ED 349 928   HE 025 858

AUTHOR   Schonwetter, Dieter J.; And Others
TITLE   The Role of Instruction and Cognition for College
                Students' Academic Achievement and Affects.
INSTITUTION   Manitoba Univ., Winnipeg.
SPONS AGENCY   Social Sciences and Humanities Research Council of
                Canada, Ottawa (Ontario).
PUB DATE   23 Apr 92
CONTRACT   410-91-1296
NOTE   21p.; Parts of this paper were presented at the
                Annual Meeting of the American Educational Research
                Association, (San Francisco, CA, April 20-24,
                1992).
PUB TYPE   Reports - Research/Technical (143) --
                Speeches/Conference Papers (150)

EDRS PRICE   MF01/PC01 Plus Postage.
DESCRIPTORS   *Academic Achievement; Cognitive Ability; *Cognitive
                Psychology; Cognitive Style; College Faculty; College
                Instruction; *College Students; Foreign Countries;
                Higher Education; *Self Concept; *Student Attitudes;
                Teacher Role; *Teaching Methods

ABSTRACT
        This study investigated the effects of college
students' actual perceptions of success and control as they relate to
cognitive and emotional aspects of academic achievement in situations
utilizing either high or low instructor expressiveness. Participants
included 140 male and female undergraduate introductory psychology
students. In a simulated college classroom study, students wrote an
aptitude test and were classified into Perceived Success (low, high)
and Perceived Control (low, high) categories based on perceptions of
success and control over performance. Students were then presented
with either low or high expressive instruction, and completed a
post-lecture achievement test and questionnaire. Exposed to low
expressive instruction, high success/high control students'
achievement scores and low success/low control students' affects
supported initial hypotheses (that such instruction tends to
compensate for students' maladaptive cognitions). However, low
success/low control students' achievement scores and high
success/high control students' affects were opposite to initial
expectations. Conclusions generally supported the idea that
expressive instruction fostered both student achievement and
self-confidence whereas low expressiveness depressed students'
performance and their self-regulatory learning processes. (Included
are 27 references.) (JB)

The Role of Instruction and Cognition for College Students' Academic Achievement and Affects

Dieter J. Schonwetter, Raymond P. Perry, & C. Ward Struthers
Centre For Higher Education Research and Development
University of Manitoba

Author Notes

Abstract

Instruction is receiving increasing attention from cognitive and educational researchers regarding its impact in the college classroom. Recently, research has demonstrated that students' manipulated perceptions of success and control, can impede or enhance the benefits of one effective teaching behavior, namely instructor expressiveness. The present study investigated the effects of students' actual perceptions of success and control, rather than their manipulated perceptions, along with expressive instruction, as they relate to cognitive and emotional aspects of academic achievement. In a simulated college classroom study, students wrote an aptitude test and were classified into Perceived Success (low, high) and Perceived Control (low, high) categories based on perceptions of success and control over performance, thereby forming a 2 x 2 factorial design. Students were then presented with either low or high expressive instruction, completed a postlecture achievement test, and postachievement questionnaire. Student perceptions had an effect on achievement outcomes and affects in both expressive instructional conditions. These results were discussed in relation to the achievement-enhancing effect of expressive instruction.

The Role of Instruction and Cognition for College Students' Academic Achievement and Affects

Although recent research has increased our knowledge of what constitutes effective instruction in higher education (Feldman, 1989; Marsh, 1991; Murray, 1991), there has been a notable lack of progress in understanding the interaction between instructor and student variables comprising a teaching episode. Furthermore, the analyses to date have not used an integrated conceptual model for defining the critical components of college teaching episodes or for describing their causal linkages and sequential development. Recently, Perry and associates (Perry & Dickens, 1984; Perry & Magnusson, 1989) have applied Weiner's (1986) attributional theory of achievement motivation to the lecture method of instruction. Their approach focuses on achievement, has a wide range of cognitive, motivational, and behavioral outcomes, and provides a well-developed causal framework which explicitly links the various components of a teaching episode. The present study extends this analysis by examining the relations between effective instruction and some qualities of students which are brought to the classroom, namely their perceptions of success and control.

