of this analysis, therefore, students' perceptions of behavioral objectives did not significantly relate to their knowledge on the components of those objectives. It was not clear that Students who scored higher on the behavioral objective component test held more positive perceptions toward behavioral objectives than

those students who scored lower on the same test.

HYPOTHESIS 3

There will be no significant difference among students according to the type of their high school certificates with respect to their perceptions of behavioral objectives.

Type of data: - Predictor variable (type of high school certificates) is the discrete datum.

- Outcome variable (students' perceptions of behavioral objectives) is the continuous datum.

Statistical test: **One-Way ANOVA.**

The results of this analysis are presented in Table 16.

TABLE 16

ANOVA: The Means, Standard Deviations, And F Values Of Students' Perceptions Of Behavioral Objectives By Types Of High School Certificates (DF = 1, 325)

Category	N	Mean	SD	F	P
General High School	265	4.0	.43	10.42	.001***
Vocational High Schl.	62	3.8	.38		
T O T A L :	327				

***Significant at P = .001.

Table 16 suggests that the F value of 10.42 with 1,325

degrees of freedom was very significant at alpha level of .05. In fact, as illustrated in the table, the probability of this F value (P) was .001.

Therefore, the null hypothesis stating that there will be no significant difference among students according to the type of their high school certificates with respect to their perceptions of behavioral objectives was able to be rejected. Indeed, there were significant differences among students according to their types of high school certificates they held with respect to their perceptions of behavioral objectives. As Table 16 illustrates, students holding general high school certificates perceived behavioral objectives more positively than those who held vocational high school certificates. Their perception mean scores were 4.0 and 3.8 respectively.

An analysis of variance of students' perceptions on each individual subscale was also performed. The results of this analysis are presented in Table 17. The results of analysis in Table 17 reveal that, in fact, students' perceptions on individual subscales of perceptions were not all significantly different. In subscale A, the importance of behavioral objectives in terms of instructional planning, both of the two groups of students (general and vocational high school certificate holders) perceived the importance of these objectives in the same positive manner. There existed no significant difference in their

perceptions. As illustrated in Table 17, the F value of 2.72 with 1, 325 degrees of freedom was not significant at .05 alpha level; The probability of this F value (P) was equal to .1000.

TABLE 17

ANOVA: The Means, Standard Deviations, And F Values Of Students' Perceptions On The Individual Subscales Of Perceptions By Their Types Of High School Certificates (DF = 1, 325)

High Schools	N	Mean	SD	F	P
SUBSCALE A					
- General	265	4.16	.56	2.72	.1000
- Vocational	62	4.03	.53		
SUBSCALE B					
- General	265	3.85	.56	1.48	.2200
- Vocational	62	3.75	.59		
SUBSCALE C					
- General	265	4.14	.51	18.22	.0000***
- Vocational	62	3.82	.58		
SUBSCALE D					
- General	265	3.84	.55	8.86	.0030**
- Vocational	62	3.61	.50		

**Significant at P < .01
***Significant at P < .001

In subscale B, the importance of behavioral objectives in terms of students' learning, the respondents who held general or vocational high school certificates also had the same positive perceptions toward these objectives. Their

perceptions were not significantly different with respect to the type of high school certificates they held. As shown in Table 17, the F value of 1.48 with 1, 325 degrees of freedom was not significant at alpha level of .05 because, in fact, the probability of this F value (P) was .2200.

In subscale C, the importance of behavioral objectives in terms of classroom teaching, the students in the Faculty held significantly different positive perceptions toward these objectives when they were grouped according to the type of high school certificates they had. Students with general high school certificates had significantly more positive perceptions than those having vocational high school certificates. As demonstrated in Table 17, the F value of 18.22 with 1,325 degrees of freedom was very significant at alpha level of .05; the probability of this F value (P) was smaller than .001.

In subscale D, the importance of behavioral objectives in terms of learning evaluation, the students' perceptions of these objectives were significantly different. Students who had general high school certificates held more positive perceptions than those who had vocational high school certificates. As indicated in Table 17, the F value of 8.86 with 1,325 degrees of freedom was significant at .05 alpha level. In fact, as shown in the table, the probability of this F value (P) was smaller than .05.

HYPOTHESIS 4

There will be no significant difference among students according to whether or not their instructors use behavioral objectives with respect to their perceptions of those objectives.

Type of data: - Predictor variable (instructors' use of behavioral objectives) is the discrete datum.

- Outcome variable (students' perceptions of behavioral objectives) is the continuous datum.

Statistical test: **One-Way ANOVA.**

The results of this analysis are presented in Table 18.

TABLE 18

ANOVA: The Means, Standard Deviations, And F Values Of Students' Perceptions Of Behavioral Objectives By Instructors' Use Of Behavioral Objectives (DF = 1, 325)

Instructors	N	Mean	SD	F	P
Never Used Beh.Obj.	47	3.98	.44	.126	.723[1]
Used Beh. Obj.	280	3.96	.43		
T O T A L :	327				

[1]Not significant at P = .05.

Table 18 shows that the F value of .126 with 1, 325

degrees of freedom was not significant at alpha level of .05; In fact, as illustrated in the table, the probability of this F value was much greater than .05. Therefore, the null hypothesis stating that there will be no significant difference among students according to whether or not their instructors use behavioral objectives with respect to their perceptions of those objectives was not able to be rejected.

Failure to reject this null hypothesis indicates that, statistically, students held the same positive perceptions of behavioral objectives regardless of whether their instructors used behavioral objectives or not in their classroom teaching. Thus, students' perceptions of behavioral objectives were not significantly related to their instructors' use of those objectives. As indicated in Table 18, the perception means of students stating that their instructors never used behavioral objectives and those saying that their instructors used these objectives were 3.98 and 3.96 respectively. Those two means, statistically, were not significantly different.

HYPOTHESIS 5

There will be no significant difference among students according to their grade point averages (GPA) with respect to their perceptions of behavioral objectives.

Type of data: - Predictor variable (students' grade point

averages) is the continuous datum.

- Outcome variable (students' perception of behavioral objectives) is the continuous datum.

Statistical test: **Regression.**

The results of analysis in testing this hypothesis are presented in Table 19.

TABLE 19

Regression Analysis Of Students' Perceptions Of Behavioral Objectives Based On Their Grade Point Averages (N = 327)

Source Of Variance	DF	SS	MS	F	P
Regression	1	.53	.53	2.85	.092[1]
Residual	325	60.43	.19		
T O T A L	326				

[1]Not significant at P = .05

Table 19 suggests that the F value of 2.85 with 1, 325 degrees of freedom was not significant at alpha level of .05. The probability of this F value (P) was, in fact, greater than .05. This indicates that the null hypothesis of no significant difference among students according to their grade point averages (GPA) with respect to their perceptions of behavioral objectives was not able to be rejected.

Failure to reject this null hypothesis indicates that, statistically, students' grade point averages were not significantly related to their perceptions of behavioral objectives. Students with higher grade point averages did not necessarily hold more positive perceptions of behavioral objectives. On the contrary, students with lower grade point averages did not reflect less positive perceptions of behavioral objectives.

HYPOTHESIS 6

There will be no significant difference among students according to the length of their study in the Faculty with respect to their perceptions of behavioral objectives.

Type of data: - Predictor variable (students' lengths of study) is the continuous datum.
- Outcome variable (students' perceptions of behavioral objectives) is the continuous datum.

Statistical test: **Regression.**

The results of analysis in testing this hypothesis are presented in Table 20. As indicated in Table 20, the F value of 1.99 with 1, 325 degrees of freedom (DF) was not significant at .05 alpha level. The probability of this F value (P) was greater than .05. As indicated in the table, the value of P was .160. Therefore, the null hypothesis of

no significant difference among students according to the length of their study in the Faculty with respect to their perceptions of behavioral objectives was not able to be rejected.

TABLE 20

Regression Analysis of Students' Perceptions of Behavioral Objectives By The Length of Study (N = 327)

Source of Variance	DF	SS	MS	F	P
Regression	1	.370	.370	1.99	.160[1]
Residual	325	60.594	.186		
T O T A L :	326				

[1]Not significant at P = .05

Failure to reject this null hypothesis indicates that statistically, there was no a significant relationship between students' lengths of studies and their perceptions of behavioral objectives. Students with longer durations of study in the Faculty did not hold more positive perceptions toward behavioral objectives. In contrast, those students with shorter durations of study in the Faculty did not hold less positive perceptions toward behavioral objectives.

As demonstrated in Table 20, the result of the test of Hypothesis 6 revealed that there was no a significant linear relationship between students' lengths of studies and

their perceptions of behavioral objectives. However, closer examination was undertaken to further study any other possible pattern of relationships between the lengths of study variable and the students' perceptions of behavioral objectives. To do so, a group analysis was conducted.

In this analysis, students were grouped into two groups based on their lengths of study. Group one was comprised of those students who had studied in the Faculty between five and seven semesters. The second group consisted of those who had studied in the Faculty for more than seven semesters.

This grouping was carried out to investigate if there was a non-linear relationship between students' lengths of study and their perceptions of behavioral objectives. To do this group analysis, the researcher utilized an ANOVA test. The results of this analysis are presented in Table 21.

Table 21 suggests that there was significant difference between students if they were grouped based upon their lengths of study with respect to their perceptions of behavioral objectives. As indicated in Table 21, the F value of 3.9 with 1, 325 degrees of freedom was significant at .05 alpha level. The subgroup means suggest that students who had been studying at the Faculty for more than seven semesters had a higher response mean than those who had been studying at the Faculty for less than seven semesters.

As indicated in the table, the response mean for

students who had been studying for more than seven semesters was 4.03. While the response mean for students who had been studying at the Faculty for less than seven semesters was only 3.93.

TABLE 21

ANOVA: The Means, Standard Deviations, And F Values Of Students' Perceptions Of Behavioral Objectives According To Lengths Of Study Groupings (DF = 1, 325)

Lengths of study	N	Means	SD	F	P
5 - 7 semesters	225	3.93	.45	3.9	.0490*
Above 7 Semesters	102	4.03	.36		
T O T A L :	327				

*Significant at P = .05.

Therefore, the results of this analysis indicate that there was a non-linear correlation between students' length of study and their perceptions of behavioral objectives. At a certain point the lengths of students' study were significantly related to students' perceptions of behavioral objectives. As this analysis revealed, the students who had been studying more than seven semesters held significantly more positive perceptions toward behavioral objectives than those who had been studying for less than seven semesters.

