

TEMPORAL PERSPECTIVE IN ACTOR-OBSERVER ATTRIBUTION

by

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## Abstract

A laboratory experiment was conducted to explore the role of temporal perspective - predictive, immediately after experimental session, and delayed - upon causal attributions of actors and observers. The context in which these attributions were studied was a student/teacher interpersonal influence situation. It was proposed that, across conditions, actors would make greater situational attributions than would observers, and that actor-observer attributional differences would increase over time. Neither hypothesis was confirmed, with analyses revealing a trend in the opposite direction. Contrary to expectation, observers overall attributed greater responsibility to the situation than did actor/teachers. Rather than actor-observer attributional differences increasing over time, an identical pattern of attributions emerged with both actors and observers attributing least responsibility to the situation in the prediction condition, greater attribution to the situation in the delay condition, and greatest attribution to the situation immediately after the experimental session. Results were interpreted as reflections of the experimental methodology, informational factors (i.e., historical knowledge; perceptual salience), and motivational factors (i.e., need for effective control; empathy).

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Attribution is the process through which an individual attempts to understand and predict others' and his own traits, motives, and behaviors. Interest in the attributional approach to studying behavior has been great during the last 20 years of social psychological research because attributional processes play such a central role in social behavior (Shaver, 1975).

The attributional approach to understanding behavior gained prominence in great part through Fritz Heider's (1958) comprehensive work. Acknowledging the theoretical contribution of Egon Brunswik (eg., Tolman & Brunswik, 1935; Brunswik, 1955), Heider first outlined the conditions and effects of the perception of entities, and then extended his discussion to the conditions and effects relating to person perception. By observing others' behavior, and then inferring stable and enduring traits, motives, and intentions, the naive perceiver could optimize the order, predictability and, thus, the functioning of his world.

How can the naive perceiver come to know which traits, motives, intentions and behaviors stem from dispositional (internal) characteristics of another person and which stem from situational or environmental (external) constraints? How can he know which characteristics are stable and enduring and which are unstable and fleeting? Determining whether an individual's actions stem from internal or external causes or forces (or combinations thereof) and determining whether these causes are pervasive or situation-specific is the central task of the attributor.

Jones and Davis (1965) outlined a theory of correspondent inferences which, stated simply, says that causal attribution will be made to an actor to the extent that he is not bound by circumstances and is free, therefore, to choose from a number of behavioral options. So, for example, inferences based on out-of-role behavior would

be predicted to be higher in correspondence than would inferences based on in-role behavior (Jones, Davis, & Gergen, 1961).

Jones and Davis (1965) also explained how variations in the relevance of an action to the perceiver have an effect on the process of inferring underlying dispositions which explain the action. The hedonic relevance of an action to the perceiver has been empirically shown to increase correspondence (eg., Pepitone, 1949; Jones & de Charms, 1957; Kleiner, 1960). An increase in correspondence is similarly postulated when personalism, the actor's intention to benefit or harm the perceiver, occurs or is thought to occur.

According to Jones and Davis (1965) and Kanouse (1972) a naive perceiver may be quite satisfied with a single sufficient explanation for a behavior rather than with an explanation achieved only after an extensive perceptual/cognitive search.

Contrariwise, Kelley (1967; 1971; 1972; 1973) has likened the lay attributor to a good scientist who examines the covariation between a given effect and its various possible causes. Focusing on the entity rather than on the actor as in Jones' and Davis's (1965) theory, Kelley outlined a theory of entity attribution whereby an individual, in attempting to reach causal attributions, uses the criteria of consensus, the extent to which others act in the same manner as the person in question; consistency, the extent to which the person acts in the same manner on different occasions; and distinctiveness, the extent to which the person acts in the same way in other situations or only in this specific situation. Through this process the perceiver may determine whether the actions of others are attributable to internal factors (i.e., dispositions), external factors (i.e., the stimuli to which others are reacting), or transient factors (i.e., something about the

specific circumstance or moment in time).

Attribution theory, then, attempts to specify the processes within the perceiver that are involved in his explanation and prediction of behavior. The elements or stages of this attribution process can be affected by any number of variables, from the perceiver's level of information to the biases inherent in different perceptual or psychological perspectives.

One of the most commonly examined variables in attribution research is that of the attributor's perspective. And of these perspective variables, none has been as systematically-studied as the actor-observer perspective as first postulated and supported by Jones and Nisbett (1971). Essentially, they argued that there is a "pervasive tendency for actors to attribute their actions to situational requirements, whereas observers tend to attribute the same actions to stable personal dispositions" (Jones & Nisbett, 1971, p. 2).

Empirical support for this actor-observer attribution bias came from several studies. Actors attributed variations in their own test performance to changes in task difficulty, while observers interpreted these same variations in terms of the actor's ability (Jones, Rock, Shaver, Goethals, & Ward, 1968); observers assigned dispositional attributions to communicator-subjects even though aware that these subjects had been instructed to adopt and support a particular view (Jones & Harris, 1967; Jones, Worchel, Goethals, & Grumet, 1971); and subjects described their best friend's choice of college major and of girlfriend in terms of dispositional characteristics of their friends, while describing their own choices in terms of properties of the college major or the girlfriend (Nisbett & Caputo, 1971; Nisbett, Legant, & Maracek, 1971).

Why should behaving individuals (actors) explain their own actions as responses to external factors, while in-

dividuals watching (observers) attribute this same behavior to internal factors? Based in part upon earlier discussions of Mischel (1968; 1969), Jones and Nisbett (1972) suggested two main reasons: differences in the types of information available to actors and observers; and differences in information processing.

The observer often bases his causal attributions solely upon what he observes in the immediate situation. Conversely, the actor has knowledge of his own personal history against which to judge his current behavior. And, in addition, the actor has knowledge of his own intentions and feeling states which may differentially affect his attributions in a given situation.

Actors and observers process information about a particular situation differently because of several factors. In general, the action is more salient to the observer than to the actor, for whom the situation has greater salience. Attentional differences guide the actor to perceive his behavior as a response to environmental forces, while the observer is wont to perceive the actor's behavior as the focal salient stimulus.

Several studies have explained attributional differences in terms of perceptual focus, or perspective. It appears that, in general, an individual will attribute causality to the object or the person upon which or whom his attention is focused.

Several researchers who have explored the relationship between attention/point of view and perceptions of causality are Duval (1972), Duval and Wicklund (1972; 1973), Duval and Cook (1974), Arkin and Duval (1975), and Taylor and Fiske (1975; 1978). Duval and Wicklund (1973, Study 2), for example, manipulated self-attention by placing a large mirror in front of experimental subjects. They found that for both positive and negative hypothetical situations, the self-attending (mirror) subjects assigned disproportionate

causality to themselves compared with control (no mirror) subjects. Taylor and Fiske (1975) enlarged upon Kanouse's (1972) suggestion that when several possible explanations are available, a perceiver may hold to the explanation which is most salient, by noting that where one's attention is directed in one's surroundings influences (sometimes overrepresentatively) what information is perceptually salient (see Taylor and Fiske, 1978, for a thorough up-date on these issues).

Michael Storms (1973, p. 166) argued: "If it is true that attributions are largely influenced by point of view, it should be possible to change the way actors and observers interpret a behavior by changing their visual orientations." Indeed, using a videotape replay of Actor 1 in the original interaction, a "getting-acquainted conversation", Storms demonstrated that actors and observers given a new visual orientation will often reverse the typical actor-observer attribution pattern. He reasoned that by observing an event from a different point of view, both actors and observers may have received totally new information; the salience of already present information may have changed for the experimental subjects, thereby affecting their attributions (Kiesler, Nisbett, & Zanna, 1969); and reorientation may have produced new response sets for the subjects: a "self-discovery" set for actors, and an "empathic" set for observers.

While Storm's (1973) study may have confounded change in visual perspective with differences in available information brought about by the videotape manipulation, Regan and Totten (1975), using the same "getting-acquainted conversation" situation, sought to alter the perspective or orientation of observers with no accompanying change in visual information. They did this by shifting "psychological" perspective. Some observers were instructed to empathize with one target conversant (after Stotland's, 1969,

"imagine him" instructions) rather than to simply observe her.

The major hypothesis, that an empathic orientation would cause observers to make relatively more situational attributions and relatively less dispositional attributions for an actor's behavior than attributions provided by standard observers, was supported. Moreover, their results indicated that the more time subjects in the empathy condition spent watching the target person, the more situational became causal attributions for her behavior. This suggested to the authors that empathic orientation affects attribution not only by affecting what the individual attends to, but also by affecting how this information is processed.

Regan and Totten (1975) explained that empathic instructions made the perspective of the observer more similar to that of the target. They suggested the possibility that empathic instructions may have induced shared emotional experience, leading to shared causal attributions, in part by directing the observer's perspective toward the environmental contingencies perceived by the actor to be salient (Schachter & Singer, 1962).

Galper (1976) also succeeded, through instructions, in inducing one group of observers to develop an empathic perspective toward an actor (who was reported to have saved an infant from an apartment-house fire at great personal risk to himself). Thus, attributors have been affected both by literal changes in perspective, and by figurative changes in perspective.

While most of the foregoing experiments emphasized the role of the observer, other investigations have emphasized self-perception and attribution of causality (eg., Regan, Gosselink, Hubsch, & Ulsh, 1975; Federoff & Harvey, 1976).

Regan et al. (1975) examined three predictions derived

from the general "need for high self-esteem" notion: Individuals should inflate evaluations of their own ability and skill; they should believe praise; and they should defend against criticism. In fact, in Experiment 1, no evidence of self-enhancement was found: actors compared with bystanders rated themselves harshly, lowered their ratings after criticism equally, and showed relief after praise. The authors noted, however, that actors might not have rated themselves lower than bystanders if no further evaluation had been anticipated (as was the case in their "no evaluation" feedback condition). Recent studies (Aronson & Linder, 1965; Mettee, 1971) had suggested that "Self-derogation as a defense mechanism is plausible only if holding a low self-opinion is less painful than the experience of losing self-esteem" (Regan et al., 1975, p. 299). A second experiment was performed in order to test this explanation.

Results of Experiment 2 showed that actors rated themselves less positively (though not significantly so) than bystanders rated them when they anticipated feedback from an interviewer. The general conclusion of both experiments was that actors rated themselves more harshly than observers rated them on an ego-involving, non-objective task. These results suggested self-derogation by actors as a defense against possible loss of self-esteem.

Using a 2x2x2 factorial design, Federoff and Harvey (1976) investigated the actor's attribution of causality for the outcome according to the effects of actor's expectancies about the outcome of an event (positive or negative), and observation of the actual outcome (positive or negative), while in a state of high or low objective self-awareness (Duval & Wicklund, 1972; 1973). Regarding attributions of causality to self, these were greater in Positive relative to Negative Outcome conditions, and the differences were decidedly more pronounced in the High than

in the Low Objective Self-Awareness conditions. Overall, however, the data showed no main effect of self-awareness on attributions to self, as was expected, but did show that self-awareness interacted with observed outcome to affect self-attributions. Thus, it is apparent that, in making attributions, both cognitive and motivational factors may be operating at any given time.