Effective Instruction

Responding to the lack of progress in understanding teaching-learning dynamics, Perry and associates have conducted several studies of college teaching episodes (see Perry, 1991). Their results show that one type of effective teaching behavior, expressive instruction, enhances students' achievement and achievement-related cognitions. In explaining these developments, they proposed that effective teaching behaviors prime students' information processing mechanisms. These instruction-activated activities interact with students' regulatory mechanisms that, together, affect the student's causal attributions, subsequent learning motivation, and academic performance (Perry & Tunna, 1988). For instance, the stimulus cueing qualities associated with expressiveness, namely physical movement, voice intonation, eye contact, and humor, are hypothesized to activate selective attention, which in turn, enhances students' memory storage and retrieval processing (Murray, 1991; Perry, 1991).

To elucidate the causal linkages between effective instruction and student cognitive outcomes, Weiner's (1986) attributional theory of achievement motivation has been adopted. According to the theory, achievement motivation is viewed as a reciprocal interaction between perceived outcome, cognitions, affect, behavior, and the environment. Thus, Weiner's theory is an appropriate framework from which the teaching-learning process can be investigated. However, Weiner's theory is limited in the sense that it does not directly take into account important student variables such as perceived control that interact with their perceived success (i.e., outcome) to influence subsequent cognitions, emotions, and behavior, and critical environmental factors, such as instruction, affecting students' motivation and achievement behaviors.

Student Perceptions of Control and Success

Educational researchers have recently recognized the significance of student perceptions concerning their ability to exercise control over important aspects of their scholastic development (Stipek & Weisz, 1981; Weiner, 1986). Given that students' control over and responsibility for their academic achievement are emphasized at the post-secondary level (Perry, 1985), perceived control can be especially important for college students. Instead of being passive recipients of information, most students contribute actively to their learning goals and exercise a large degree of control over the attainment of these goals (Schunk, 1989). When college students are exposed to manipulations inducing loss of control, they perform more poorly and are unable to benefit from effective instruction (Perry & Dickens, 1984; Perry & Magnusson, 1987). The extent to which teaching effectiveness is undermined is directly related to the degree of exposure to environmentally-induced uncontrollability and the extent to which control perceptions are lowered (Perry & Dickens, 1984; 1987). For instance, loss of control causes students to take less personal responsibility for their performance, to have lower expectancy of success for their future, and to experience negative emotions. Thus, perceptions of lack of control interact with the quality of instruction, thereby impeding the benefits of effective instruction.

Aside from perceived control itself, the perception of success is an important precursor to students' learning processes. For instance, continuous success reinforces a strong sense of self-efficacy, specifically if performance is perceived as due to skill rather than from external sources (Bandura, 1982). High self-efficacy, in turn, determines important aspects of students' thoughts, affect, and behaviors. Repeated failure, however, lowers students' perceptions of success, which, in turn, also influence their thoughts, emotions, and responses, resulting in impairment of future performance (Bandura, 1982). Thus, student achievement and achievement-related outcomes are also qualified by perceptions of success.

Accumulating empirical evidence demonstrates that instructor expressiveness has clear implications for student achievement. Moreover, its effects are further qualified by student perceptions of control and success. However, the combined effects of perceived success and control have not been investigated. Furthermore, previously reported studies have induced contrived as compared to naturally occuring perceptions of control and success in students, creating manipulated rather than subjective perceptions, the latter being important to Weiner's theory (1986). Also, expectancy effects are not as powerful when manipulated by artificial means as when they occur naturally (Braun, 1976). In a similar fashion, the manipulation of student perceptions of success and control used in previous studies may have produced artificial or transient perceptions which are less potent than perceptions common in the college classroom. Activated by transient events these perceptions may have just as quickly dissipated (Perry & Magnusson, 1987). Consequently, previous studies may not provide insight into students' perceptions that have developed during their past exposure to the classroom environment (i.e., high school).