HYPOTHESIS 7

There will be no significant difference among students according to their college preferences with respect to their perceptions of behavioral objectives.

Type of data: - Predictor variable (students' college preferences) is the discrete datum.

- Outcome variable (students' perceptions of behavioral objectives) is the continuous datum.

Statistical test: **One-Way ANOVA.**

The results of analysis in testing this hypothesis are presented in Table 22.

TABLE 22

ANOVA: The Means, Standard Deviations, And F Values of Students' Perceptions of Behavioral Objectives By College Preferences (DF = 1, 325)

College Preferences	N	Means	SD	F	P
First Choice	190	4.05	.38	18.26	.0000***
Second Choice	137	3.84	.46		
T O T A L :	327				

***Significant at P < .0001

Table 22 illustrates that the F value of 18.26 with 1,

325 degrees of freedom (DF) was significant at alpha level of .05. In fact, as indicated in this table, the probability of this F value (P) was even significant at smaller than .001. Therefore, the null hypothesis stating that there will be no significant difference among students according to their college preferences with respect to their perceptions of behavioral objectives was able to be rejected.

The rejection of this null hypothesis indicates that students held different positive perceptions of behavioral objectives according to their college preferences. As illustrated in Table 22, the students' perception mean scores were 4.05 for those who chose the Faculty as their first choice of education and 3.84 for those students who chose the Faculty as the second choice. This reaffirmed that students' perceptions of behavioral objectives were significantly related to their college preferences; students enrolled in the Faculty as their first choice in college education held more positive perceptions of behavioral objectives than those who did not.

An analysis of variance of students' perceptions of four individual subscales was also performed. This analysis was carried out to detect if students held consistent patterns of perceptions toward behavioral objectives broken down into four subscales. The results of this analysis are presented in Table 23.

As indicated in Table 23, not in all subscales of

perceptions did students hold significantly different perceptions of the importance of behavioral objectives as defined by each subscale when they were grouped according to their college preferences. In sub-scales A, B and C, students held significantly different perceptions towards those scales. However, in subscale D, students did not hold significantly different perceptions.

Table 23 suggests that in subscale A, students who chose the Faculty as their first choice of education perceived more positively the importance of behavioral objectives in terms of instructional planning than did students who chose this Faculty as their second choice of education. Their response means were 4.28 and 3.96 respectively. The F value, comparing these means, of 28.70 with 1, 325 degrees of freedom was significant at .05 alpha level. In fact, as indicated in the table, the probability of this F value (P) was smaller than .001.

Similarly, in subscale B representing the importance of behavioral objectives in terms of students' learning, students' perceptions of these objectives were significantly different when students were grouped according to college preferences. Even though their perceptions remained positive, they differed significantly in degree. Their mean responses were 3.90 and 3.74 for those students who had chosen the Faculty as their first choice and for those who had not. The F value of 6.71 with 1, 325 degrees of

freedom was significant at alpha level of .05. Actually, as illustrated in Table 23 for subscale B, the probability of this F value (P) was equal to .0100.

TABLE 23

ANOVA: The Means, Standard Deviations, And F Values of Students' Perceptions on Individual Subscales of Perceptions By College Preferences (DF = 1, 325)

Categories	N	Means	SD	F	P
SUBSCALE A					
- First Choice	190	4.28	.43	28.70	.0000***
- Second Choice	137	3.96	.66		
T O T A L :	327				
SUBSCALE B					
- First Choice	190	3.90	.54	6.71	.0100**
- Second Choice	137	3.74	.60		
T O T A L :	327				
SUBSCALE C					
- First Choice	190	4.18	.51	16.32	.0001***
- Second Choice	137	3.94	.55		
T O T A L :	327				
SUBSCALE D					
- First Choice	190	3.83	.54	1.67	.1977[1]
- Second Choice	137	3.75	.58		
T O T A L :	327				

[1]Not significant at P = .05
**Significant at P = .01.
***Significant at P < .001

In subscale C, representing the importance of behavioral objectives in terms of classroom teaching, students also held significantly different positive per-

ceptions. As shown in Table 23, their mean responses were 4.18 and 3.94 for students who had chosen the Faculty as their first choice of college education and for those who had not respectively. The F-test comparing these means suggest that they were significantly different. The F value of 16.32 with 1, 325 degrees of freedom was very significant at .05 alpha level. As demonstrated in this table, in fact, that probability of this F value (P) was smaller than .001. Therefore, this F value was significant at .05 alpha level.

It was only in subscale D, however, that students' perceptions were not significantly different when students were grouped according to their college preferences. Both of the two groups of students perceived the importance of behavioral objectives in terms of learning evaluation in the same positive manner. As illustrated in Table 23, their mean responses were 3.83 for the group making the Faculty as their first choice and 3.75 for those who chose the Faculty as the second choice. According to the results of the analysis in this table, these two means were not significantly different at .05 alpha level. It is clearly indicated in this table that the F value of 1.666 with 1, 325 degrees of freedom was not significant at .05 alpha level. In fact, this F value was only significant at alpha greater than .10; The probability of this F value (P) was 0.1977.

HYPOTHESIS 8

There will be no significant difference among students according to their majors with respect to their perceptions of behavioral objectives.

Type of data: - Predictor variable (students' majors) is the discrete datum.

- Outcome variable (students' perceptions of behavioral objectives) is the continuous datum.

Statistical test: **One-Way ANOVA.**

The results of analysis in testing this hypothesis are presented in Table 24. As illustrated in Table 24, the overall F value of 8.010 with 5, 321 degrees of freedom was significant at alpha level of .05. In fact, the probability of this F value (P) was smaller than .001. Therefore, the null hypothesis of no significant difference among students according to their majors with respect to their perceptions of behavioral objectives was able to be rejected. This indicates that, students held significantly different positive perceptions of behavioral objectives when grouped according to their major areas of study.

To determine which majors were significantly different from the others, in terms of their perceptions toward behavioral objectives, the pairwise Tukey's test was conducted.

TABLE 24

ANOVA: The Means, Standard Deviations, And F Values of Students' Perceptions of Behavioral Objectives Based Upon Their Majors (DF = 5, 321)

Majors	N	Means	SD	F	P
Civics and Pancasila	55	4.05	.37	8.010	.0000***
Office Administration	55	3.88	.35		
Accounting Education	59	4.09	.40		
Cooperative Education	49	3.66	.57		
Geography	55	4.00	.37		
History	54	4.05	.39		
T O T A L :	327				

***Significant at P < .001.

The result of this test showed that students who majored in Geography, Civics and Pancasila Moral Education, History, Accounting Education, and Office Administration perceived behavioral objectives more positively than students who majored in Cooperative Education. In other words, the students majoring in Cooperative Education held less positive perceptions of behavioral objectives when compared to the other students enrolled in the other five majors.

Furthermore, to find out whether or not students, if grouped based upon their majors, held consistent patterns

of perceptions toward each of the four individual subscale, a similar analysis, ANOVA, was then utilized. The results of this analysis are presented in Table 25.

TABLE 25

ANOVA: The Means, Standard Deviations, And F Values of Students' Perceptions on Individual Subscales of Perceptions Based Upon Their Majors (DF = 5, 325)

Categories	N	Means	SD	F	P
SUBSCALE A					
1.Civics	55	4.22	.50	8.050	.0000***
2.Office Admin.	55	4.09	.44		
3.Accounting Ed.	59	4.25	.46		
4.Cooperative Ed.	49	3.73	.82		
5.Geography	55	4.18	.49		
6.History	54	4.33	.44		
SUBSCALE B					
1.Civics	55	4.00	.50	4.242	.0010**
2.Office Admin.	55	3.81	.54		
3.Accounting Ed.	59	3.98	.59		
4.Cooperative Ed.	49	3.57	.62		
5.Geography	55	3.85	.49		
6.History	54	3.76	.62		
SUBSCALE C					
1.Civics	55	4.10	.53	5.674	.0000***
2.Office Admin.	55	3.96	.44		
3.Accounting Ed.	59	4.16	.56		
4.Cooperative Ed.	49	3.79	.59		
5.Geography	55	4.23	.45		
6.History	54	4.21	.55		
SUBSCALE D					
1.Civics	55	3.88	.53	4.499	.0006***
2.Office Admin.	55	3.68	.51		
3.Accounting Ed.	59	3.99	.50		
4.Cooperative Ed.	49	3.56	.67		
5.Geography	55	3.77	.49		
6.History	54	3.89	.53		

**Significant at P = .001
***Significant at P < .001

As indicated in Table 25, in fact, students held significantly different positive perceptions in all of the four subscales when those students were grouped according to their majors. This means, that students held a consistent pattern of perceptions toward behavioral objectives when those perceptions were broken down into four subscales.

Students' perceptions toward subscale A, the importance of behavioral objectives in terms of instructional planning, although positive, showed statistically significant differences when the students were grouped according to the major areas of study. Table 25 demonstrates that the F value of 8.050 with 5, 321 degrees of freedom was significant at .05 alpha level. In fact, the probability of this F value (P) was smaller than .001.

In subscale B, representing the importance of behavioral objectives in terms of students' learning, responses were again positive, yet statistically significant differences of perceptions existed among the groups of the students when they were categorized according to their majors. As illustrated in Table 25, the F value of 4.242, with 5, 321 degrees of freedom, was very significant at alpha level .05. Actually, the probability of this F value (P) was .001.

In subscale C, the importance of behavioral objectives in terms of classroom teaching, students also held signifi-

cantly different positive perceptions. As revealed in Table 25, the F value of 5.674, with 5,321 degrees of freedom was significant at the level of alpha = .05. As the table suggests, the probability of this F value (P) was, in fact, smaller than .001. It indicates, that students, if grouped according to their majors, held significantly different positive perceptions toward this subscale.

Finally, in subscale D, representing the importance of behavioral objectives in terms of learning evaluation, the same direction of perceptions also existed. Students held positive perceptions, yet those perceptions differed significantly. As illustrated in Table 25, the F value of 4.499 with 5,321 degrees of freedom was very significant at .05 alpha level. In fact, this F value had the probability of significance of less than .01. This suggests that the students, when grouped according to their major areas of study, perceived this subscale in a positive manner, the degrees of which, differed significantly.

The results of this analyses of the four individual subscales revealed that these subscales were perceived consistently with the total scale of perceptions toward behavioral objectives. These analyses also reaffirmed that, in fact, students' majors were significantly related to their perceptions of behavioral objectives.