The most studied motivational factor has been the ego-protective or ego-defensive motive (Hastorf, Schneider, & Polefka, 1970). Miller and Ross (1975) reviewed the evidence both for and against the proposition that self-serving biases affect attributions of causality and found little empirical support for the general proposition. The major thrust of their argument was that any self-enhancing effect may not be due to motivational distortion, but rather to the tendency of individuals

- (a) to expect their behavior to produce success,
  - (b) to discern a closer covariation between behavior and outcomes in the case of increasing success than in the case of constant failure,
  - and, (c) to misconstrue the meaning of contingency.
- (Miller & Ross, 1975, p. 213)

Of particular relevance to this thesis are the interpersonal influence studies reviewed by Miller and Ross (1975). In these experiments, subjects instructed another individual on a particular task and, upon receiving feedback as to whether this target individual succeeded or failed at the task in question, were asked for their perceptions of the causal determinants of the target subject's performance.

Three of the studies using an interpersonal influence paradigm involved student/teacher relationships (Johnson, Feigenbaum, & Weiby, 1964; Beckman, 1970; 1973). Two of the three studies (Johnson et al., 1964; Beckman, 1970) showed that while teachers accepted credit for a child's successful performance, they avoided blame for a child's



failure by attributing it to the situation or to the dispositional characteristics of the child. Beckman (1973) subsequently showed, however, that under certain conditions, teachers may show counter-defensive attributions: that is, they may attribute both the child's failure and success to themselves more than do observers.

In a later study, Beckman (1976) examined the causal attributions of both teachers and parents (usually the mother) regarding children's classroom performance. The overall results of the study were consistent with the Johnson, Feigenbaum, and Weiby (1964) and Beckman (1970) studies which reported that teachers mentioned their own efforts more in accounting for children's successes than for their failures. The results provided little support for two earlier studies (Beckman, 1973; Ross, Bierbrauer, & Polly, 1974) which suggested that counterdefensive attributions occur among teachers. In general, there was a greater likelihood for parents to mention teaching as a factor which influenced a child's performance. Beckman (1976) ascribed a nonmotivational interpretation to the differential attributions of parents and teachers: individuals have a tendency to attribute causality to the less well-known or variable element in a situation (Kelley, 1973). For the teacher, whose own behavior in the classroom may be fairly consistent over students (or at least perceived to be so), the child represents the variable element in the situation. In contrast, parents may be more likely than teachers to see their child's performance as caused by dispositional characteristics of the teachers.

Miller and Ross (1975) also reviewed four studies which provide relatively unambiguous support for the hypothesis that attributions of causality are affected directly by task performances (Streufert & Streufert, 1969; Wortman, Costanzo, & Witt, 1973; Wolosin, Sherman, & Till,

1973, Experiments 1 and 2). Only in the latter two experiments, however, was it possible to determine the directionality of any biasing effect. Experiment 2 suggested that individuals are inclined to make self-enhancing attributions under conditions of success, but neither Experiment 1 nor 2 suggested that individuals shirk responsibility under conditions of failure.

While we are aware that success/failure outcomes may evoke differential causal attributions, this thesis will not be specifically concerned with this variable as success/failure will not be directly manipulated.

In reviewing research where various variables interact with attributions of causality following success or failure at various tasks, Miller and Ross (1975) noted that an unexpected outcome, whether success or failure, was more likely to be attributed to external factors than was an expected outcome (Feather, 1969; Feather & Simon, 1971a; 1971b; Gilmor & Minton, 1974).

Feather used balance theory (Heider, 1958) to interpret the effect of expectations of performance level as more potent determinants of causality attributions than the actual performance outcome:

A balance theory formulation assumes that positive outcomes (success) will be attributed to self when there is positive self-evaluation with respect to the performance task (high expectations of success), but will be attributed to external factors when there is negative evaluation (low expectation of success). Similarly, with failure, negative self-evaluations produce internal attributions, and positive self-evaluations yield external attributions.

(Miller & Ross, 1975, pp. 218-219)

Miller (1976) attempted to find more compelling evidence for the idea that self-protective and/or self-enhancing biases may alter attributions of causality. He introduced an involvement manipulation after subjects had completed a bogus social perceptiveness test (adapted from one

used by Wortman et al., 1973), but before they received their performance feedback. In the high involvement condition, the social perceptiveness test (SPS) was described as a well-established valid test and the experimenter displayed an impressive, professionally printed folder labeled "Social Perception Scale". In the low involvement condition, the Scale was described as recently developed, and the experimenter further intimated that the test had not correlated so far with any of the other factors known to be associated with social perceptiveness. A dog-eared manilla file folder was brought in to augment the low involvement manipulation.

Consistent with previous research, subjects assumed more personal responsibility for success than for failure. Moreover, this outcome effect was more pronounced the more valid and important the social perceptiveness test was presented as being. Subjects engaged in more self-protective attributions under the high-involvement than low-involvement failure conditions. That is, high involvement failure subjects attributed more responsibility for their performance to luck and less to their ability and effort than did low-involvement failure subjects. Some evidence also indicated that high-involvement success subjects engaged in more self-enhancing attributions (indicating that their performance was more affected by their ability) than did low-involvement success subjects. Overall, however, the involvement manipulation had greater impact upon attributions under the failure condition than under the success condition.

In summary, both informational and motivational biases must be taken into account when studying actor-observer attributional differences.

One variable that has received limited attention in the literature is the role of temporal perspective on causal attributions. Many researchers have examined retro-

spective attributions - causal attributions measured immediately after an experimental event. Indeed, there is a pervasive emphasis in the body of experimental literature upon post hoc explanations of behavior. But few social scientists have investigated either predictive attributions or attributions removed in time from the event in question. This thesis will attempt to determine the extent and direction of possible actor-observer differences in causal attribution ascribable to variations in the time of measurement.

Several investigators have examined predictive attributions, but these have generally involved trait attributions (such as ratings of attractiveness) based upon information given the subject in anticipation of future interaction with the stimulus person, rather than causal attributions of observed behavior (eg., Mirels & Mills, 1964; Lerner, Dillehay, & Sherer, 1967; Berscheid, Boye, & Darley, 1968; Eiser & Tajfel, 1972; Stokols & Schopler, 1973; de la Haye, 1975; Zucker, 1976).

But we know that predictive attributions, or "expectancies", are all-important. Such causal explanations affect how we approach an event; how we interact during an event; and how we interpret an event both during and after the given experience (Rosenhan, 1973; Regan, Straus, & Fazio, 1974; Miller & Norman, 1975; Miller & Holmes, 1975; Miller, Norman, & Wright, 1978).

It has already been well-documented that others' perceptions of our own behavior can have "self-fulfilling" and therefore, critical effects, upon this same behavior (Rosenthal & Jacobson, 1966; Meichenbaum, Bowers, & Ross, 1969; Seaver, 1973).

Far more work considering self-directed perceptions and attitudes (i.e., self-concept) has been done (e.g., Felker & Stanwyck, 1971; Rosenthal, J.H., 1973) than research examining other-directed perceptions and attitudes.

Yet causal expectancies of others' behavior should have just as important an influence upon an individual's interaction with and understanding of his world as have his own self-expectations.

Miller and Holmes (1975), for example, examined expectancies within a zero-sum game situation. They modified the traditional Prisoner's Dilemma (PD) game as used, for example, by Kelley and Stahelski (1970), to allow players with cooperative orientations to avoid both behavioral assimilation and exploitation when confronting players with competitive orientations. Their expanded Prisoner's Dilemma game matrix (EPD), therefore, unlike the traditional PD matrix, allowed for a defensive move that was distinguishable from an exploitative move. Their experimental finding of relevance to this thesis, however, was the observation of a high degree of internal consistency between the interaction patterns observed and pre-interactional perceptual and expectational data.

Thus, examination of predictive causal attributions appears critical when one considers that such initial attributions may initiate and/or perpetuate, for example, either cooperative or competitive response sets. Differential expectations may lead to either understanding or misunderstanding in interpersonal interactions.

The other temporal perspective that has received little systematic study is that of delayed causal attributions - attributions made some time after the event in question. It seems reasonable to conjecture that such attributions may change over time because of changes in informational and/or motivational factors.

Of relevance to the discussion of delayed temporal perspective in causal attributions is the work of Tesser and his colleagues (e.g., Sadler & Tesser, 1973; Tesser & Conlee, 1975; Tesser & Leone, 1977; and Tesser, 1978). These investigators examined self-generated attitude change,

that is, how simply thinking about some attitude object alters an individual's beliefs and feelings toward that attitude object. Their main hypothesis is: "Since thought tends to make beliefs more evaluatively consistent and attitudes are a function of beliefs, thought will tend to polarize attitudes" (Tesser, 1978, p. 290).

The empirical evidence from their many studies support the conclusion that, with the passage of time, thinking about some particular attitude object in the absence of any new information will tend to produce attitude polarization. Initially positive attitudes become more positive over time; initially negative attitudes become more negative over time (e.g., Sadler & Tesser, 1973). They also found a greater probability that thought would result in attitude polarization when there was greater development or articulation of a cognitive schema for thought (Tesser & Leone, 1977). Since causal attribution is no less a cognitive process than is attitude change (either self or other-generated), it seems logical to predict that causal attributions will also polarize over time.

Miller and Haqq (in preparation) recently examined immediate and delayed causal attributions and found greater motivational biases in causal attribution (i.e., greater external attributions for failure) immediately after students received their marks on a Social Psychology midterm exam than they found one week later. In this highly ego-involving situation, attributions became less defensive over time, with students ascribing more personal responsibility at time 2, one week after the exam (Study 1).

Extending Miller's and Haqq's (in preparation) observations, this thesis considered the role of temporal perspective - predictive, immediately after, and delayed - in conjunction with actor-observer biases, on causal attributions.

The context in which such attributions were studied

was one familiar to all subjects - the student/teacher interpersonal influence situation. Efforts were made to minimize both deception and ego-threatening factors in this experiment.

Our hypotheses were based in part upon the attribution research that has been conducted in the past, and in part upon the inferences made from research in related areas, such as attitude change. Because this study was partially exploratory in nature, the hypotheses were purposefully more global than the hypotheses which may, heuristically, come from subsequent studies.

The experimental hypotheses were:

1. Across conditions, actors will make greater situational attributions than will observers (Jones & Nisbett, 1971). Due to differential cognitive (e.g., historical knowledge) and motivational (e.g., self-esteem) factors, including variations in perceptual and psychological focus, actors have empirically been found to differ from observers in their ascriptions of causality (e.g., Jones & Nisbett, 1972; Duval & Wicklund, 1972; 1973; Storms, 1973; Regan & Totten, 1975; Miller, 1976; Miller, Norman, & Wright, 1978).
2. Actor-observer attributional differences will increase over time (Tesser, 1978). In the absence of additional information, attributions of actors will become more situational over time, whereas attributions of observers will become more dispositional over time. The rationale for this hypothesis stems from the work of Tesser and colleagues (as summarized, for example, in Tesser, 1978) on polarization of self-generated attitude change.

## Method

### Subjects:

The subjects were 114 female undergraduates at the University of British Columbia (mean age = 19.9 years) who were initially contacted either in person or by telephone. Most had previously volunteered their names for the human subject pool in Psychology.

Fourteen of these subjects were subsequently dropped from the analyses: two were roommates, and data from 12 others (six subject pairs) were incomplete. Thus, data from 100 subjects, 10 in each specific condition, were used in the analyses. (See Appendix 1 for racial/ethnic background of subjects, experimenter, and student/confederate.)

### Design:

The experiment was basically a 2x3 factorial design with two role perspectives (actor/teacher; passive observer) and three time perspectives (prediction; immediately after experimental session; and delay - one week post experimental session).

A videotape control condition was introduced in the delay condition as a control for memory. As videotape replay also introduces a new perspective and new information for the actor/teacher, a videotape control condition was also added in the immediately after condition.

### Cover Story:

The experiment was described as a study of the dynamics of student/teacher interaction. Subjects were told that the student involved in this student/teacher interaction would be the author's 10½ year old daughter. (The student/confederate was paid \$1.00 per session and was promised a financial bonus at the end of the data collection.)

All subjects were advised of the possibility of being asked to return for a second part of the study one week



after initial participation. Subjects were randomly assigned to role and temporal condition when scheduled to participate in the experiment. They were not told that subjects would be run in pairs.

Independent Variables:

Role manipulation and perspective manipulation:

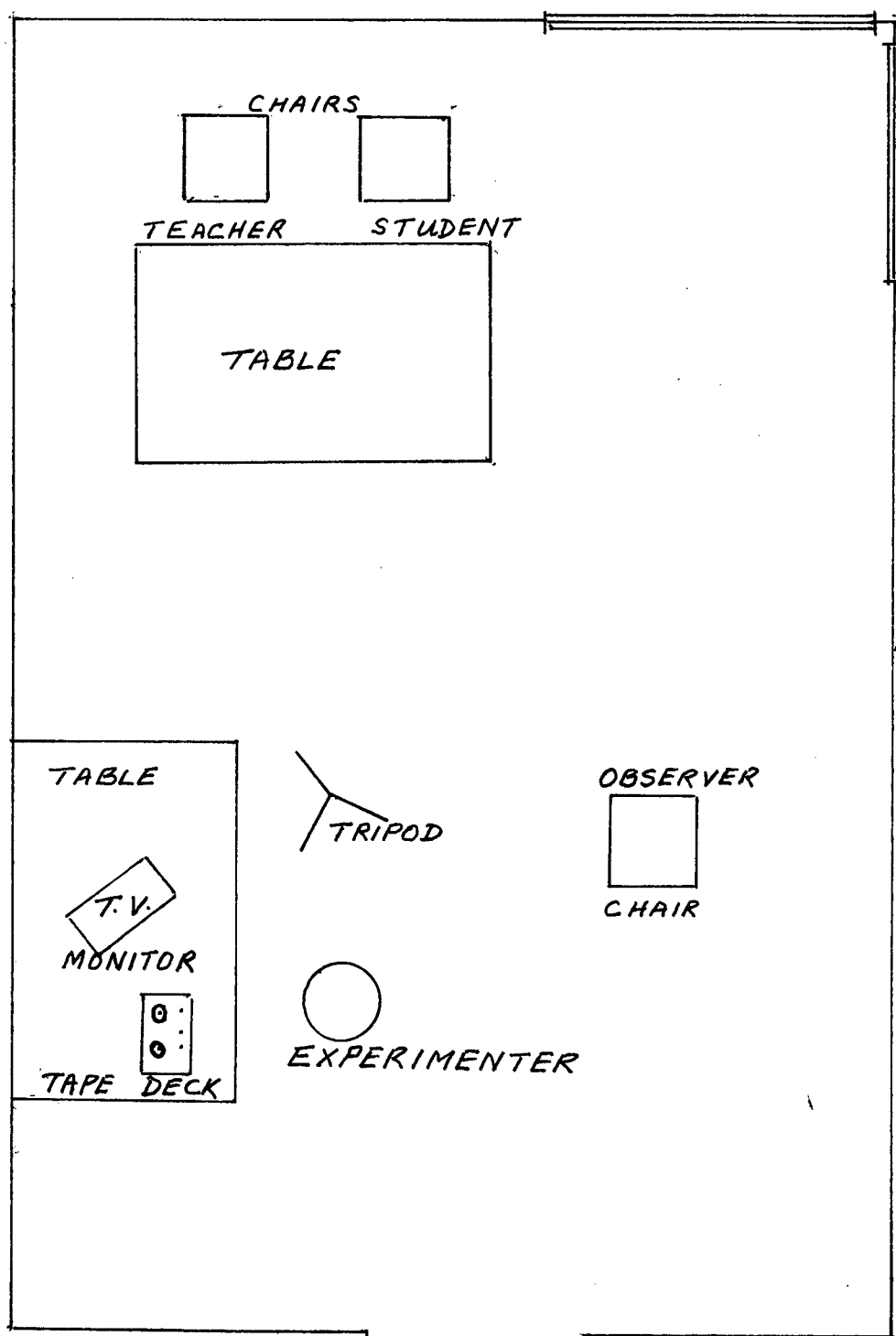
Subjects were randomly assigned to either actor/teacher or passive observer roles. These roles and the tasks pertaining to them were thoroughly explained on the introductory page of the experimental booklet.

At the same time, subjects were randomly assigned in pairs to either the prediction, immediately after, or delay conditions. This manipulation was operationalized through the wording in the experimental booklets together with the experimental procedures. (See Appendix 2 for the permission form and experimental booklet as presented in the experiment.)

Procedure:

Subjects arrived at the experimenter's office and were subsequently led to the experimental room (Figure 1), accompanied by the student/confederate. They were welcomed and assigned seats appropriate to their role. Each subject gave her written consent to participate in the experiment and filled in the demographic information of age and university level (years at university).

Teachers were instructed to teach the student the meaning of three words - one noun, one verb, and one adjective. After learning the meaning of each word, the criterion was for the student to use the word in her own original sentence. It was emphasized that these words were ones not previously known by the student. There was no time limit for this assignment and the teacher was encouraged to use whatever method she thought would be most effective in teaching the three words. A blackboard and dictionary were provided for her use.



SCALE 1" = 2'

Figure 1. Diagram of experimental setting.

Observers were given the same information as the actor/teachers, but were told, "You have been randomly assigned to observe the other subject as she teaches the student the meaning of three words."

Both were told that their reactions to the interaction would be tapped after the teaching session and that the experimenter would be videotaping the interaction so that she could review the session at a later time. (Thus, all interactions were videotaped as a control for initial differential processing and reactions, but only those subjects in the video conditions - either immediately after or delay - saw the videotape replay.)

The actor/teacher randomly selected the three words (on one 3x5 index card) from a box, and showed them to the observer before beginning to teach.

All of the student/teacher interactions in the immediately after and delay conditions were timed with a stopwatch with the number of minutes recorded rounded to the nearest minute.

#### Stimulus Words:

Words were selected from Computational analysis of present day American English, by H. Kučera and W.N. Francis (1967). From a corpus of 1,014,232 words taken from 15 genres, with each of the 15 samples containing about 2,000 words, the stimulus words used were those not yet understood by the student/confederate ranging from a frequency of occurrence of 45 down through a frequency of two. Stimulus words used in the various conditions are appended (Appendix 3).

#### Prediction condition:

After reading the introductory page describing the experimental task, subjects in the prediction condition were told on the following page:

Before the actual teaching session, it would be helpful for us to have your preliminary reactions to student/teacher interactions. There are no right or

wrong answers to these questions; we are primarily concerned with your own opinions. Please answer these questions independently.

They then completed all of the dependent measures in the experimental booklet.

Immediately after condition - No video:

Upon reading the introductory page describing the experimental task, subjects followed instructions and the actor/teacher taught the student the meaning of the three words while the observer watched the interaction. The experimenter videotaped the interaction but did not replay the tape before asking the subjects to complete the dependent measures.

Immediately after condition - Video control:

The procedure was identical to the immediately after, no video condition, except that the experimenter replayed the videotape of the immediately preceding interaction before asking the subjects for their reactions.

Delay condition - No video:

After reading the introductory page of instructions, the teacher taught the student the three words while the observer watched. At the end of the interaction, however, these subjects read:

This marks the end of this part of the study. You are requested to return one week from now in order to participate in a second part. Please arrange an appointment with the experimenter that is convenient for all concerned. Thank you.

Upon returning the following week, these subjects completed the dependent measures in answer to "Recalling last week's teaching session, it will be helpful for us to have your reactions to the student/teacher interactions involved...".

Delay condition - Video control:

The procedure was identical to the no video delay condition except that returning subjects read:

Before obtaining your reactions to the student/

teacher interaction you may find it helpful to see the videotape replay of the session...The experimenter will now run the videotape.

Dependent measures were then completed.

#### Debriefing:

Upon completion of the experimental questionnaire all subjects were fully debriefed and asked not to reveal the nature or the particulars of the experiment to anyone who was a potential participant. The rationale for the experimental hypotheses and for the experimental design was explained in detail. They were thanked for their cooperation.

#### Dependent measures:

Items on the experimental questionnaire constituted the dependent variables in this study. These questions addressed the perceived causal attributions of actor/teacher and observer toward the teacher, the situation, and the student. (For convenience, examples given use the "Observer - Immediately After" condition wording.)

For the three principal dependent measures subjects were asked to consider the following questions together and apportion responsibility according to what they thought occurred (the total need not add up to 100%):

1. To what extent was the outcome of the teaching session due to the personal qualities of the teacher - her ability, effort, interest, presentation, etc.? \_\_\_\_\_ %.
2. To what extent was the outcome due to characteristics of the situation - the task, the words drawn, etc.? \_\_\_\_\_ %.
3. To what extent was the outcome due to characteristics of the student - her learning ability, motivation, etc.? \_\_\_\_\_ %.

The following factors pertaining to the teacher were rated on 5-point scales whose end points were labeled "Not at all important...Very important", for items one through four, and "Not at all difficult...Very difficult" for item five:

1. Of what importance was the teacher's general teaching ability in determining the outcome of the teaching session?
2. Of what importance was the teacher's random selection of the three words in determining the outcome of the teaching session?
3. Of what importance was the teacher's interest and effort in determining the outcome of the teaching session?
4. Of what importance was the difficulty level of the task in determining the outcome of the teaching session?
5. How difficult do you estimate the task to have been?