For the purposes of predicting students' perceptions of behavioral objectives, a multiple regression analysis

was also employed. In this analysis, the researcher wanted to determine the most parsimonious model of regression in predicting students' perceptions of behavioral objectives. In doing so, seven independent (predictor) variables were put in stepwise multiple regression analysis. These seven independent variables were :

1.College preferences
2.High school certificates
3.Grade point averages (GPA)
4.Lengths of study
5.Knowledge of behavioral objective components
6.Sex
7.Instructors' use of behavioral objectives

The results of this analysis are presented in Table 26 on the next page. The results of the analysis, as shown in Table 26, suggest that the influential independent variables in predicting students' perceptions of behavioral objectives were:

1.College preferences
2.Types of high school certificates
3.Grade point averages
4.Lengths of study

These four independent variables, as demonstrated in the table, individually were significant at .05 alpha level in predicting students' perceptions of behavioral objectives.

TABLE 26

Multiple Regression: Coefficients And F Values of Seven Variables in Regression Equation (DF = 6, 320; N = 327)

Variables	Coefficients Unstd.ized	Std. ized	F	P
College pref.	.27	.30	31.39	.000***
High schl. cert.	-.28	-.24	21.95	.000***
Grade point avg.	.18	.12	5.23	.023*
Length of study	.03	.11	4.82	.029*
Knowledge of B.O.	.01	.10	3.53	.061[1]
Sex	.01	.01	.07	.786[1]
Instr. use of B.O.	.01	.01	.05	.817[1]

***Significant at P < .001
*Significant at P < .05
[1]Not significant at P = .05

On the other hand, the other three independent variables, sex, knowledge of behavioral objective components and instructors' use of behavioral objectives were individually not significant at .05 alpha level. Therefore, the most parsimonious regression model to predict students' perceptions of behavioral objectives is:

$$\hat{y} = a + .27x_1 - .28x_2 + .18x_3 + .03x_4$$

Where :

$\hat{y}$: predicted students' perceptions of behavioral objectives

a : a constant; the constant in this equation was 3.10

x_1 : college preference variable

x_2 : type of high school certificate variable

x_3 : grade point average variable

x_4 : length of study variable

By having these four variables in the regression equation, the model had R square value of .13. This means, that variation in students' perceptions of behavioral objective could be accounted for as much as 13 % by these four independent variables--i.e., the variations of students' perceptions toward behavioral objectives in the Faculty of Social Studies Education can be explained as much as 13 % by such variables as college preference, types of high school certificates, grade point average (GPA) and length of study.

SUMMARY

This chapter presented the analyses of data. It was comprised of the presentation of descriptive statistics and the testing of hypotheses. The descriptive statistics was

presented with respect to independent and dependent variables in this study.

The testing of the hypotheses was carried out by using ANOVA and regression analysis. In addition, group analysis and multiple comparison (Tukey's test) were also utilized. There were eight null hypotheses tested. The purpose of testing these hypotheses was to find out the pattern of relationships between independent and dependent variables.

From the eight null hypotheses tested, there were three which were significantly rejected. These three null hypotheses involved the independent variables of the types of high school certificates, college preferences, and students' majors. The rejection of these null hypotheses indicate that these three independent variables were significantly related to students' perceptions of behavioral objectives.

Those hypotheses which were not able to be rejected involved the independent variables of: sex, knowledge of behavioral objective components, grade point averages (GPA), length of study, and instructors' use of behavioral objectives. Failure to reject these null hypotheses suggest that these five independent variables were not significantly related to students' perceptions of behavioral objectives. The variable, lengths of study, however, when analyzed by using a group analysis technique, indicated

that there existed a non-linear relationship between this variable and students' perceptions of behavioral objectives. In all hypothesis testing, the researcher employed an alpha level of .05.

CHAPTER V

SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

This concluding chapter summarizes the purposes, methodology and major findings of the study. In addition, it also presents conclusions and recommendations for additional researches and future policies and programs of the Faculty of Social Studies Education, Institute of Teacher Training and Education YOGYAKARTA.

A.SUMMARY

The major purposes of this study were to assess and describe students' perceptions of behavioral objectives as well as to investigate certain independent variables relating to these perceptions which are listed below. To accomplish these purposes, the researcher assigned eight independent variables and then investigated their relationships with the dependent variable, students' perceptions of behavioral objectives. These eight independent variables were:

1.Sex

2.Majors

3.Types of high school certificates

4.College preferences

5.Length of study

6.Instructors' use of behavioral objectives

7.Grade point averages

8.Knowledge of behavioral objective components

This study was carried out by using a cross-sectional survey design. The population of this study was comprised of the Strata-1 (S-1) program students at the Faculty of Social Studies Education, Institute of Teacher Training And Education YOGYAKARTA, in Indonesia. This Faculty had 1,776 students enrolled in the S-1 program.

To determine the sample size, the researcher employed a proportional stratified random sampling technique. By using this technique, the sample size was determined to be 327 students. This technique was utilized because the population consisted of six different groups having different characteristics. This technique was implemented by separating the population elements into non-overlaping groups, called strata, and then selecting a simple random sample proportionally from each stratum.

To collect data, the researcher utilized a self administered questionnaire. This questionnaire consisted of three parts. Part one was an 'open and closed-ended' questionnaire intended to elicit demographic data from respondents. Part two was a closed-ended questionnaire designed to elicit information about the respondents' knowledge of behavioral objective components. The last part

was the Likert Attitude Scale with five categories (strongly agree, agree, neutral, disagree, and strongly disagree). This scale was administered to measure the dependent variable, the students' perceptions of behavioral objectives. This self administered questionnaire yielded a response rate of 100%. Since all respondents filled out and returned the distributed questionnaire, there was no attrition among the respondents in this study.

This research questionnaire was pilot tested before its administration to the actual respondents. In addition to the pilot testing, the reliability of this questionnaire was established. By using KR-21 techniques, the reliability of part two of the questionnaire was estimated to be 0.77. A measure of stability, as often called test-retest technique, was also employed to establish the reliability of part three of the questionnaire. Having utilized this technique, it was estimated that the reliability of part three of the questionnaire was 0.81. Since the function of the instrument was not to measure individual student perceptions and knowledge of behavioral objectives, but rather to measure those of a relatively homogeneous group (Strata-1 program students), those reliability estimates of 0.77 for part two and 0.81 for part three of the questionnaire can be considered adequate.

Data analyses were done by using both descriptive and inferential statistics. Descriptive statistics such as

measures of central tendency, variability, and relationship were used to describe the characteristics and properties of the respondents in such a way that allowed all of the data collected to be easily presented and understood. Then, the use of inferential statistics were aimed at predicting or estimating characteristics of 1,776 students of the Faculty (the population of this study) from a knowledge of the characteristics of only 327 students (the sample of the study).

B.FINDINGS AND CONCLUSIONS

The following findings and conclusions are presented based upon the results of the data analyses in chapter IV. Therefore, they reflect the results of hypothesis testing and the tabulation of the students' responses on certain independent and dependent variables.

1.FINDING: The results of analysis of respondents' responses on the perception scale revealed that students in the Faculty of Social Studies Education, the Institute of Teacher Training And Education YOGYAKARTA had a response mean score of 3.97. This mean score fell into the positive category of perception.

CONCLUSION: Students at the Faculty of Social Studies Education, Institute of Teacher Training And Education YOGYAKARTA held positive perceptions toward behavioral

objectives.

DISCUSSION: From a theoretical standpoint, this finding may encourage students to adopt and use behavioral objectives voluntarily when they assume teaching positions. The literature review in this study reveals that attitudes reflect perceptions maintained by individuals. These perceptions also tend to structure the behavior of individuals. The degree to which their perceptions are positive or negative toward a proposed changes or innovations may well be a key factor for the success of the adoption of the innovation (Butts and Raun, 1969, p.112). Based on this theory, students in the Faculty might be expected to adopt behavioral objectives for their classroom teaching activities when they assume actual teaching positions in high schools.

In fact, this expectation was supported by data gathered from the respondents in this study. When the researcher asked a question of: "Will you use behavioral objectives in your classroom teaching activities when you assume a teaching position in high school even though you are not so required?", students' responses seemed to support the theory proposed by Butts and Raun (1969). The majority of the respondents (297 students or 90.8 %) answered "yes, I would". Only 30 students or 9.2 % they answered "no, I would not". Technically, these answer had a positive relationship with students' responses on the

perception scale; the correlation was 0.11, with P = .028. This correlation suggested that the more positive the perceptions of behavioral objectives students held, the more likely that the students would use behavioral objectives when these students assume teaching positions. Therefore, this finding was consistent with the theory cited in this study. Thus, students in the Faculty might be expected to be willing to adopt behavioral objectives into their classroom teaching practices when they assume actual teaching positions.

2.FINDING: The results of analysis of variance showed that the null hypothesis of no significant difference between male and female students with respect to their perceptions of behavioral objectives was not able to be rejected.

CONCLUSION: Failure to reject this null hypothesis suggests that the students in the Faculty, statistically, held the same positive perceptions toward behavioral objectives regardless of their sex status.

DISCUSSION: It seems that this finding is not consistent with the theory of brain lateralization proposed by Fairweather (1980). In this theory, Fairweather suggests that in human being, the brain is organized so that the two hemispheres or halves of the brain are involved in somewhat different abilities. As Fairweather argues, that for most people, the right hemisphere of the

brain controls nonverbal, spatial abilities and the left side of the brain tends to be involved with verbal skills, language, and verbal reasoning. It has been suggested, that men's brains tend to be more lateralized or specialized, while women tend to use both side of brain for verbal and spatial reasoning. If male and female students in the Faculty also use their brains differently, there might exist different perceptions of behavioral objectives between male and female students. In fact, their perceptions of those objectives were not significantly different when they were grouped based upon their sex status. Therefore, again, this finding is not in accord with the theory of brain lateralization proposed by Fairweather (1980).

3.FINDING: The results of regression analysis revealed that the null hypothesis of no significant difference among students according to their knowledge of behavioral objective components with respect to their perceptions of those objectives was not able to be rejected.

CONCLUSION: Failure to reject this null hypothesis suggests that, statistically, students' knowledge of behavioral objective components was not significantly related to their perceptions of these objectives.