The following factors pertaining to the student were also rated along 5-point scales whose end-points were labeled "Not at all important...Very important":

1. Of what importance was the student's general scholastic ability in determining the outcome of this teaching session?
2. Of what importance was her aptitude for learning word meanings in determining the outcome of this teaching session?
3. Of what importance was her adjustment to a novel learning situation in determining the outcome of this teaching session?
4. Of what importance was the student's attention and motivational level in determining the outcome of this teaching session?

(These preceding student items were adapted from Ross, Bierbrauer, and Polly, 1974.)

An additional open-ended question was asked to see if other factors not specifically addressed in the questionnaire were perceived as important in student/teacher interactions. Subjects were given a page headed: "Please list or discuss any other factors which you perceive to be important in any student/teacher interaction:".

A final question asked, "Have you had any experience in teaching - for example, as a classroom teacher, religion teacher, camp leader, sports coach, etc.? \_\_\_ No; \_\_\_ Yes If="Yes", please specify: \_\_\_\_\_".

### Results

A preliminary 2x2x2 factorial analysis (teacher versus observer; immediately after versus delay; no video versus video) revealed neither main effects nor interaction effects involving the no video/video manipulation (see Appendix 4 for no video/video table of means). Consequently, this variable was dropped from subsequent analyses and all further analyses were based on 2x3 analyses of variance (actor versus observer; immediately after versus delay versus prediction), with subjects in the no video/video conditions pooled. Thus, data from 40 subjects in the immediately after condition, 40 subjects in the delay condition, and 20 subjects in the prediction condition were included in the analyses, 50 actor/teachers and 50 observers in total. (A raw data listing and data code may be found in Appendix 5.)

#### Analyses of Free Response Measures:

In answering the request to "Please list or discuss any other factors which you perceive to be important in any student/teacher interaction", a highly significant difference among temporal conditions was found in the number of words written,  $F(2,94) = 8.1645$ ,  $p < .0006$ . Subjects in the prediction condition generated a mean of 26.300 words; subjects in the immediately after condition generated a mean of 48.625 words; and subjects in the delay condition generated a mean of 62.050 words. The experimental manipulation seemed to produce differences in attributional set: after having actually watched the student/teacher interaction, subjects were able to write more on the topic.

Experience in teaching had no significant effect upon the dependent measures.

#### Analysis of Time Measurement:

There were no significant effects due to differences in amount of time taken to teach the student the three word meanings (mean for immediately after subjects = 10.5

minutes; mean for delay subjects = 11.85 minutes). Teaching times ranged from 2 through 25 minutes across the two conditions.

#### Analyses of Demographic Variables:

"Age" and "University level" were modestly correlated with each other ( $r = .3382$ ), as one might expect, but were not significantly related to any of the dependent measures. (See Appendix 6 for the correlation matrix of demographic items and dependent measures.)

#### Differences between Actors and Observers in Attributions to the Situation:

It was hypothesized that across conditions, actors would make greater situational attributions than would observers (Jones & Nisbett, 1971). In fact, no significant main effect emerged, but a strong trend,  $F(1,94) = 3.3731$ ,  $p < .07$ , indicated that, contrary to expectation, observers overall attributed greater responsibility to the situation (mean = 37.460) than did actor/teachers (mean = 29.540). (See Table I for Mean Attributions of Actors and Observers toward Teacher, Situation, and Student.)

No significant differences between actors and observers were found in individual analyses of attributions to luck or task, both situational factors. (See Table II for Analyses of Variance Summary Tables for All Dependent Measures.)

#### Polarization of Actor-Observer Attributions:

It was hypothesized that actor-observer attributional differences would increase over time (Tesser, 1978). That is, attributions of actors would become more situational over time, whereas attributions of observers would become more dispositional over time. This hypothesis was not supported ( $F < 1$ ). The pattern of attributions to the situation over time, however, was identical for both actors and observers: Prediction condition, mean for actors = 24.000, mean for observers = 34.300; immediately after, mean for actors = 32.000, mean for observers = 39.750; delay condition,



mean for actors = 29.850, mean for observers = 36.750 (Table I).

### Ancillary Results:

#### Attributions toward the Teacher:

A significant temporal difference was found in attributions toward the teacher's general teaching ability,  $F(2,94) = 4.0409$ ,  $p < .02$ . Both actors and observers attributed the most ability to the teacher in the prediction condition (mean = 4.4); lesser ability in the delay condition (mean = 3.9); and least ability in the immediately after condition (mean = 3.7). Analyses showed no other significant effects for teacher factors. (See Table III for Mean Attributions toward Teacher and Task Factors.)

#### Attributions toward the Student:

Attribution toward the student's aptitude for learning word meanings reflected a significant interaction effect,  $F(2,94) = 3.2862$ ,  $p < .04$ . For actors, the greatest attribution occurred in the delay condition (mean = 4.550), followed by the prediction condition (mean = 4.000), and finally in the immediately after condition (mean = 3.900). The opposite pattern occurred for observers. Their greatest attribution toward the student's aptitude for learning word meanings occurred in the immediately after condition (mean = 4.300), followed by the prediction condition (mean = 4.200), and lastly by the delay condition (mean = 4.050). No other significant effects regarding student factors were present. (See Table IV for Mean Attributions toward the Student.)

### Summary:

Examination of Table I shows that, over time, there was a tendency for actor/teachers to swing from greater attributions toward the teacher (themselves) in the prediction condition, to greater attribution toward the student in the delay condition.

Observers' attributions, overall, show less variability. For observers, attributions toward the teacher

and student were more nearly equal in the immediately after condition than in the prediction and delay conditions, where greater responsibility was ascribed to the teacher.

TABLE IMEAN ATTRIBUTIONS OF ACTORS AND OBSERVERS TOWARD TEACHER,  
SITUATION, AND STUDENT

(In percentages - totals need not add up to 100%)

<u>ACTORS</u>				
	<u>Prediction</u>	<u>Immediately</u> <u>After</u>	<u>Delay</u> <u>(One week)</u>	<u>Overall</u>
<u>Teacher</u>	53.000	49.250	44.400	48.060
<u>Situation</u>	24.000	32.000	29.850	29.540
<u>Student</u>	43.000	48.600	54.000	49.640

<u>OBSERVERS</u>				
	<u>Prediction</u>	<u>Immediately</u> <u>After</u>	<u>Delay</u> <u>(One week)</u>	<u>Overall</u>
<u>Teacher</u>	51.300	51.750	55.000	52.960
<u>Situation</u>	34.300	39.750	36.750	37.460
<u>Student</u>	44.300	52.750	50.800	50.280

TABLE IIANALYSES OF VARIANCE SUMMARY TABLES FOR ALL DEPENDENT MEASURESAnalysis of Variance for Teacher

Source	<u>df</u>	<u>SS</u>	<u>MS</u>	<u>F</u>	Prob.
Role	1	600.250000	600.249756	1.7994	0.1796
Time	2	80.040000	40.019989	0.1200	0.8825
Interaction	2	600.300000	300.149902	0.8998	0.4127
Error	94	31356.40000	333.578613		
Total	99	32636.99000			

Analysis of Variance for Situation

Source	<u>df</u>	<u>SS</u>	<u>MS</u>	<u>F</u>	Prob.
Role	1	1568.160000	1568.159912	3.3731	0.0660
Time	2	605.675000	302.837402	0.6514	0.5286
Interaction	2	39.015000	19.507492	0.0420	0.9479
Error	94	43700.15000	464.895020		
Total	99	45913.00000			

Analysis of Variance for Student

Source	<u>df</u>	<u>SS</u>	<u>MS</u>	<u>F</u>	Prob.
Role	1	10.240000	10.240000	0.0222	0.8543
Time	2	1054.915000	527.457275	1.1425	0.3239
Interaction	2	272.835000	136.417496	0.2955	0.7486
Error	94	43395.85000	461.657959		
Total	99	44733.84000			

Analysis of Variance for Teacher's General Teaching Ability

Source	<u>df</u>	<u>SS</u>	<u>MS</u>	<u>F</u>	Prob.
Role	1	3.600000E-01	3.600000E-01	0.4435	0.5143
Time	2	6.560000	3.280000	4.0409	0.0204
Interaction	2	1.400000E-01	6.999999E-02	0.0862	0.9101
Error	94	76.300000	8.117021E-01		
Total	99	83.360000			

Analysis of Variance for Random Selection of 3 Words (Luck)\*

Source	<u>df</u>	<u>SS</u>	<u>MS</u>	<u>F</u>	Prob.
Time	2	3.900000	1.950000	1.0184	0.3763
Subjects	27	51.700000	1.914814	1.5341	0.1361
Role	1	3.266667	3.266666	2.6172	0.1136
Interaction	2	2.033333	1.016666	0.8145	0.4568
Error	27	33.700000	1.248148		
Total	59	94.600000			

Analysis of Variance for Teacher's Effort\*

Source	<u>df</u>	<u>SS</u>	<u>MS</u>	<u>F</u>	Prob.
Time	2	6.333333E-01	3.166667E-01	0.3379	0.7203
Subjects	27	25.300000	9.370370E-01	1.5150	0.1432
Role	1	6.666667E-02	6.666666E-02	0.1078	0.7409
Interaction	2	2.333333E-01	1.166666E-01	0.1886	0.8287
Error	27	16.700000	6.185185E-01		
Total	59	42.933333			

\* Due to dependency within actor-observer data, "luck", "Teacher's effort", and "Student's attention and motivation", were analyzed by a repeated measures analysis of variance.

Analysis of Variance for Importance of Difficulty of Task

Source	<u>df</u>	<u>SS</u>	<u>MS</u>	<u>F</u>	Prob.
Role	1	1.000000	1.000000	1.1576	0.2847
Time	2	4.000000E-02	2.000000E-02	0.0232	0.9650
Interaction	2	1.200000	6.000000E-01	0.6946	0.5064
Error	94	81.200000	8.638297E-01		
Total	99	83.440000			

Analysis of Variance for How Difficult Was Task?