DISCUSSION: Literature cited in this study suggests that in order one to be able to adopt and implement an

innovation (behavioral objectives) successfully, he or she should possess adequate knowledge and understanding of its content, procedure and outcome (Miller, 1967, p.27). This finding was not consistent with this theory though, in fact, students' perceptions of behavioral objectives were positive. However, this finding should not become an obstacle to the adoption of behavioral objectives by the students in the Faculty. This does not mean that the knowledge of behavioral objectives are not important for students to master in order they be motivated to have more positive perceptions toward these objectives, which, in turn, would lead them into their adoption. Likewise, this finding should not be interpreted in the negative sense by assuming that it is not important for students to master the content, procedure, and outcome of behavioral objectives.

The logical explanation of why students' knowledge of behavioral objective components was not significantly related to their perceptions of these objectives may be that the instrument measuring this variable had a ceiling score of only 20, and of course, this score did not represent students' knowledge on the content, procedure, and outcome of behavioral objectives as a total knowledge and understanding of these objectives. Only on the behavioral objective components were students knowledge tested and measured. As a result, this finding was not

supported by literature cited in this study.

4.FINDING: The results of analysis of variance showed that the null hypothesis of no significant difference among students according to the type of their high school certificates with respect to their perceptions of behavioral objectives was able to be rejected.

CONCLUSION: The rejection of this null hypothesis indicates that the types of students' high school certificates were significantly related to their perceptions of behavioral objectives. The results of the analysis of variance suggests that students holding general high school certificates perceived behavioral objectives more positively than those students holding vocational high school certificates.

DISCUSSION: This finding seems to be supported by literature cited in this study. Hebb (1949) concluded in his empirical research that learning does influence one perceptions. By being involved in learning something one will gain some knowledge and information as well as experience. In turn, these learning outcomes will influence the learners' behavior, personality and of course his perceptions too.

In Indonesia, in fact, general and vocational high schools differ in terms of their educational orientations and goals. Actually, general high schools are designed to

prepare students for continuing their education in colleges, while vocational high schools are intended to prepare their students for the job market as soon as they complete their education. Consequently, the curriculum taught to vocational students is completely different in nature. General high schools teach their students a more general body of knowledge which, therefore, make it possible for their graduates to continue to college education. In contrast, vocational high schools emphasize the teaching of skills more heavily than that of general knowledge to enable their graduates to seek job or employments available in society. These differences, of course, result in the different learning outcomes--i.e., knowledge and experience gained by both types of high school students through different processes of learning nurtured by those schools. Because students held different experiences through different processes of learning, therefore, it is logical that they later developed and held different perceptions on the same matters, including, in this case, the perceptions of behavioral objectives.

Students who graduated from general high schools might find it easier to adjust to and learn about new subjects taught in the Faculty of Social Studies Education since these students were exposed to a more general body of knowledge and experience. They might be more receptive than those students graduating from vocational high schools

because the latter had already received specialized education in terms of their skills and knowledge. This factor might be the best explanation of why prospective teachers graduating from general high school held more positive perceptions of behavioral objectives than those graduating from vocational high school.

5.FINDING: The results of analysis of variance revealed that the null hypothesis of no significant difference among students according to whether or not their instructors use behavioral objectives with respect to their perceptions of those objectives was not able to be rejected.

CONCLUSION: Failure to reject this null hypothesis indicates that, statistically, students' perceptions of behavioral objectives were not related to whether or not their instructors used behavioral objectives in their classroom teaching activities. Students in the Faculty held the same positive perceptions toward behavioral objectives regardless of whether or not their instructors used behavioral objectives in their classroom teaching.

DISCUSSION: This finding was not consistent with Bandura's theory (1979) cited in this study. In the exposition of his theory of vicarious learning, also often called social learning theory, Bandura explains that, basically, people can learn by observing and modeling what

another person does. Based upon this theory, the students whose instructors used behavioral objectives in their classes should perceive more positively the use of these objectives in promoting the process of teaching and learning as the results of the modeling process.

In fact, however, significant differences in perceptions between two groups of students whose instructors used behavioral objectives and those students whose their instructors did not use these objectives did not exist. Those two groups of students held the same positive perceptions toward behavioral objectives. Perhaps students at the Faculty were not modeling their instructors in developing their perceptions of behavioral objectives. Students in the Faculty might be more conceptually oriented toward behavioral objectives and thus, the theory of vicarious learning did not apply to them.

6.FINDING: The results of regression analysis demonstrated that the null hypothesis of no significant difference among students according to their grade point averages (GPA) with respect to their perceptions of behavioral objectives was not able to be rejected.

CONCLUSION: Failure to reject this null hypothesis indicates that, statistically, students' perceptions of behavioral objectives were not significantly related to their grade point averages (GPA). Students with high GPA

did not hold more positive perceptions toward behavioral objectives. In contrast, students having lower grade point averages did not hold less positive perceptions toward behavioral objectives.

DISCUSSION: An explanation of absence of relationships between students' GPA and their perceptions of behavioral objectives might be that students already enrolled in college study most likely would have had some exposure to delivery system related courses, such as Instructional Design, Teaching-Learning Interaction, Teaching-Learning Strategy, Classroom Management. These courses might lead students to develop their positive perceptions toward behavioral objectives. As a result, students held the same positive perceptions toward behavioral objectives regardless of what their grade point averages were.

7.FINDING: The results of regression analysis revealed that the null hypothesis of no significant difference among students according to the length of their study in the Faculty with respect to their perceptions of behavioral objectives was not able to be rejected.

CONCLUSION: Failure to reject this null hypothesis suggests that, statistically, lengths of study was not significantly related to students' perceptions of behavioral objectives. This means that students, if grouped according to the lengths of their study in the Faculty,

statistically, held the same positive perceptions toward behavioral objectives regardless of how long they had studied in the Faculty.

DISCUSSION: This finding showed that though students gained more knowledge and experience by having longer periods of study in the Faculty, their knowledge and experience did not have any relationship with their perceptions of behavioral objectives. It seemed that the gaining of more knowledge and experience in addition to the knowledge of behavioral objectives did not result in more positive perceptions held by students toward these objectives.

A group analysis, however, indicated that there was a non-linear relationship between the length of study and students' perceptions of behavioral objectives. When students were grouped based upon their length of study in the Faculty by using criteria of less than and more than seven semesters, the results of analysis of variance revealed that there was a significant difference between these two groups of students with respect to their perceptions of behavioral objectives. This analysis, indeed, demonstrated that at a certain point there was significant relationship between the students' lengths of study and their perceptions of behavioral objectives. The group of students who had been studying in the Faculty for more than seven semesters held more positive perceptions

toward behavioral objectives than the other group of students who had just studied only for less than seven semesters.

This may have happened because students who had already studied in the Faculty for more than seven semesters had to take teaching internship as the part of their academic courses. Students who took part in a teaching internship had considerable opportunities to formulate, write, and apply behavioral objectives when they designed lesson plans which would be used in micro-teaching setting and real classroom teaching activities in high schools. These activities may have had a great impact on students' perceptions of behavioral objectives. Those who had been studying in the Faculty for more than seven semesters, in fact, got used to writing, formulating and communicating behavioral objectives in preparing lesson plans for their teaching internships. This may explain why this group of students held more positive perceptions toward behavioral objectives than the other group of students who had been studying in the Faculty for less than seven semesters. This second group did not have the opportunities to apply behavioral objectives towards real teaching activities in high schools. This might be the best explanation why this group held less positive perceptions toward behavioral objectives.

8.FINDING: The results of analysis of variance revealed that the null hypothesis of no significant difference among students according to their college preferences with respect to their perceptions of behavioral objectives was able to be rejected.

CONCLUSION: The rejection of this null hypothesis indicates that there was a significant relationship between students' college preferences and their perceptions of behavioral objectives. Students who chose the Faculty of Social Studies Education as the first choice of their college education held more positive perceptions toward behavioral objectives than those students who chose this Faculty as the second choice of their college education.

DISCUSSION: This finding might suggest that students who chose this Faculty as the first choice of their college education may have had stronger understanding and commitment toward the mission of the Faculty, that is, preparing high school social studies teachers. These students might have a better understanding about what teachers were supposed to do when they become involved in teaching activities than those students who chose the Faculty as the second choice of their college education.

The first group of these students might, therefore, have been already aware of how important behavioral objectives were for promoting teaching and learning activities from very beginning of their study in the

Faculty. On the other hand, the second group of students might just start developing the awareness of the importance of behavioral objectives for promoting teaching and learning activities after they had actually had instructional design related courses offered by the Faculty at the fourth semester. All of these factors might explain why students who chose the Faculty as the first choice of their college education held significantly more positive perceptions toward behavioral objectives than those students who chose the Faculty as the second choice of their college education.

9.FINDING: The results of analysis of variance revealed that the null hypothesis of no significant difference among students according to their majors with respect to their perceptions of behavioral objectives was able to be rejected. To determine which majors were significantly different from the others, in terms of their perceptions toward behavioral objectives, the pairwise Tukey's test was conducted. The result of this test showed that students who majored in Geography, Civics and Pancasila Moral Education, History, Accounting, and Office Administration more positively perceived behavioral objectives than students who majored in Cooperative Education. In other words, the students majoring in Cooperative Education held less positive perceptions of behavioral objectives compared

to the other students enrolled in the other five majors.

CONCLUSION: The rejection of this null hypothesis leads to a conclusion that there was a significant relationship between students' majors and their perceptions of behavioral objectives. Students from the majors of Geography, Civics and Pancasila Moral Education, History, Accounting, and Office Administration held more positive perceptions toward behavioral objectives than students majoring in Cooperative education.

DISCUSSION: This finding might indicate that different curricula offered by each major field resulted in different perceptions of behavioral objectives held by its students. The reasons these differences occurred might be because each program and curriculum offered by each majors in the Faculty consisted of subject matter having different characteristics. Students enrolled in a major having more practical courses or subject matters might hold more positive perceptions toward behavioral objectives because they might find the applications of these objectives into their subject matters relatively easier and simpler.

Another explanation why students may have held positively significant different perceptions toward behavioral objectives when they were grouped based upon their majors might be because the Faculty does not have a standardized syllabus or course outline on the delivery system-related courses offered in each major. Each

instructor in each majors developed his/her own course outline without having it communicated with other instructors in the other major even though they teach the same delivery-system related courses. This factor might result in different cognitive and affective learning outcomes for students in each majors. The different affective learning outcomes gained by students, finally, may have caused to the differences in students' perceptions of behavioral objectives.

C.RECOMMENDATIONS

This section presents recommendations for future research and policies which could be adopted by the Faculty of Social Studies Education or by the Institute of Teacher Training and Education YOGYAKARTA. The following recommendations are made based upon findings in this study.