Source	<u>df</u>	<u>SS</u>	<u>MS</u>	<u>F</u>	Prob.
Role	1	2.250000	2.250000	2.4255	0.1186
Time	2	2.250000	1.124999	1.2127	0.3020
Interaction	2	1.050000	5.250000E-01	0.5659	0.5752
Error	94	87.200000	9.276596E-01		
Total	99	92.750000			

Analysis of Variance for Student's General Scholastic Ability

Source	<u>df</u>	<u>SS</u>	<u>MS</u>	<u>F</u>	Prob.
Role	1	1.210000	1.209999	1.4820	0.2243
Time	2	1.815000	9.075000E-01	1.1115	0.3341
Interaction	2	2.815000	1.407499	1.7238	0.1819
Error	94	76.750000	8.164893E-01		
Total	99	82.590000			

Analysis of Variance for Student's Aptitude for Words

Source	<u>df</u>	<u>SS</u>	<u>MS</u>	<u>F</u>	Prob.
Role	1	-5.684342E-14	-5.684342E-14	-0.0000	1.0000
Time	2	9.600000E-01	4.800000E-01	0.7337	0.4871
Interaction	2	4.300000	2.150000	3.2862	0.0407
Error	94	61.500000	6.542553E-01		
Total	99	66.760000			

Analysis of Variance for Student's Adjustment to a Novel Situation

Source	<u>df</u>	<u>SS</u>	<u>MS</u>	<u>F</u>	Prob.
Role	1	1.690000	1.690000	1.7592	0.1846
Time	2	2.300000	1.150000	1.1971	0.3067
Interaction	2	4.600000E-01	2.300000E-01	0.2394	0.7896
Error	94	90.300000	9.606383E-01		
Total	99	94.750000			

Analysis of Variance for Student's Attention and Motivation\*

Source	<u>df</u>	<u>SS</u>	<u>MS</u>	<u>F</u>	Prob.
Time	2	1.033333	5.166667E-01	1.8117	0.1810
Subjects	27	7.700000	2.851852E-01	0.8280	0.6865
Role	1	0.000000E+00	0.000000E+00	0.0000	1.0000
Interaction	2	7.000000E-01	3.500000E-01	1.0161	0.3771
Error	27	9.300000	3.444444E-01		
Total	59	18.733333			

\* Repeated measures analysis of variance, see p. 29.

Analysis of Variance for Words (Free Response Measure)

Source	<u>df</u>	<u>SS</u>	<u>MS</u>	<u>F</u>	Prob.
Role	1	930.250000	930.249756	0.8885	0.3509
Time	2	17095.435000	8547.714844	8.1645	0.0006
Interaction	2	3172.575000	1586.287354	1.5152	0.2235
Error	94	98412.650000	1046.942871		
Total	99	119610.910000			

Analysis of Variance for Yes/No (Have you taught before?)

Source	<u>df</u>	<u>SS</u>	<u>MS</u>	<u>F</u>	Prob.
Role	1	1.000000E-02	9.999998E-03	0.0500	0.8077
Time	2	1.090000	5.450000E-01	2.7250	0.0690
Interaction	2	6.900000E-01	3.450000E-01	1.7250	0.1817
Error	94	18.800000	2.000000E-01		
Total	99	20.590000			

Analysis of Variance for Minutes (Time taken to teach 3 words)\*\*

Source	<u>df</u>	<u>SS</u>	<u>MS</u>	<u>F</u>	Prob.
Role	1	-9.094947E-13	-9.094947E-13	-0.0000	1.0000
Time	1	36.450000	36.449997	1.2878	0.2591
Interaction	1	9.094947E-13	9.094947E-13	0.0000	0.9505
Error	76	2151.100000	28.303940		
Total	79	2187.550000			

\*\* This is a collapsed (no video/video) 2x2 Anova (actor versus observer; immediately after versus delay).



TABLE IIIMEAN ATTRIBUTIONS OF ACTORS AND OBSERVERS TOWARD TEACHER  
AND TASK FACTORS

(Rated on scale from 1 = Not at all important; to  
5 = Very important)

ACTORS

	<u>Prediction</u>	<u>Immediately</u> <u>After</u>	<u>Delay</u> <u>(one week)</u>	<u>Overall</u>
Teacher's general teaching ability *	4.400	3.800	3.950	3.980
Random selection of three words	1.900	2.600	2.800	2.540
Teacher's effort	<del>4.100</del> 4.100	<del>4.100</del> 4.100	<del>4.200</del> 4.200	<del>4.140</del> 4.140
Importance of difficulty of task	3.500	3.850	3.750	3.740
How difficult was task?	3.600	3.000	3.200	3.200

OBSERVERS

	<u>Prediction</u>	<u>Immediately</u> <u>After</u>	<u>Delay</u> <u>(one week)</u>	<u>Overall</u>
Teacher's general teaching ability *	4.400	3.600	3.850	3.860
Random selection of three words	2.800	2.700	2.700	2.720
Teacher's effort	4.200	4.000	4.100	4.080
Importance of difficulty of task	4.100	3.850	3.950	3.940
How difficult was task?	3.700	3.550	3.350	3.500

\* Significant temporal effect,  $F(2,94) = 4.0409$ ,  $p .02$

TABLE IV

MEAN ATTRIBUTIONS OF ACTORS AND OBSERVERS TOWARD THE STUDENT

(Rated on scale from 1 = Not at all important; to  
5 = Very important)

ACTORS

	<u>Prediction</u>	<u>Immediately</u> <u>After</u>	<u>Delay</u> <u>(one week)</u>	<u>Overall</u>
Student's general scholastic ability	3.700	3.800	3.900	3.820
Student's aptitude for word meanings*	4.000	3.900	4.550	4.180*
Student's adjustment to novel situation	3.600	3.850	4.050	3.880
Student's attention and motivation	4.400	4.400	4.650	4.500

OBSERVERS

	<u>Prediction</u>	<u>Immediately</u> <u>After</u>	<u>Delay</u> <u>(one week)</u>	<u>Overall</u>
Student's general scholastic ability	3.500	3.950	3.300	3.600
Student's aptitude for word meanings*	4.200	4.300	4.050	4.180
Student's adjustment to novel situation	3.300	3.750	3.650	3.620
Student's attention and motivation	4.100	4.600	4.700	4.540

\* Significant interaction effect,  $F(2,94) = 3.2862$ ,  $p .04$

## Discussion

### Methodological Considerations:

From the methodological point of view, there could be several reasons why the hypotheses were not confirmed. A five-point rating scale may have been insensitive to finer articulations of the respective attributions obtained. Psychometrically-speaking, a seven-point rating scale may have allowed for greater variability in causal attributions. Also, this study asked for tripartite attributions toward the teacher, the situation, and the student, while other actor-observer attribution studies employing a student/teacher interpersonal influence paradigm have used only dichotomous dependent measures, asking only for attributions toward the "teacher" and attributions toward the "situation", with attributions toward the student being subsumed under "situation". Examination of the correlation matrix for all variables (Appendix 6), however, revealed a low correlation between "situation" and "student" ( $r = .3020$ ), thereby lending credibility to the tripartite approach. As these two variables share such a small percentage of variance in common, it is likely that there are qualitative differences existing between them.

Regarding the polarization hypothesis, it may well be that such a phenomenon might be better or more appropriately studied using a within-subject rather than a between-subject design.

### Actor-Observer Differences:

The finding of greatest interest in this experiment was the reversal in the direction of actor-observer differences as predicted by the Jones and Nisbett (1971) hypothesis. Across conditions, actor/teachers attributed far less responsibility for experimental outcome to the situation than did passive observers. The pattern of attributions to the situation was the same for both actors and observers: the greatest attribution to the situation

occurred immediately after the experimental session; a lesser proportion of responsibility was attributed to the situation seven days after the experimental session; and the least relative attribution to the situation occurred in the prediction condition. It is apparently the case that actors' and observers' attributions do differ, but not always in the manner predicted by Jones and Nisbett (1971).

Empirical evidence from other research as well has suggested possible limitations to the Jones and Nisbett (1971) actor-observer hypothesis. In some situations actors attributed more responsibility to themselves for their own behavior and the consequences of their behavior than did observers (e.g., Bell, 1974; Langer & Roth, 1975; Miller & Norman, 1975). In other situations actors have claimed that they are less influenced by situational forces than are other persons (e.g., Bell, 1974; Freedman, 1969; Wolosin, Sherman, & Mynatt, 1972). Actors have made more dispositional attributions than have observers and in some circumstances observers have made more dispositional inferences than have actors (e.g., Feather & Simon, 1971a; Wolosin, Sherman, & Till, 1973; Ross, Bierbrauer, & Polly, 1974; Taylor & Koivumaki, 1976).

Actors, because they know both the historical and current antecedents of their behavior, should be better able than observers to correctly identify the causes of their own behavior. They should be better able to appreciate the covariation (Kelley, 1972) between their behavior and possible situational and dispositional causes, and should also be better able to note cross-situational consistencies or variabilities in their own behavior. On the other hand, actors have been shown to incorrectly misattribute dispositional causes for their behavior when in fact this behavior had come about as a result of situational manipulations (e.g., Nisbett & Schachter, 1966;

Valins, 1966; Davison & Valins, 1969).

For situations where the behavior in question is to a great extent dispositionally determined, actors ought to accurately perceive the dispositional causation of their behavior (Miller & Norman, 1975). Brickman, Ryan, and Wortman (1975), who systematically studied the attribution of personal responsibility as a function of prior and immediate causes, have suggested that the actor should be more likely than the observer to attribute dispositional reasons for behaviors for which there are prior dispositional causes known only to the actor. In this present study, 37 of the 50 actor/teachers reported previous teaching experience.

Monson and Snyder (1977), responding to Wachtel's (1973) suggestion that the situational forces to which an actor responds is often of his/her own making, proposed that actors will make more dispositional attributions than will observers for behaviors undertaken in situations chosen by the actor; whereas actors will make more situational attributions about their behaviors than will observers for behaviors undertaken in situations not chosen by the actor.

Subjects volunteered for this study understanding that the study dealt with the dynamics of student/teacher interaction, and that the student involved was the author's 10½ year old daughter. Thus, it was logical for them to presume that they had volunteered or chosen to teach something to a young student.

Monson and Snyder (1977, pp. 101-102) summarize:

Only in specially constructed laboratory contexts (or for naturally occurring events) that permit attributions about behaviors that are (a) dispositional, (b) performed in situations chosen and/or controllable by the actor, (c) performed in the presence of neutral or inhibitory situational factors, (d) similar to previously manifested behaviors, (e) consistent with prior attributions, and (f) part of a causal chain with prior dispositional causes, will an actor's self-attributions be more disposi-

tional than the attributions of an outside observer.

Such conditions were apparently perceived by the actor/teachers to exist. Only the actors would have access to informational or historical bases regarding their teaching ability. Only the actors would have been in a position to perceive personal freedom of choice and consistency with prior behavior.

In addition to these informational bases which might explain the actors' greater relative attribution of responsibility to themselves, there are a number of motivational factors which should be considered.

Miller and Norman (1975), using the familiar Prisoner's Dilemma game situation, compared actors' own perceptions with those made by passive observers and found that actors attributed more personal responsibility to themselves than did passive observers. These authors concluded that the need of the actor to see himself as exercising effective control over his environment mediated their experimental results.

The results of this thesis suggest the same type of motivational interpretation. Actor/teachers attributed far less responsibility to the situation than they attributed to either themselves or to the student. This is consistent with an effectance motive. The actor/teachers had a need to see themselves as exercising or having control in the experimental situation.

The operationalization of this experiment also lent itself to a presumption of control on the part of the actor/teacher. She had an unlimited amount of time in which to teach the three words, and she had access to a dictionary for any help in defining or giving examples for a particular word. Only two of the fifty teachers refrained from using the dictionary which was placed on the table at which both teacher and student were seated.

This tendency or need for people to believe that they

have environmental control is an integral concept in several psychological theories. White (1959) postulated the notion of effectance, wherefrom your feelings about your (in)ability to cope with your environment determines how (un)favorably you view yourself. He argued that a sense of competency is basic to the development and stability of self-esteem. In the same vein, DeCharms (1968) has spoken of originship, or the origin-pawn dimension of self-concept, and Rotter (1966) has spoken in terms of locus of control.

Kelley (1971) has also considered the interaction between attribution processes and the need to perceive oneself as exercising effective control: "Attribution processes are to be understood, not only as a means of providing the individual with a veridical view of his world, but as a means of encouraging and maintaining his effective exercise of control in that world" (Kelley, 1971, p.22).

An effectance motive is only one of a number of indications of the need to view oneself in a positive way. Other manifestations of this more general need are the drives for self-enhancement, self-protectiveness, and self-consistency (cf. Feather, 1969; 1971; Heider, 1958; Kelley, 1967).

Miller and Norman (1975) pointed out that should these motives be in opposition to one another, the likeliest resolution would be for the motive which best promoted a positive image of oneself to triumph. Thus, actor/teachers may have maintained a more positive self-evaluation by ascribing a greater proportion of responsibility to the student than they would have by ascribing more responsibility to themselves, or a more nearly equal proportion of responsibility between themselves and the student.

DeCharms (1968) and others have demonstrated also that individuals who believe that most of their own outcomes depend not on external forces but on their own be-

havior generally attribute more originship to others too. In fact, in the delay condition of this present thesis experiment, actor/teachers ascribed more responsibility to the student than they ascribed either to themselves or to the situation.

#### Polarization Hypothesis:

For the actor/teacher, the student herself served as a stimulus-object during the teaching session. Tesser and his colleagues (e.g., Tesser, 1978; Sadler & Tesser, 1973; Tesser & Cowan, 1977; Tesser & Conlee, 1975; Tesser & Leone, 1977) have demonstrated that the more time a subject has to think about a stimulus, the more extreme or polarized the evaluation of that stimulus becomes. Just such a phenomenon would explain why, over time, the actors' causal attributions toward the student increased monotonically over time. In the one week interval between the teaching session and the completion of the dependent measure questionnaire (delay condition), the actor/teachers would have had ample time for their attitudes or attributions toward the student, toward whom so much attention and effort had been directed, to polarize. Actor/teachers attributed greatest causality to "student's aptitude for learning word meanings" in the delay condition, while attributing the least causality in the immediately after condition.

Little previous work has been done regarding delayed attributions, but the work of Miller and Haqq (in preparation) would suggest that, with the passage of time, actors become less ego-defensive or ego-enhancing, and more willing to share a portion of the causality with the student, their partner in the interaction. Also, as Beckman (1973) and Ross, Bierbrauer, and Polly (1974) have suggested, actor/teachers may have been cautious about any boastfulness or defensiveness because of potential contradicting evaluations by the observers witnessing the session. The presence of the confederate's mother -



the experimenter - also may have tempered teacher attributions. Modesty, or at least shared attributional causality, appeared to follow logically from the structure of the situation.

Observers, on the other hand, had lesser ego involvement in the interaction and could therefore focus on the student and other features of the situation in a more global or general fashion. The student served as a more salient stimulus for observers immediately after the teaching session.

Both actors and observers ascribed greater causality to "teacher's general teaching ability" in the prediction condition than in the other two conditions. The likeliest explanation for this would simply be their greater personal knowledge of university-aged individuals' abilities relative to knowledge of either similar situations or 10½ year old students. Attributions toward "teacher's general teaching ability" were lower in the delay condition and still lower in the immediately after condition. After viewing the interaction, other causal explanations may have competed with actors' and observers' initial predisposition to attribute to the entity best-known to them - the teacher. In any case, it would appear that for judgment or attribution toward "teacher's general teaching ability" the passage of time produced a less extreme view, in contradiction to Tesser's (1978) hypothesis.

#### Further Considerations:

Taylor and Fiske (1978, p. 256) reminded:

If the differences between actors' and observers' attributions are mediated by the information that engulfs one's visual field, then whatever one attends to within one's environment should influence the perceptions of causality. If one attends to a part of the environment to the relative exclusion of another, the information from that part should be most salient. This information, in turn, should provide a basis for the explanation one adopts in deciding who caused what in the situation. Our overall hypothesis, then, is

that point of view or attention determines what information is salient; perceptually salient information is then overrepresented in subsequent causal explanations. This hypothesis extends the salience principle both beyond the dispositional-situational distinction and beyond the actor-observer comparison. Evidence for this hypothesis comes from studies on both the perception of others and the perception of self. (Taylor & Fiske, 1978, p. 256)

Taylor and Fiske's (1978) proposition, then, is that people respond to the most salient stimuli in their environment (an hypothesis that originated with Brunswik, 1955, and Heider, 1958) and that, therefore, the Jones and Nisbett actor-observer effect (1971) is substantially a manifestation of perceptual salience. Thus, to the extent that situations are made salient, situations should be perceived as more causally relevant; to the extent that actors are made salient, actors should be perceived as more causally relevant (e.g., Storms, 1973; Taylor & Fiske, 1975; Taylor, Fiske, Close, Anderson, & Ruderman, 1977).

Regarding self-perception, data collected by Duval, Wicklund, and colleagues (e.g., Duval & Wicklund, 1972; 1973; Wicklund, 1975; Duval & Hensley, 1977) have shown that when the self is salient, self-attributions of causality are exaggerated. Evidence for increases in both negative self-relevant thoughts (Duval & Wicklund, 1972) and positive self-relevant thoughts (Wicklund, 1975) have been found under conditions of self-focused attention (objective self-awareness). Objective self-awareness was also enhanced by both mirror-manipulation and audience presence in a study by Carver and Scheier (1978).

It is possible that our experimental set-up (see Figure 1), with the videotape equipment in view about 8½ feet away from the actor/teacher and student, served as a manipulation for self-awareness, leading actors to attribute proportionally greater causality to themselves and to the student than to the situation.

The observer sat just to the right of the video cam-

era and shared essentially the same perspective as the experimenter. She was also quite aware of the video equipment which, for most people, constitutes a novel stimulus. Cognitive psychology research has shown that novel stimuli elicit attention (e.g., Berlyne, 1958; 1970). Therefore, differential attention to the novel stimuli should elicit relatively greater causal attributions (in this case, to the situation). Not being engrossed in the actual teaching of the three words to the student, the observer had as much or more opportunity to attend to the video equipment as had the actor/teacher.

Apropos of the novelty consideration, McArthur and Post (1977) manipulated several physical variables in a series of experiments using the "getting-acquainted conversation" context. Manipulations of physical salience included brightness (Study 1), motion (Study 2), pattern complexity (Study 3), and contextual novelty (Studies 4 and 5). In studies 1, 2, and 3, McArthur and Post (1977) discovered that a salient actor (i.e., the stimulus person either seated in a bright light, rocking in a rocking chair, or wearing a boldly patterned shirt) was viewed less situationally than a nonsalient actor. However, the opposite pattern resulted from manipulations of novelty (i.e., stimulus person in a novel shirt - for example, a red shirt when others in the group all wore blue shirts, Study 4; or a solo male or female - for example, a single black man in a group of four, Study 5). The novel subject's behavior was viewed more situationally than that of the nonnovel subject!

McArthur and Post (1977) resolved the apparent reversals within the salience findings by suggesting that causality is attributed to dispositions when attention is focused upon the actor, and to situational factors when the situation or environment is salient. Especially for the observers, whose attention seemed more diffuse than that

of the actors, our entire experimental situation likely appeared novel and therefore elicited a greater percentage of the causal explanation for the experimental outcome.

Simply by having the student/teacher interaction videotaped by the experimenter, who remained in the experimental room along with the teacher, the observer, and the student, all present were made aware of the total situation, especially as it existed for the actor/teacher. Such an awareness seemed to induce a "self-discovery" set for actors, and an "empathy" set for observers (Storms, 1973; Kiesler, Nisbett, & Zanna, 1969).

Regarding the "empathy" consideration, several types of perspective-taking have been examined in the literature: cognitive perspective-taking involving understanding of the other individual's intentions and plans for future actions; affective perspective-taking involving appreciation of the other's feelings; and visual perspective-taking involving knowledge of the other's perceptions. It has been found that observers have made more actor-like (i.e., situational) attributions after either viewing the experimental interaction from a new perspective (Storms, 1973) or being instructed to empathize with a target subject (Regan & Totten, 1975; Galper, 1976).

Two additional studies may clarify certain relevant points. Johnson (1975) studied cooperativeness and social perspective-taking in 4th grade children and found no relationship between predisposition to cooperate and ability to take the physical perspective of other individuals, but found a strong relationship between predisposition to cooperate and ability to take the emotional perspective of other individuals. The results of his study also indicated that perceptual and affective perspective-taking were unrelated: children skilled at one type of perspective-taking were not necessarily skilled at the other.

More recently, Tjosvold and Sagaria (1978) examined

the effects of relative power on cognitive perspective-taking and found that as relative power decreased, interest in the other's cognitive perspective increased. This result followed logically from the work of both cognitive developmentalists (e.g., Kohlberg, 1969) and symbolic interactionists (e.g., Shibutani, 1961) who have suggested that persons dependent upon another for outcomes are motivated to take the other's cognitive perspective. Of interest to this thesis as well was the finding of Tjosvold and Sagaria (1978) that those subjects with absolute power (the five levels of relative power were operationalized through three 3-choice mixed motive matrices) were more interested in the other's affective perspective than subjects in the four other power conditions.

It could well be that observers in this thesis experiment were interested in both the cognitive and affective perspectives of the actors. Though both actors and observers were told that they would be asked for their reactions to the experimental situation afterwards, they did not know specifically what types of questions would be asked. Nor could they know what relationship would subsequently exist between them. Several observers remarked after the experimental session that they thought that teacher-observer roles would be reversed and that they, in turn, would have to teach the student three word meanings. To the extent that observers anticipated switching roles, or to the extent that observers expected evaluation from the actor/teachers, an appreciation of the actor's cognitive and affective perspectives would have been facilitative (Pepitone, 1949).

#### Future Considerations:

Researchers in the future may profitably measure need for effective control (from Rotter, 1966) as a covariate in attribution research. Measures of cognitive and affective perspective-taking (Johnson, 1975; Tjosvold & Sagaria,

1978) and/or self-monitoring (Snyder & Monson, 1975) might also be profitably examined.