RECOMMENDATIONS FOR FUTURE RESEARCHES

1.It is recommended that similar research be conducted in other Faculties within the Institute of Teacher Training and Education YOGYAKARTA to determine if the findings of this study can be generalized across the Faculties existing in the Institute. Carrying out this type of research is very important in order to discover if similar findings occur in different Faculties having different characteristics and natures to their fields of discipline or study. If

similar findings occur, the Institute of Teacher Training and Education YOGYAKARTA could modify its academic programs and policies by which students could be motivated to have more positive perceptions of behavioral objectives by manipulating independent variables proven to be significant in the study.

2.Similar investigations should be conducted in all Institutes of Teacher Training and Education in Indonesia to determine if the findings of this study are generalizable across the Institute levels nationally. If similar findings are discovered at the national level, the ministry of Education can use them as the basis for developing, enhancing, and modifying the programs of teacher education institutions nationally.

3.Additional research needs to be conducted to determine high school teachers' perceptions of behavioral objectives. Carrying out this research is very important in finding out if there is a similar pattern of perceptions toward behavioral objectives between high school teachers and high school graduates who are now continuing their study at the Faculty. Perceptions of students enrolled in the Faculty Of Social Studies Education toward behavioral objectives might be related to their high school teachers' perceptions of these objectives. If this research discovers

that those students' perceptions of behavioral objectives are significantly related to their high school teachers' perceptions, the Faculty of Social Studies Education could devise studies which assess the contribution of instructional design related courses in developing students' perceptions of behavioral objectives. This type of research should be conducted in order to monitor and evaluate the effectiveness of instructional design related courses at the Faculty in achieving one of the goals of these courses: the development of students' positive perceptions of behavioral objectives.

4.A longitudinal research should be conducted, using this study as its basis, to determine if students change their perceptions of behavioral objectives when they graduate from the Faculty and finally assume their teaching positions in high schools. Carrying out this research is very important in determining if different settings, and environments, that students encounter have any relationship to their perceptions of behavioral objectives.

RECOMMENDATIONS FOR FUTURE POLICIES

1.The finding of this study revealed that the type of high school certificate was a variable significantly related to students' perceptions of behavioral objectives. Students holding general high school certificates had more

positive perceptions of behavioral objectives than those holding vocational high school certificates. Therefore, it is recommended that the Faculty of Social Studies Education provide the Faculty members teaching instructional design-related courses with a list classifying students by the types of high school certificates held. This information would be useful for the instructors of such courses in planning appropriate instructional methods and approaches so that they could motivate students graduating from vocational high schools to have more positive perceptions of behavioral objectives.

2.It is also recommended that the Faculty members teaching instructional design-related courses realize that those students having graduated from vocational high schools need greater opportunities to learn the concepts, contents, procedures and outcomes of behavioral objectives. Thus these instructors should pay more attention to individual learning needs of their students, especially those who graduated from vocational high schools.

3.A significant finding of this study was that the college preference variable was significantly related to students' perceptions of behavioral objectives. Students who chose the Faculty of Social Studies Education as the first choice of their college education displayed more

positive perceptions of behavioral objectives than those students who chose this Faculty as the second choice of their college education. Based on this finding, it is recommended that the Faculty also make a student inventory based on students' college preferences for the purpose of improving instructional methods in instructional design related courses. This inventory, along with the list mentioned in recommendation 1, could be used by the instructors of instructional design-related courses in developing appropriate teaching methods and approaches for this courses. Students who did not choose the Faculty of Social Studies Education as the first choice of their college education might need special attention and encouragement in this courses. With such an arrangement, these students may be motivated to develop more positive perceptions of behavioral objectives by the comprehensive mastery of their content, procedures, and outcomes in these instructional design related courses.

4.One important finding of this study was that student majors were significantly related to their perceptions of behavioral objectives. Students majoring in Cooperative Education held less positive perceptions of behavioral objectives than those students majoring in Civics and Pancasila Moral Education, Office Administration Education, Accounting Education, Geography Education and History

Education. It is recommended, therefore, that the Faculty encourage all instructors who teach instructional design-related courses in all majors to develop standard course contents so that students in all majors will gain similar cognitive and affective learning outcomes in these courses and thus all students in all majors would hold the same positive perceptions of behavioral objectives.

5.A significant finding of this study revealed that students who had been studying more than seven semesters in the Faculty held more positive perceptions toward behavioral objectives than those students who had been studying for less than seven semesters. Therefore, it is recommended that instructors who teach instructional design related courses in the early semesters provide their students with more exercises on how to derive, formulate and communicate behavioral objectives into real subject matters of their major. These exercises might lead students to grasp and master a better understanding of behavioral objectives. When students understand them better and know how to apply them, they may develop more positive perceptions toward behavioral objectives.

SUMMARY

One of the most important findings in this study was that students of Strata-1 (S-1) program at the Faculty of Social Studies Education held positive perceptions of behavioral objectives. The other findings were that students' perceptions of behavioral objectives were significantly related to such independent variables as college preferences, types of high school certificates, and major areas of study.

Based on these findings it is recommended that additional research and policies be adopted by either the Faculty of Social Studies Education or by the Institute of Teacher Training and Education YOGYAKARTA, or both. Additional research needs to be carried out to find out if the findings in this study are generalizable across the Faculty within the Institute and across the Institute nationally and also to discover other independent variables which might have significant relationship with students' perceptions of behavioral objectives.

Recommendations concerning policies that need to be adopted by the Faculty are, basically, the manipulation of independent variables proven to be significantly related to students' perceptions of behavioral objectives into viable academic programs in such ways that students at the Faculty could be motivated to have more positive perceptions of behavioral objectives.

APPENDIX A

RESEARCH QUESTIONNAIRE-ENGLISH VERSION

Dear students:

This information is to let you know that you have been selected to be one of the respondents of my dissertation research. The research topic is: "Students' Perceptions of Behavioral Objectives" in our Faculty.

The implementation of this research is for the purpose of being able to write a dissertation required for the completion of the Ph.D degree in the area of Curriculum And Instruction, at the Department of Teacher Education, College Of Education, Michigan State University, USA.

To be able to do so, your help is needed in answering all of the questions in the enclosed questionnaire. Please note, that your answers will not affect the grade of your academic courses, and they will also be treated in a highly confidential manner. All information and data collected through this questionnaire will be used only for scientific purposes.

Therefore, please answer all questions in this questionnaire by following the directions given in each part. Your candid responses and answers will greatly determine the quality of the research findings, which, in turn, will help our Faculty improve its academic programs. The improvement of the Faculty's academic programs will, of course, benefit your academic goals and interests.

Finally, thank you very much for your participation in this research.

Sincerely,

Suyanto.

PART I

DIRECTIONS:
Please answer the following questions by putting a cross mark (x) in front of an option given in each question that fits with your situation. If the question is open ended, please supply the information required in the space provided for in each question.

1.Sex : ( )1.Male; ( )2.Female

2.Major : ( )1.Civics and Pancasila Moral Education
( )2.Office Administration Education
( )3.Accounting Education
( )4.Cooperative Education
( )5.Geography Education
( )6.History Education

3.High School Certificate:

( )1.General High School (GO TO QUESTION 4)
( )2.Vocational High School (GO TO QUESTION 5)

4.If you attended a General High School, what was your major?
( )1.Science and math
( )2.Social Studies. (GO TO QUESTION 6)

5.If you attended a vocational high school, what school did you graduate from?
( )1.Economics High School
( )2.Teacher Education High School
( )3.Technical High School
( )4.Religious Education High School
( )5.Other:_____

6.Which Faculty did you choose as your first choice when you decided to continue your college education?
( )1. Other Faculty in the other university
(PLEASE SPECIFY) :_____
( )2. Faculty of Language and Arts Education
( )3. Faculty of Sports Education
( )4. Faculty of Technical Education
( )5. Faculty of Math and Science Education
( )6. Faculty of Education
( )7. Faculty of Social Studies Education

7.For how many semesters have you been studying in this

Faculty? _____ semesters.

8.What is your Grade Point Average?
My Grade Point Average is:_____

9.In what courses do your instructors usually use behavioral objectives in their classes?
( )1. None
( )2. Classroom management
( )3. Models of instructional design
( )4. Instructional planning
( )5. Teaching-learning interaction
( )6. Teaching-learning strategy
( )7. Other: _____
_____
_____
_____

THIS IS THE END OF PART I, (PLEASE GO TO PART II)

PART.II

DIRECTIONS: (FOR QUESTIONS 1 - 3) Please complete each statement in the following questions by putting a cross (x) in front of a letter a, b, c, or d that you think is the best answer for each question.

1.One way in which a written behavioral objective for classroom teaching may differ from a non-behavioral objective is that the behavioral objective always specifies:
( )a.Teaching methods
( )b.Criteria for measurement
( )c.Teacher behavior
( )d.Length of teaching unit

2.The "conditions" of a behavioral objective specify:
( )a.The actions which the teacher will observe
( )b.The setting in which the students' behavior is to occur
( )c.The setting in which instruction is to occur
( )d.The criteria for measuring the students' behavior

3.The "behavioral" aspect of a behavioral objective specifies:

( )a.Pupil behavior
( )b.Teacher behavior
( )c.Behavioral conditions
( )d.Both a and b

DIRECTIONS: (FOR QUESTIONS 4 - 12) The following are segments of stated behavioral objectives. Below each segment are listed the three basic components which should be included in a well-stated objective. Identify, by giving a cross mark in parentheses (x), the behavior, condition, or standard or criterion component which best represents each of the objective segments.

4.with the use of calculator
( )a.Standard or criterion.
( )b.Behavior.
( )c.Condition.

5.Students will be able to state orally the human primary needs
( )a.Standard or criterion
( )b.behavior
( )c.Condition

6.without the use of a random table
( )a.Behavior
( )b.Condition
( )c.Standard or criterion

7.without making any mistakes
( )a.Standard or criterion
( )b.Behavior
( )c.Condition

8.students must be able to write the definition of inflation
( )a.Condition
( )b.Behavior
( )c.Standard or criterion

9.have to correctly finish at least 15 out of 20 items of the test
( )a.Behavior
( )b.Condition
( )c.Standard or criterion

10.can state orally the five principles of Pancasila
( )a.Behavior.
( )b.Standard or criterion
( )c.Condition

11.students will be tested in a group of five
( )a.Condition
( )b.Behavior
( )c.Standard or criterion

12.must finish the exam correctly at least 18 out of 20 test items
( )a.Behavior
( )b.Condition
( )c.Standard or criterion

DIRECTIONS: (FOR QUESTIONS 13 - 16) For each of the following pairs of statements, check the one that is stated in behavioral terms by placing a cross mark (x) in the parenthesis given at the beginning of each statement.