It may be valuable to examine differences in temporal perspective using within-subject rather than between-subject designs. Data for the polarization hypothesis (Tesser, 1978), especially, may be meaningfully obtained using a repeated-measures experimental design.

Interesting differences might result if this same study were replicated, but with a ten-minute time limit so that success/failure would be more strictly dependent upon the actor/teacher. Alternatively, a less threatening experimental situation might be structured by using a younger student-confederate and, ergo, simpler stimulus words.

In summary, most researchers would agree with Monson and Snyder (1977) who suggest "that empirical researchers turn from attempts to 'verify' the hypothesis of Jones and Nisbett (1972) to systematic investigations of the 'when', 'why', and 'with what implications for attribution theory' of differences between actors and observers" (Monson & Snyder, 1977, p. 107).

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APPENDIX 1.

Racial/Ethnic Background of Subjects, Experimenter,  
and Student/Confederate - including Overall Distribution  
for Actors/Observers and Specific Actor/Observer Pairs  
According to Experimental Condition

Racial/Ethnic Background of Subjects\*, Experimenter, and Student/Confederate

Overall Distribution for Subjects

<u>Background</u>	<u>Actors</u>	<u>Observers</u>	<u>Total</u>
Northern European (English, Scottish, Irish, Ukrainian, German, Danish, Swedish, Dutch, French)	37	34	71
Southern European or Middle Eastern (Spanish, Italian, Jewish, East Indian)	7	4	11
Chinese/Japanese	5	11	16
part Negro	1	1	2
<hr/>			
	50	50	100

Experimenter's Background: Italian/Sicilian

Student/Confederate's Background: Italian/Sicilian and  
East Indian/Tai (Siamese)

\* Data specific to this topic were not collected at the time of the experimental sessions, but were later calculated by the experimenter from last names and visual memory of subject participants.



Racial/Ethnic Background of Actor/Observer Pairs According to Experimental Condition

Prediction Condition:

Actor, Italian  
Observer, Chinese

Actor, English  
Observer, Irish

Actor, Chinese  
Observer, English

Actor, German  
Observer, English

Actor, English  
Observer, French

Actor, English  
Observer, English

Actor, Danish  
Observer, Spanish

Actor, English  
Observer, English

Actor, English  
Observer, English

Actor, Chinese  
Observer, Irish

Immediately After - No Video Condition:

Actor, English  
Observer, English

Actor, English  
Observer, English

Actor, English  
Observer, English

Actor, Chinese  
Observer, Chinese

Actor, Italian  
Observer, Irish

Actor, English  
Observer, English

Actor, Chinese  
Observer, Chinese

Actor, English  
Observer, English

Actor, Spanish  
Observer, English

Actor, English  
Observer, English

Immediately After - Video Condition:

Actor, English	Actor, English
Observer, English	Observer, Chinese
Actor, German	Actor, Dutch
Observer, English	Observer, English
Actor, English	Actor, English
Observer, Jewish	Observer, part Negro
Actor, Swedish	Actor, English
Observer, Japanese	Observer, Japanese
Actor, English	Actor, English
Observer, English	Observer, Chinese

Delay - No Video Condition:

Actor, Spanish	Actor, Jewish
Observer, Irish	Observer, Chinese
Actor, English	Actor, English
Observer, Spanish	Observer, Chinese
Actor, Ukrainian	Actor, English
Observer, Chinese	Observer, English
Actor, English	Actor, English
Observer, English	Observer, Irish
Actor, East Indian	Actor, English
Observer, Italian	Observer, English

Delay - Video Condition:

Actor, English	Actor, English
Observer, English	Observer, English
Actor, English	Actor, Scottish
Observer, English	Observer, English
Actor, Italian	Actor, Ukrainian
Observer, Swedish	Observer, English
Actor, English	Actor, part Negro
Observer, French	Observer, English
Actor, Japanese	Actor, English
Observer, Chinese	Observer, English

APPENDIX 2.

Permission Form and Experimental Booklet,  
for Observer, Immediately After Condition.

Name:

Age:

University level: \_\_\_\_\_ years

Date:

Time: . . .

We are interested in the dynamics of the learning situation. Research has shown that both the teaching method and the interpersonal style of the teacher have an influence upon learning. The reactions of the student are also important in the learning process.

Our purpose is to gain an overall picture of the learning situation so as to identify those factors which might profitably be studied at a later time. The aim of these studies is to discover the best ways to facilitate learning.

You have been randomly assigned to observe the other subject as she teaches the student the meaning of three words. The goal is for the student to be able to use each of the three words correctly in a sentence. (When the student understands what a word means, she is to make up her own original sentence using that word.)

There will be no time limit for this assignment. The other subject (the teacher) is to feel free to use whatever method she personally thinks will be most effective in teaching these words. She may use the blackboard and/or dictionary if she wishes.

After the session, we will ask both of you for your reactions so that we may be helped further in our investigation of student/teacher variables.

The experimenter will be videotaping the interaction so that she can review the session later on.

We appreciate your help with this research. If you are interested in hearing about the final results of the study, the experimenter will be able to provide you with details at the end of April. Her phone number is 228-6487.

The teacher will now randomly select the three words (on one 3x5 index card) from the box, and show them to you as well.

Please wait for further instructions...

After this teaching session, it will be helpful for us to have your reactions to the student/teacher interactions involved. There are no right or wrong answers to these questions; we are primarily concerned with your own opinions. Please answer these questions independently.

---

Consider the following questions together and apportion responsibility according to what you think occurred (the total need not add up to 100%):

1. To what extent was the outcome of the teaching session due to the personal qualities of the teacher - her ability, effort, interest, presentation, etc.? \_\_\_\_\_ %.
2. To what extent was the outcome due to characteristics of the situation - the task, the words drawn, etc.? \_\_\_\_\_ %.
3. To what extent was the outcome due to characteristics of the student - her learning ability, motivation, etc.? \_\_\_\_\_ %.

Please turn the page...

Consider the following factors pertaining to the teacher and rate the items accordingly by placing an "X" at the appropriate space on the scale. For example:



1. Of what importance was the teacher's general teaching ability in determining the outcome of the teaching session?

Not at all important \_\_\_\_\_ Very important

2. Of what importance was the teacher's random selection of the three words in determining the outcome of the teaching session?

Not at all important \_\_\_\_\_ Very important

3. Of what importance was the teacher's interest and effort in determining the outcome of the teaching session?

Not at all important \_\_\_\_\_ Very important

4. Of what importance was the difficulty level of the task in determining the outcome of the teaching session?

Not at all important \_\_\_\_\_ Very important

5. How difficult do you estimate the task to have been?

Not at all difficult \_\_\_\_\_ Very difficult

Please turn the page....


Consider the following factors pertaining to the student and rate the items accordingly by placing an "X" at the appropriate space on the scale. For example:



1. Of what importance was the student's general scholastic ability in determining the outcome of this teaching session?

Not at all important  Very important

2. Of what importance was her aptitude for learning word meanings in determining the outcome of this teaching session?

Not at all important  Very important

3. Of what importance was her adjustment to a novel learning situation in determining the outcome of this teaching session?

Not at all important  Very important

4. Of what importance was the student's attention and motivation level in determining the outcome of this teaching session?

Not at all important  Very important

Please turn the page...



Please list or discuss any other factors which you perceive to be important in any student/teacher interaction:

Have you had any experience in teaching - for example, as a classroom teacher, religion teacher, camp leader, sports coach, etc.? \_\_\_\_\_ No; \_\_\_\_\_ Yes

If "Yes", please specify: \_\_\_\_\_

APPENDIX 3Stimulus Words According to Experimental Condition

PREDICTION CONDITIONNounsRank Listing \*

1.	vice	41-09-008
2.	desegregation	40-04-005
3.	controversy	26-09-022
4.	dilemma	25-09-018
5.	regime	23-07-018
6.	mason	23-06-007
7.	inventory	23-06-013
8.	merger	21-06-009
9.	desegregation	40-04-005
10.	autonomy	18-06-008

Verbs

1.	benefits	33-07-019
2.	confronted	32-12-031
3.	conditioned	20-06-009
4.	foil	20-09-010
5.	assert	19-04-014
6.	compromise	20-07-015
7.	lodge	19-07-010
8.	prosecute	02-02-002
9.	lease	10-06-008
10.	dominate	08-07-008

Adjectives

1.	organic	38-05-015
2.	primitive	38-11-029
3.	marginal	25-06-015
4.	enthusiastic	24-11-029
5.	pertinent	21-07-021
6.	arbitrary	21-07-018
7.	economical	22-04-018
8.	monotonous	08-06-008
9.	prominent	40-13-032
10.	perilous	08-05-008

\* The entry vice, 41-09-028, means that the word vice occurs 41 times in the whole corpus of 1,014,230 words of natural-language text, and can be found in 9 of the genres or categories of writing and in 28 of the 500 samples.

IMMEDIATELY AFTER - NO VIDEO CONDITIONNounsRank Listing

1.	enterprise	31-07-024
2.	emission	32-01-003
3.	panel	31-08-017
4.	textile	28-05-008
5.	amendment	23-05-015
6.	implications	22-08-017
7.	rehabilitation	22-04-008
8.	agriculture	23-07-019
9.	linguist	13-03-004
10.	tactics	20-08-016

Verbs

1.	subjected	24-10-018
2.	storm	26-11-020
3.	champion	23-07-013
4.	buck	20-06-011
5.	distinguish	19-04-014
6.	regiment	25-06-018
7.	welch or welsh	14-01-001
8.	assert	19-04-014
9.	antagonize	01-01-001
10.	adhere	04-02-004

Adjectives

1.	excessive	30-10-024
2.	remote	32-11-026
3.	municipal	28-07-020
4.	sophisticated	26-09-021
5.	strategic	23-06-012
6.	ideological	20-06-011
7.	feasible	15-06-011
8.	relevant	23-06-020
9.	manifold	13-02-013
10.	demographic	12-02-002

IMMEDIATELY AFTER - VIDEO CONDITIONNouns

	<u>Rank Listing</u>
1. illusion	37-07-016
2. ratio	36-04-018
3. evaluation	31-04-018
4. conception	32-07-023
5. technology	43-08-027
6. objectives	39-06-027
7. ritual	25-08-012
8. clarity	28-09-020
9. assumptions	23-05-016
10. palfrey	26-01-001

Verbs

1. encountered	30-10-026
2. rendered	28-09-021
3. anticipated	23-10-021
4. bridges	26-06-012
5. harbor	37-11-022
6. decline	37-07-021
7. pursue	20-07-018
8. resolved	21-08-016
9. exceed	19-05-011
10. crop	20-07-014

Adjectives

1. classical	33-10-024
2. inevitable	33-11-025
3. ecumenical	29-02-002
4. elaborate	32-11-029
5. legislative	40-07-029
6. binomial	36-01-001
7. preliminary	24-09-020
8. aesthetic	26-04-017
9. ambiguous	22-06-016
10. rational	25-04-016