13.( )a.Students can write the difference between land breeze and sea breeze.
( )b.Students will understand the difference between land breeze and sea breeze.
( )c.Neither.

14.( )a.Students will know the relationship between prices and demands.
( )b.Students can explain orally the relationship between prices and demands.
( )c.Neither.

15.( )a.Students become familiar with the article 33 of the Indonesian Constitution .
( )b.Students can state Article 33 of Indonesian Constitution.
( )c.Neither.

16.( )a.Students must be able to select an appropriate paper size for typing an official letter.
( )b.Students must fully understand the types of paper sizes and their functions.
( )c.Neither.

DIRECTIONS: (FOR QUESTIONS 17 - 20)
In each of the following behavioral objectives one of its **basic components**, behavior, condition, standard or criterion is missing. Identify the missing component by placing a cross mark (x) in front of the letter: a, b, or c provided right before the stated behavioral objectives.

17.The students must state the law of supply and demand without any conceptual mistakes. The missing component is:
( )a.Behavior
( )b.Condition
( )c.Standard or criterion

18.Given a calculator, students must be able to solve the statistical problems. The missing component is:
( )a.Standard or criterion
( )b.Behavior
( )c.Condition

19.While working individually students are expected to finish at least 15 out of 20 items of an introductory economics test in no more than one hour. The missing component is:
( )a.Condition
( )b.Standard or criterion
( )c.Behavior

20.Students will be able to write the preamble of the Indonesian Constitution without any mistakes. The missing component is:
( )a.Condition
( )b.Behavior
( )c.Standard or criterion

(THIS IS THE END OF PART II, **PLEASE CONTINUE TO PART III**)

PART.III

DIRECTIONS:
The following questionnaire asks for your opinions concerning **the importance of behavioral objectives** in terms of instructional planning, students' learning, classroom teaching, and learning evaluation. For each of the following (numbers 1 through 20), please circle the statement which most closely indicates your opinion : Strongly Agree (SA); Agree (A); Neutral (N); Disagree (D); and Strongly Disagree (SD).

A.The importance of behavioral objective in instructional planning:

1. In planning for instruction, a teacher needs to formulate behavioral objectives.	SA	A	N	DA	SD
2. Behavioral objectives can help teachers plan the selection of text books and materials that are going to be used in the classroom.	SA	A	N	DA	SD
3. Behavioral objectives help teachers in planning their classroom activities.	SA	A	N	DA	SD
4. Behavioral objectives are <u>not</u> useful for teachers in planning the final goals of their instruction.	SA	A	N	DA	SD
5. Behavioral objectives can help teachers plan to set up intermediate goals of instruction.	SA	A	N	DA	SD

B. <u>The importance of behavioral objectives for students' learning:</u>

6. Behavioral objectives <u>do not</u> direct students' learning at all.	SA	A	N	DA	SD
7. Behavioral objectives can guide students in selecting appropriate learning materials to be studied.	SA	A	N	DA	SD
8. Behavioral objectives make studying easier.	SA	A	N	DA	SD
9. Behavioral objectives help students who have been absent in catching up on missed lessons.	SA	A	N	DA	SD
10. Behavioral objectives helps students realize the goals of their learning.	SA	A	N	DA	SD

C. <u>The importance of behavioral objectives in classroom teaching:</u>

11. Behavioral objectives help teachers sequence teaching activities.	SA	A	N	DA	SD
12. Behavioral objectives <u>do not</u> help teachers determine appropriate					

assignments related to the teaching objectives. SA A N DA SD

13. Behavioral objectives can help teachers select appropriate methods of classroom teaching. SA A N DA SD

14. Behavioral objectives can be useful for teachers in selecting appropriate instructional aids and media. SA A N DA SD

15. Behavioral objectives can help teachers determine instructional materials to be covered in classroom teaching. SA A N DA SD

D. The importance of behavioral objectives in learning evaluation:

16. Behavioral objectives can help teachers in constructing a valid test. SA A N DA SD

17. Behavioral objectives can give students direction in preparing for a test. SA A N DA SD

18. Behavioral objectives **are not** useful for helping teachers determine the necessary condition for giving a test to their students. SA A N DA SD

19. Behavioral objectives can help teachers set up the criteria of a test. SA A N DA SD

20. Behavioral objectives can be a guide for teachers in assigning students' grades. SA A N DA SD

DIRECTION: For question number 21, circle one of the five following choices, where:

5 represents highly probable
4 represents probable
3 represents do not know
2 represent improbable
1 highly improbable

21. If I were to assume a teaching positions in high school,

I would probably employ behavioral objectives in my classroom teaching activities.

1---------2--------3--------4--------5

PLEASE ALSO ANSWER QUESTION NUMBER 22

22.Will you use behavioral objectives in your classroom teaching activities when you become a high school teacher even though you are not so required?

( )1.No, I will not
( )2.Yes, I will

--THIS IS THE END OF THE QUESTIONNAIRE--
Again, Thank you for your participation.

APPENDIX B

ANGKET PENELITIAN UNTUK MAHASISWA

Saudara mahasiswa FPIPS-IKIP YOGYAKARTA yang tercinta;

Saudara telah terpilih sebagai salah seorang responden penelitian dissertasi yang akan saya lakukan di Fakultas kita. Penelitian ini bertujuan untuk mengetahui persepsi mahasiswa terhadap tujuan instructional.

Saya melakukan penelitian tersebut agar dapat melengkapi persyaratan untuk mencapai gelar Ph.D dalam bidang kurikulum dan pengajaran di College of Education, Michigan State University, di Amerika Serikat. Agar maksud ini dapat tercapai, maka saya memerlukan bantuan Saudara dalam menyelesaikan penelitian tersebut.

Bantuan yang sangat saya harapkan ialah partisipasi Saudara untuk melengkapi dan menjawab semua pertanyaan-pertanyaan di dalam angket yang terlampir. Silakan menjawab dan atau melengkapi angket tersebut sesuai dengan petunjuk-petunjuk yang ada pada setiap bagian. Jawaban Saudara tidak akan berpengaruh pada nilai ujian-ujian yang akan Saudara ambil pada akhir semester nanti, maupun pada indek prestasi. Oleh karena itu jawablah semua pertanyaan dengan jujur dan terus terang sesuai dengan petunjuk yang ada pada angket. Kejujuran dan keterusterangan Saudara dalam menjawab angket ini sangat menentukan terhadap kebenaran hasil penelitian yang saya akan lakukan. Semua informasi yang terkumpul dari Saudara akan dirahasiakan, tidak akan diberitahukan kepada fihak lain, dan hanya akan digunakan untuk pengembangan ilmu pengetahuan.

Pengembangan ilmu pengetahuan merupakan fungsi yang sangat penting bagi Fakultas kita. Partisipasi Saudara dalam penelitian ini dengan sendirinya sangat membantu upaya tersebut.

Akhirnya, saya mengucapkan banyak terima kasih atas kesediaan Saudara untuk berpartisipasi dalam penelitian ini.

Hormat saya,

Suyanto.

BAGIAN I

PETUNJUK
Jawablah pertanyaan-pertanyaan berikut ini dengan cara memberikan tanda silang (x) di depan pilihan-pilihan yang tersedia pada setiap pertanyaan sesuai dengan keadaan Saudara. Jika pertanyaannya terbuka (pertanyaan yang tidak diberi pilihan jawaban), silahkan melengkapinya dengan cara mengisi ruangan kosong yang tersedia di masing-masing pertanyaan.

1.Jenis kelamin: ( )1.Pria ; ( )2.Wanita.

2.Jurusan:
( )1.Pendidikan Moral Pancasila
( )2.Pendidikan Administrasi Perkantoran
( )3.Pendidikan Akuntansi
( )4.Pendidikan Koperasi
( )5.Pendidikan Geografi
( )6.Pendidikan Sejarah

3.Ijazah pendidikan SMTA. :
( )1.SMA (JIKA SMA, TERUSKAN KE PERTANYAAN No.4)
( )2.KEJURUAN (TERUSKAN KE PERTANYAAN No.5)

4.Jika Saudara berijazah SMA, dari jurusan apa?
( )1.IPA
( )2.IPS
(TERUSKAN KE PERTANYAAN No.6)

5.Jika Saudara berijazah Sekolah Kejuruan, sebutkan dari sekolah apa ijazah tersebut diperoleh?
( )1.SMEA
( )2.SPG
( )3.STM
( )4.PGA
( )5.Lainnya:_____

6.Sebutkan Fakultas yang menjadi pilihan PERTAMA ketika Saudara mendaftarkan diri di perguruan tinggi.
( )1.Fakultas di luar IKIP YOGYAKARTA:
(Sebutkan nama Fakultas dan Universitasnya):_____
_____
_____
( )2.FPBS - IKIP YOGYAKARTA
( )3.FPOK - IKIP YOGYAKARTA
( )4.FPTK - IKIP YOGYAKARTA
( )5.FPMIPA - IKIP YOGYAKARTA
( )6.FIP - IKIP YOGYAKARTA
( )7.FPIPS - IKIP YOGYAKARTA

7.Sudah berapa semester Saudara belajar di FPIPS?
_____ semester

8.Berapa indek prestasi Saudara?
-Indek prestasi saya adalah:_____

9.Pada mata kuliah apa saja biasanya para dosen Saudara menggunakan tujuan instruksional khusus (TIK) jika mereka mengajar di kelas Saudara?
( )1.Tidak ada satupun mata kuliah yang diajarkan dengan menggunakan tujuan instruksional khusus.
( )2.Pengelolaan kelas
( )3.Model-model design instruksional
( )4.Perencanaan pengajaran
( )5.Interaksi belajar-mengajar
( )6.Strategi belajar-mengajar
( )7.Lainnya:_____
_____
_____
_____
_____

(BISA MEMILIH LEBIH DARI SATU UNTUK PILIHAN No.2-7)

Bagian I telah selesai, **(SILAKAN TERUS KE BAGIAN II)**

BAGIAN II

PETUNJUK : (UNTUK PERTANYAAN 1 - 3)
Jawablah pertanyaan berikut ini dengan cara memberi tanda silang (x) di depan huruf a, b, c, atau d, yang menurut Saudara merupakan jawaban yang benar bagi masing-masing pertanyaan.

1.Tujuan instruksional khusus (behavioral objectives) berbeda dengan tujuan instruksional yang bukan behavioral karena tujuan instruksional khusus yang dirumuskan dalam bentuk behavioral (perilaku) selalu menyebutkan:
( )a.Metoda pengajarannya
( )b.Kriteria penilaian (evaluasi)
( )c.Kegiatan guru di kelas
( )d.Waktu berlangsungnya pelajaran

2 Kondisi (condition) dari suatu tujuan instruksional khusus yang dirumuskan dalam bentuk behavioral harus menyebutkan:
( )a.Perbuatan siswa yang akan diamati oleh guru
( )b.Keadaan (situasi) di mana siswa harus memperlihatkan tingkah laku sebagai hasil belajarnya.
( )c.Situasi yang diperlukan agar pengajaran bisa berlangsung di kelas.

( )d.Kriteria yang digunakan untuk menilai prestasi siswa.

3.Aspek perilaku (behavioral) dari tujuan khusus instruksional yang dirumuskan secara behavioral menerangkan:
( )a.Tingkah laku siswa
( )b.Tingkah laku guru
( )c.Kondisi penilaian tingkah laku
( )d.Kedua-duanya, a dan b.

PETUNJUK: (UNTUK PERTANYAAN 4 SAMPAI DENGAN 12)
Setiap tujuan instruksional khusus yang dirumuskan secara behavioral, paling tidak harus memiliki tiga komponen (unsur), yaitu : perilaku (behavior), kondisi (condition), dan kriteria (standard). Semua pernyataan yang diberi garis bawah berikut ini adalah merupakan cuilan atau potongan dari salah satu komponen tujuan instruksional khusus yang dirumuskan secara behavioral. Golongkan semua pernyataan berikut ini masuk komponen tujuan instruksional yang mana, dengan memberikan tanda silang (x) di depan huruf a, b, atau c yang Saudara anggap merupakan jawaban yang benar untuk menggolongkan setiap potongan (cuilan) dari tujuan instruksional khusus tersebut yang dinyatakan pada setiap nomer pertanyaan.

4.dengan menggunakan kalkulator; Pernyataan tersebut merupakan komponen:
( )a.Standard atau kriteria
( )b.Perilaku
( )c.Kondisi

5.Siswa bisa menyebutkan secara lisan jenis-jenis kebutuhan manusia; Pernyataan tersebut merupakan komponen:
( )a.Standard atau kriteria
( )b.Perilaku
( )c.Kondisi

6.tanpa menggunakan alat peraga; Pernyataan tersebut merupakan komponen:
( )a.Perilaku
( )b.Kondisi
( )c.Standard atau kriteria

7.harus benar semua; Pernyataan tersebut termasuk komponen:
( )a.Standard atau kriteria
( )b.Perilaku
( )c.Kondisi

8.siswa harus dapat menuliskan definisi inflasi; Pernyataan

ini termasuk komponen:
( )a.Kondisi
( )b.Perilaku
( )c.Standard

9.<u>harus menyelesaikan dengan benar paling tidak 15 nomer soal ujian yang terdiri dari 20 pertanyaan</u>; Pernyataan ini termasuk komponen:
( )a.Perilaku
( )b.Kondisi
( )c.Standard

10.<u>dapat menyebutkan secara lisan sila-sila dalam Pancasila</u>
Pernyataan tersebut termasuk komponen:
( )a.Perilaku
( )b.Standard
( )c.Kondisi

11.<u>Siswa akan diuji di dalam kelompok yang masing-masing terdiri dari 5 orang</u>; Pernyataan ini dapat dogolongkan ke dalam komponen:
( )a.Kondisi
( )b.Perilaku
( )c.Standard

12.<u>harus mampu meyelesaikan ujian dalam waktu tidak lebih dari satu jam</u>; Pernyataan ini dapat digolongkan ke dalam komponen:
( )a.Perilaku
( )b.Kondisi
( )c.standard

<u>PETUNJUKU</u>: (UNTUK PERTANYAAN 13 - 16)
Dari setiap pasangan pernyataan berikut pilihlah satu diantaranya yang dinyatakan dalam bentuk perilaku (behavior) dengan cara memberi tanda silang (x) di depan huruf a atau b yang ada di depan masing-masing pernyataan. Jika dari dua pernyataan tersebut tidak ada yang dinyatakan dalam bentuk perilaku (behavior), maka berilah tanda silang pada huruf c.

13. ( )a.Agar siswa dapat menuliskan perbedaan antara angin laut dan angin darat.
( )b.Agar siswa mengerti perbedaan antara angin laut dan angin darat.
( )c.Baik pernyataan a maupun b, tidak dinyatakan dalam bentuk perilaku (behavior).

14. ( )a.Agar para siswa mengetahui hubungan antara harga dan permintaan.
( )b.Agar para siswa dapat menjelaskan secara lisan hu-

bungan antara harga dan permintaan.
( )c.Baik pernyataan a maupun b, tidak dinyatkan dalam bentuk perilaku (behavior)

15. ( )a.Agar para siswa bisa memahami pasal 33 UUD 45.
( )b.Agar para siswa dapat menyatakan secara lisan pasal 33 UUD 45.
( )c.Baik pernyataan a maupun b, tidak dinyatakan dalam bentuk perilaku (behavior)

16. ( )a.Siswa harus mampu memilih secara tepat ukuran ukuran kertas untuk mengetik surat dinas.
( )b.Siswa harus benar-benar memahami berbagai jenis ukuran kertas dan fungsinya.
( )c.Baik pernyataan a maupun b, tidak ada yang dinyatkan dalam bentuk perilaku (behavior).

PETUNJUK: (UNTUK PERTANYAAN-PERTANYAAN 17 - 20)
Di dalam setiap tujuan instruksional khusus (TIK) yang tertera pada pertanyaan nomer 17 sampai dengan 20 berikut ini, ternyata kehilangan salah satu dari tiga unsurnya (komponennya) yang sangat penting, yaitu : perilaku (behavior), kondisi (condition), dan kriteria (criteria) atau standard. Tentukan unsur mana yang hilang pada masing-masing TIK. yang tertera pada pertanyaan nomer 17 sampai dengan nomer 20 tersebut dengan cara memberikan tanda silang (x) di depan huruf a, b, atau c yang Saudara anggap merupakan jawaban yang paling benar.

17.Semua siswa harus bisa mengucapkan secara lisan hukum permintaan dan penawaran dengan tanpa berbuat kesalahan; Komponen TIK yang hilang ialah:
( )a.Perilaku
( )b.Kondisi
( )c.Standard atau kriteria

18.Dengan menggunakan kalkulator, semua mahasiswa harus bisa mengerjakan soal-soal statistik. Unsur TIK yang hilang ialah:
( )a.Standard atau kriteria
( )b.Perilaku
( )c.Kondisi

19.Dengan bekerja secara perorangan, semua mahasiswa diharapkan untuk menyelesaikan 15 dari 20 nomer pertanyaan pada ujian pengantar ilmu ekonomi dalam waktu tidak lebih dari 60 menit. Unsur yang hilang dari TIK ini ialah:
( )a.Kondisi
( )b.Standard
( )c.Perilaku.

20.Semua siswa harus bisa menuliskan pembukaan UUD 45 tanpa berbuat kesalahan. Komponen (unsur) yang hilang dari TIK ini ialah:

( )a.Kondisi
( )b.Perilaku
( )c.Standard.

(SELESAILAH ANGKET BAGIAN II, **SILAKAN TERUS KE BAGIAN III**)

BAGIAN III.

PETUNJUK: (UNTUK PERNYATAAN-PERNYATAAN 1 - 20)
Di dalam bagian ini, saudara diminta untuk menyatakan pendapat pribadi saudara mengenai pentingnya tujuan instruksional khusus (TIK) yang dinyatakan dalam bentuk perilaku dalam kaitannya dengan: perencanaan pengajaran, kegiatan belajar para siswa, pengajaran di kelas, dan evaluasi hasil belajar. Pada masing-masing pernyataan berikut ini, tunjukkan pernyataan yang paling sesuai dengan pandangan dan pendapat pribadi Saudara dengan cara melingkari kode-kode yang tersedia di belakang masing-masing pernyataan. Jika Saudara berpendapat atau berpandangan:

- Sangat setuju, lingkarilah kode : SS
- Setuju, lingkarilah kode : S
- Tidak tahu, lingkarilah kode : TT
- Tidak setuju, lingkarilah : TS
- Sangat tidak setuju, lingkarilah : STS

A.Pentingnya tujuan instruksional khusus di dalam proses perencanaan pengajaran:

1.Di dalam merencanakan satuan pelajaran, seorang guru perlu untuk merumuskan tujuan instruksionalnya.	SS	S	TT	TS	STS
2.Tujuan instruksional khusus dapat membantu guru untuk merencanakan buku pegangan dan bahan pengajaran yang akan digunakan di kelasnya.	SS	S	TT	TS	STS
3.Tujuan instruksional khusus dapat membantu guru di dalam merencanakan kegiatan mengajar di kelasnya.	SS	S	TT	TS	STS

4.Tujuan instruksional khusus **tidak**

bermanfaat bagi guru untuk merencanakan tujuan akhir dari pengajarannya. SS S TT TS STS

5. Tujuan instruksional khusus dapat membantu guru untuk merencanakan tujuan awal dari kegiatan pengajarannya. SS S TT TS STS

B. Pentingnya tujuan instruksional khusus bagi kegiatan belajar para siswa:

6. Tujuan instruksional khusus **tidak** bisa mengarahkan kegiatan belajar para siswa. SS S TT TS STS

7. Tujuan instruksional khusus dapat mengarahkan para siswa di dalam memilih secara tepat bahan-bahan pelajaran yang harus dipelajari. SS S TT TS STS

8. Tujuan instruksional khusus dapat membantu siswa untuk belajar dengan lebih mudah. SS S TT TS STS

9. Tujuan instruksional khusus dapat membantu siswa yang berhalangan masuk sekolah untuk mengejar ketinggalan pelajarannya. SS S TT TS STS

10. Tujuan instruksional khusus dapat membantu siswa untuk menyadari tujuan-tujuan belajar mereka. SS S TT TS STS

C. Pentingnya tujuan instruksional khusus bagi proses pengajaran di kelas.

11. Tujuan instruksionalkhusus dapat membantu guru untuk menentukan urut-urutan kegiatan pengajaran di kelas. SS S TT TS STS