DELAY - NO VIDEO CONDITIONNounsRank Listing

1.	diameter	45-05-018
2.	gesture	32-12-024
3.	tangent	26-01-002
4.	flux	30-04-008
5.	conspiracy	22-06-012
6.	alliance	20-06-013
7.	renaissance	20-07-012
8.	curriculum	16-05-010
9.	contours	15-07-012
10.	polynomial	28-01-001

Verbs

1.	derived	39-10-026
2.	blanche	25-04-005
3.	dominated	20-08-018
4.	despair	21-09-019
5.	scrutinize	03-03-003
6.	relish	08-05-008
7.	implicate	02-02-002
8.	congregate	02-02-002
9.	agitate	01-01-001
10.	smart	21-09-018

Adjectives

1.	comparable	41-07-037
2.	conservative	31-07-025
3.	subtle	25-08-022
4.	pulmonary	27-01-002
5.	binding	20-07-011
6.	luminous	12-06-007
7.	therapeutic	13-04-007
8.	integral	13-06-012
9.	rigorous	07-04-007
10.	mutual	26-08-020

DELAY - VIDEO CONDITIONNounsRank Listing

1.	harmony	33-09-017
2.	dispute	34-06-015
3.	density	30-08-016
4.	dimensions	30-07-020
5.	intervals	25-09-023
6.	dilemma	25-09-018
7.	utopia	24-03-004
8.	patents	19-04-007
9.	chaos	17-07-011
10.	recipient	07-04-006

Verbs

1.	marshal	26-07-012
2.	conceived	27-10-024
3.	craft	23-10-016
4.	resumed	23-11-021
5.	lobby	20-07-013
6.	foil	20-09-010
7.	stake	20-07-015
8.	distort	04-02-004
9.	emancipate	02-02-002
10.	subsidize	04-03-003

Adjectives

1.	curt	32-02-002
2.	thermal	33-03-010
3.	optimal	28-01-004
4.	profound	27-11-027
5.	explicit	24-07-019
6.	metaphysical	16-06-009
7.	empirical	23-04-009
8.	cylindrical	11-02-006
9.	judicial	16-04-009
10.	ambivalent	06-05-006

APPENDIX 4

Mean Attributions of Actors and Observers According to  
"No Video/Video", Immediately After and Delay Conditions



Mean Attributions of Actors and Observers According to  
"No Video/Video", Immediately After and Delay Conditions

	<u>ACTORS</u>			
	<u>IMMEDIATELY AFTER</u>		<u>DELAY</u>	
	<u>No video</u>	<u>video</u>	<u>No video</u>	<u>Video</u>
Teacher	52.5	46.0	50.0	38.8
Situation	27.0	37.0	30.5	29.2
Student	59.0	38.2	51.0	57.0
Teacher's general teaching ability	3.5	4.1	4.1	3.8
Teacher's effort	4.1	4.1	4.3	4.1
Importance of difficulty of task	4.1	3.6	3.8	3.7
How difficult was task?	2.6	3.4	3.3	3.1
Student's general scholastic ability	4.0	3.6	3.8	4.0
Student's aptitude for word meanings	4.0	3.8	4.6	4.5
Student's adjustment to novel situation	3.5	4.2	4.3	3.8
Student's attn. and motivation	4.4	4.4	4.5	4.8

	<u>OBSERVERS</u>			
	<u>IMMEDIATELY AFTER</u>		<u>DELAY</u>	
	<u>No video</u>	<u>Video</u>	<u>No video</u>	<u>Video</u>
Teacher	47.53	56.0	54.5	55.5
Situation	34.0	45.5	41.5	32.0
Student	54.0	51.5	57.0	44.6
Teacher's general teaching ability	3.5	3.7	4.1	3.6
Teacher's effort	3.9	4.1	4.2	4.0
Importance of difficulty of task	3.8	3.9	4.2	3.7
How difficult was task?	3.7	3.4	3.2	3.5
Student's general scholastic ability	4.0	3.9	3.3	3.3
Student's aptitude for word meanings	4.2	4.4	4.1	4.0
Student's adj. nov.	3.8	3.7	3.7	3.6
Student's attn. Mt.	4.6	4.6	4.6	4.8

APPENDIX 5Data Code and Raw Data Listing

DATA CODE

<u>Column Number(s)</u>	<u>Description of Item</u>
1,2	Subject numbers (1-10) for repeated measures
3-5	Subject numbers
6,7	Age
8	University level (years at university)
9	Role: Actor = 1; Observer = 2
10	Time: Immediately after = 1; Delay = 2; Prediction = 3
11	No video = 1; Video = 2
12, 13	Attribution of responsibility toward Teacher (in percentage)
14, 15	Attribution of responsibility toward Situ- ation (in percentage)
16, 17	Attribution of responsibility toward Stu- dent (in percentage)
(The following teacher, task, and student items were rated on 5-point rating scales with 1 = Not at all important; 5 = Very important, or 1 = Not at all difficult; 5 = Very difficult.)	
18	Teacher's general teaching ability
19	Random selection of three words (luck)
20	Teacher's effort
21	Importance of difficulty of task
22	How difficult was task?
23	Student's general scholastic ability
24	Student's aptitude for learning word meanings
25	Student's adjustment to a novel situation
26	Student's attention and motivation
27-29	Prof = mean of teacher's general teaching ability + teacher's effort
30	Random selection of three words (luck)
31-33	Task = mean of Importance of difficulty level of task + How difficult was task?

<u>Column Number(s)</u>	<u>Description of Item</u>
34-37	Pupil = mean of all four student items (columns 23-26)
38-40	Number of words answering free response query, "Please list or discuss any other factors which you perceive to be important in any student/teacher interaction".
41	Yes = 1; No = 2, in answer to "Have you had any teaching experience?"

\*\*LAST SIGNON WAS: 17:01:24  
USER \*DOQO\* SIGNED ON AT 17:09:00 ON THU JUN 28/79  
\$LIST \*SOURCE\*

78

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END OF FILE

APPENDIX 6Correlation Matrix of Demographic Items and Dependent Measures

NAME	MEAN	STD.DEV.	NAME	MEAN	STD.DEV.	NAME	MEAN	STD.DEV.
AGE	19.7030	3.82242	EFFORT	4.06931	0.897301	ATTNMT	3.97525	0.804289
UNIV	1.77228	0.858850	IMPDIF	3.80198	0.990150	PROF	2.60396	1.30445
TEACHR	50.0099	18.7518	HOWDIF	3.31683	1.01912	THREE	3.55941	0.813287
SITU	33.1683	21.6850	SGABIL	3.67327	0.980907	TASK	4.00000	0.665207
STUDNT	49.4653	21.7267	/	4.13861	0.916939	PUPIL	49.0396	34.9342
T/ABIL	3.88119	0.992846	APTWRD	3.71287	1.04246	WORDS	1.27723	0.471568
LUCK	2.60396	1.30445	ADJNOV	4.47525	0.729302	YESNO	8.85149	6.53052

## CORRELATION MATRIX

VARIABLE	AGE	UNIV	TEACHR	SITU	STUDNT	T/ABIL	LUCK	EFFORT	IMPDIF	HOWDIF	SGABIL
AGE	1.0000										
UNIV	0.3904	1.0000									
TEACHR	-0.0715	-0.0949	1.0000								
SITU	0.1204	-0.1042	0.3156	1.0000							
STUDNT	-0.0117	0.0052	0.3828	0.3257	1.0000						
T/ABIL	0.1619	0.0970	0.3293	0.1328	0.0638	1.0000					
LUCK	0.1105	-0.1081	-0.0460	0.3046	0.0690	0.0946	1.0000				
EFFORT	0.1256	0.0856	0.2781	-0.0458	0.1127	0.4471	0.0151	1.0000			
IMPDIF	0.1375	0.0523	0.1461	0.2065	0.1768	0.1284	0.3413	0.1619	1.0000		
HOWDIF	0.1913	0.1632	0.0354	0.1930	-0.0162	0.2352	0.2683	0.0414	0.3105	1.0000	
SGABIL	0.1152	0.1957	0.0475	0.1794	0.3061	0.1754	0.1011	0.1737	0.1798	0.2246	1.0000
/	0.1374	0.0659	0.0121	0.0305	0.3632	0.1611	0.2220	0.1098	0.2729	0.1773	0.4956
APTWRD	0.1967	-0.1184	0.0692	0.1340	0.2576	0.1116	0.0773	0.2888	0.1866	0.1524	0.1812
ADJNOV	0.1121	-0.0330	0.1613	0.0935	0.3671	0.2445	0.1368	0.3923	0.3255	0.1452	0.3171
ATTNMT	0.1700	0.1076	0.3584	0.0564	0.1022	0.8666	0.0668	0.8338	0.1696	0.1683	0.2051
PROF	0.1105	-0.1081	-0.0460	0.3046	0.0690	0.0946	1.0000	0.0151	0.3413	0.2683	0.1011
THREE	0.2036	0.1341	0.1111	0.2466	0.0975	0.2256	0.3759	0.1245	0.8033	0.8156	0.2502
TASK	0.1976	0.0394	0.0930	0.1548	0.4395	0.2309	0.1815	0.3225	0.3226	0.2434	0.6973
PUPIL	-0.0230	-0.0210	0.2364	0.1213	0.0609	0.0950	0.0295	0.2299	0.0121	-0.0004	0.1203
WORDS	0.1515	0.0093	-0.0139	-0.0056	-0.0264	0.0070	0.1315	0.0014	0.0973	0.2940	0.0464
YESNO	0.0255	-0.2022	-0.0157	0.1317	0.0701	-0.0752	0.2630	-0.0716	0.0542	0.1424	0.1063

## CORRELATION MATRIX

VARIABLE	/	APTWRD	ADJNOV	ATTNMT	PROF	THREE	TASK	PUPIL	WORDS	YESNO
/	1.0000									
APTWRD	0.2932	1.0000								
ADJNOV	0.4688	0.4970	1.0000							
ATTNMT	0.1607	0.2300	0.3697	1.0000						
PROF	0.2220	0.0773	0.1368	0.0668	1.0000					
THREE	0.2772	0.2090	0.2891	0.2087	0.3759	1.0000				
TASK	0.7706	0.6958	0.7472	0.3224	0.1815	0.3489	1.0000			
PUPIL	-0.0636	0.0632	0.1527	0.1869	0.0295	0.0071	0.0891	1.0000		
WORDS	0.2109	0.1229	0.1655	0.0051	0.1315	0.2434	0.1833	0.0048	1.0000	
YESNO	0.0903	0.0789	0.1241	-0.0864	0.2630	0.1222	0.1352	0.3034	-0.0612	1.0000

\* END OF CONTROL SET \*

EXECUTION TERMINATED 17:01:31 T=.692 RC=0 \$.85

SSIG