12. Tujuan instruksional khusus **tidak** dapat membantu guru untuk menentukan secara tepat pekerjaan rumah yang berkaitan dengan tujuan pengajaran. SS S TT TS STS

13. Tujuan instruksional khusus dapat

membantu guru untuk memilih metoda pengajaran yang tepat. SS S TT TS STS

14. Tujuan instruksional khusus dapat bermanfaat bagi guru untuk memudahkan memilih media pendidikan secara tepat. SS S TT TS STS

15. Tujuan instruksioanl khusus dapat membantu guru untuk menentukan bahan-bahan pelajaran yang harus diajarkan di kelas. SS S TT TS STS

D. Pentingnya tujuan instruksional khususdi dalam proses penilaian hasil belajar siswa.

16. Tujuan instruksional khusus dapat membantu guru di dalam penyusunan test untuk diujikan pada siswa. SS S TT TS STS

17. Tujuan instruksional khusus dapat memberikan pengarahan pada siswa di dalam menyiapkan dirinya untuk menempuh test (ulangan). SS S TT TS STS

18. Tujuan instruksional khusus **tidak** ada manfaatnya sama sekali bagi guru untuk menentukan tingkat kesulitan test (ulangan) yang akan diberikan kepada siswanya. SS S TT TS STS

19. Tujuan instruksional khusus dapat membantu guru di dalam menentukan syarat minimal yang harus dicapai oleh siswa agar siswa tersebut dapat lulus dari test-nya. SS S TT TS STS

20. Tujuan instruksional khusus dapat dijadikan pedoman bagi guru untuk menentukan nilai akhir para siswa. SS S TT TS STS

PETUNJUK: Untuk pertanyaan nomer 21, lingkarilah salah satu angka yang bergerak dari 1 sampai dengan 5, dimana masing-masing angka mencerminkan keadaan sebagai berikut:

5 berarti sangat mungkin
4 berarti mungkin
3 berarti belum tahu
2 berarti tidak mungkin

1 berarti sangat tidak mungkin

21.Jika saya menjadi seorang guru, saya akan menggunakan tujuan instruksional khusus di dalam kegiatan mengajar di kelas:

1---------2--------3--------4---------5

SILAKAN JUGA MENJAWAB PERTANYAAN NOMER 22

22.Apakah saudara akan menggunakan tujuan instruksional khusus dalam kegiatan mengajar di kelas kalau kelak Saudara telah menjadi seorang guru di SMTA, walaupun Saudara tidak diharuskan menggunakannya?

( )1.Tidak
( )2.Ya.

SELESAILAH SEKARANG UNTUK SELURUH PERTANYAAN DALAM ANGKET INI
(SEKALI LAGI, TERIMA KASIH ATAS PARTISIPASI SAUDARA)
SELAMAT BELAJAR

APPENDIX C

CODING PLAN AND GUIDE

Questions and Variables	Column	Explanations
PART I		
Respondent's ID #	1-3	From 001 - 327
1.SEX	4	0 = Male 1 = Female
2.MAJORS.....5		1=Civics and Pancasila Moral Education 2=Office Administration Education 3=Accounting Education 4=Cooperative Education 5=Geogrphy Education 6=History Education
3.HIGH SCHOOL CERTIFICATE...6		0=General 1=Vocational
4. and 5, High School Curriculum 7		1=Science and math 2=Social Studies 3=Economics 4=Teacher Education 5=Technical 6=Religion 7=Others
6.COLLEGE PREFERENCES.....8		Options : 1 to 6, code 0 = the first choice 7, code 1 = the second choice
7.THE LENGTH OF STUDY....9-10		From 05 - 12 semesters
8.GRADE POINT AVERAGE...11-13		Code 200 for 2.00 275 for 2.75 300 for 3.00 325 for 3.25, etc.

Appendix C (Cont'd.)

Questions and Variables	Column	Explanations
9. INSTRUCTOR'S USE OF BEHAVIORAL OBJECTIVES....	14	Options: 1, Code 0 = Never uses 2 - 7, Code 1 = uses
PART II		
QUESTIONS 1 - 20	15-16	Record the score as it is, from 00 - 20.
PART III		
QUESTIONS 1 - 20.....	17-36	Record each item in each column with the code score : Strongly Agree = 5 Agree = 4 Neutral = 3 Disagree = 2 Strongly Disagree = 1
21. FUTURE USE OF BEHAVIORAL OBJECTIVES.....	37	Highly Probable = 5 Probable = 4 Do Not Know = 3 Improbable = 2 Highly Improbable = 1
22. THE USE OF BEHAVIORAL OBJECTIVES IF NOT REQUIRED..	38	Options : 1, Code 0 = will not use 2, Code 1 = will use

APPENDIX D

CODED STUDENTS' RESPONSES

0010402105233116555545123554544545445 1
0020401005250115122231531123444543455 1
0031402105200116545444442444444424444 1
0041402005250014321214451441332211514 1
0050401005200116112233542112453122325 1
0060402105200012345443443443444424435 1
0071402105200117445444444445444445445 1
0081402105227113444444244444444444441
0090417105150117343421213535112421135 1
0101402105208010554343443453453243435 1
0110402005200109234213352314325312325 1
0120402005250113145514443544154534415 1
0130402005200108231231332211443322555 1
0140402005233017123321123321454545224 1
0151402105266115444544444444444444445 1
0161402105218114444444442444444454455 1
0170402105270113544443443444444444445 1
0181402105300120555555555555555555551
0190402105250112545545433455544443335 1
0201402105280116545545443545555524555 1
0211401005217118144414441441444344141
0220402005220112345434443443455434141
0231402105170113545434444354544544535 1
0241413005290114144314431454145414545 1
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0261402007230114344434443543445344451
0271402107230119545444452554444545433 1
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0420402108180113544544444444444544425 1
0430413108150113244244244434441443425 0
0440402007275017344434451452444155353 0

045141311320010844444244225444442142 51
046040211220011145434354445244454544 51
047040211423011355444444444444444433 51
048040201324011514541454344314414134 41
049040210520011454444424245444444442 51
050020110724011454444444444455433444 50
051120211024010855444444245444444544 51
052021310824010625244414424433151434 51
053021310823510654444444444444455444 51
054120201421010935541454441455524442 41
055121311522811145551544515454155431 51
056120210724011155445444444444444444 51
057020200520011525553154444155534542 51
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064120200620011351455123144351445541 41
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069020210523711254444445344445443442 51
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071020200630011454443413444441442444 51
072020110521010951444421225445254422 41
073120210519001155555555355454444445 51
074021310526411015555155551555515555 150
075020210523011354442444454444444444 41
076120100525000215544444145433451452 31
077121310524511954443444434444344412 51
078120210624011454552454244354554544 51
079121310529111531553552355532453241 51
080120200521011445544454454444454444 51
081121310524511254534344424341442222 51
082120210521011144424444244244444433 51
083120200622310415434434345225554221 41
084120100522011655452441444344414422 51
085121310721011144444444445444444444 41
086120210724411444444444444444444444 41
087120100726011254444444455554444544 41
088120210722211144444442444444444244 41
089121310726210954424545444344244144 51
090121310727510854443444244344244344 41
091120200819011245543344144445544144 1
092120210720011355455553345455555553 51
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APPENDIX E

SAMPLING DETERMINATION

$$W_i = \frac{N_i \sigma_i / VC_i}{\sum_{i=1}^{i} N_i \sigma_i / \sqrt{C_i}}$$

$$\frac{\sum_{i=1}^{6} N_i \sigma_i}{VC_i} = \frac{298 \times 1.25}{V1C} + \frac{293 \times 1.25}{V1C} + \frac{321 \times 1.25}{V1C} + \frac{267 \times 1.25}{V1C} + \frac{304 \times 1.25}{V1C} + \frac{293 \times 1.25}{V1C}$$

$$= \frac{2220}{V1C}$$

$$W_{1(CPMED.)} = \frac{(298 \times 1.25) / V1C}{2220 / V1C} = .168$$

$$W_{2(OAED.)} = \frac{(293 \times 1.25) / V1C}{2220 / V1C} = .165$$

$$W_{3(ACCED.)} = \frac{(321 \times 1.25) / V1C}{2220 / V1C} = .181$$

$$W_{4(COOPED.)} = \frac{(267 \times 1.25) / V1C}{2220 / V1C} = .150$$

$$W_{5(GECED.)} = \frac{(304 \times 1.25) / \sqrt{1C}}{2220 / \sqrt{1C}} = .171$$

$$W_{6(HISED.)} = \frac{(293 \times 1.25) / \sqrt{1C}}{2220 / \sqrt{1C}} = .165$$

-Bound on Error of Estimation (B) is 10 % from the population standard deviation; B = 10 % x 1.25 = .125.

$$n = \frac{\sum_{i=1}^{i} \frac{N_i^2 \sigma_i^2}{W_i}}{N^2(B^2/4) + \sum_{i=1}^{i} N_i \sigma_i^2}$$

$$\sum_{i=1}^{i} \frac{N_i^2 \sigma_i^2}{W_i} = \frac{(298)^2(1.25)^2}{.168} + \frac{(293)^2(1.25)^2}{.165} + \frac{(321)^2(1.25)^2}{.181} + \frac{(267)^2(1.25)^2}{.150} + \frac{(304)^2(1.25)^2}{.171} + \frac{(293)^2(1.25)^2}{.165}$$

$$= 825,930.06 + 812,964.02 + 889,511.40 + 742,593.75 + 844,444.44 + 812,964.02 = 4,928,407.69$$

$$N^2(B^2/4) + \sum_{i=1}^{i} N^2 \sigma_i^2 = (177)^2 (.125^2/4) + 298(1.25)^2 + 293(1.25)^2 + 321(1.25)^2 + 267(1.25)^2 + 304(1.25)^2 + 293(1.25)^2$$

$$= (3,154,176 \times .0039) + 465.63 + 457.81 + 501.56 + 417.19 + 475 + 457.81 = 15,096.$$

Therefore, the simple size (n) is:

$$\frac{4,928,407.69}{15,096} = 326.47 = 327.$$

The proportion of sample size in each stratum is:

1.Civics and Pancasila Moral Education:	.168 x 327 = 55
2.Office Administration Education:	.165 x 327 = 54
3.Accounting Education:	.181 x 327 = 59
4.Cooperative Education:	.150 x 327 = 49
5.Geography Education:	.171 x 327 = 56
6.History Education:	.165 x 327 = 54
	+
TOTAL:	= 327.

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