4

The Present Study

The present study examined the relationships among effective instruction, student perceptions of success and control, and student achievement-related outcomes in a simulated college classroom. Student perceptions of success and control were chosen because they are considered to play an important role in college students' scholastic achievement (Bandura, 1982; Perry & Magnusson, 1989; Weiner, 1986). These perceptions were not induced by manipulations as in previous studies, but were measured subjectively in accordance with Weiner's model (1986) which emphasizes subjective perceptions of performance. Thus, the independent variables in this study included instructor expressiveness (low, high) and student perceptions of success (low, high) and control (low, high). The dependent variables included students' achievement performance and affective reactions. Affect was examined because of its significance for achievement in academic settings (Weiner, 1986) and because affective and motivational outcomes have been demonstrated to be differentially influenced by instructional and student mediating processes (Helmke, Schneider, & Weinert, 1986).

Educators are confronted by students with varying individual differences. These individuals are thought to mediate students' learning mechanisms that are necessary for adaptation to the college environment. The present study focused on student differences manifested in perceptions of success and control: low success/low control, low success/high control, high success/low control, and high success/high control. High success/high control students are the mastery individuals, characterized by challenge seeking and high effective persistence in the face of difficulty (Dweck, 1986). These students who profit the most from instructional environments provided, are of little concern to the instructor and institution. However, the academic fate of the other three types of students is of concern to educators. For instance, low success/low control students are described in the literature as helpless (Seligman, 1975); individuals characterized by challenge avoidance and low persistence in the face of difficulty (Dweck, 1986). High success/low control students represent helpless students as well, displaying high perceptions of success in spite of low perceptions of control; a type of maladaptive cognitive distortion, whereby the perceptions are in conflict. Low success/high control students are not as readily identifiable by the literature, reflecting a combination of mastery and helpless perceptions. Their fate may be determined by the low perception of success which may thwart the facilitating effects of high control. Thus, these latter three types of student perceptions may be maladaptive, predisposing students to poorer learning experiences, increased attrition, and even high levels of student dropout.

According to previous research on attributional theory and mastery, low perceptions of success or control can be maladaptive for student learning. Consequently, students having one, or both of these types of perceptions should perform more poorly than those not having any maladaptive perceptions. Thus, high success/high control students were expected to perform better than low success/low control, low success/high control, and high success/low control students. Among

the latter three, the low success/low control group was predicted to have the poorest achievement because of the combination of the two maladaptive perceptions. Whether the low success/high control and high success/low control groups performed differently from each other was less clear, their performance possibly being more susceptible to the influence of factors in the classroom environment, such as the quality of instruction. Finally, since expressive instruction provides an enriched environment for student learning, compensating for students' maladaptive perceptions, it was hypothesized that minimal achievement differences would occur in the high expressive condition. However, students exposed to low expressive instruction would experience less facilitative effects and thus were postulated to demonstrate achievement differences.

Method

Subjects

Participants included 140 male and female introductory psychology students. They volunteered for this experimental session in order to fulfil their course requirements. Experimental conditions were randomly assigned following participants' selection of session times.

Materials

Perceived success and control. In order to prime students' perceptions of success and control regarding their scholastic performance, students were exposed to a timed aptitude test developed by Perry and Dickens (1984). It consisted of 50 item no-feedback test representing verbal analogies, sentence-completion items, and qualitative multiple choice items similar to those found on Miller's Analogies Test and Graduate Record Exam. The aptitude test was designed to assimilate achievement events that occur in the college classroom and therefore it was postulated to prime students' perceptions prior to being exposed to the lecture and achievement task. Previous research has demonstrated that this moderately difficult aptitude test possesses better ecological validity for the college classroom than other perception primers which tend to utilize simple tasks that are administered to each participant separately (Perry & Dickens, 1984; 1987; Perry & Magnusson, 1987; 1989). It is also evident from these studies that this aptitude test provides empirical validation of priming students perceptions of success and control.

To assess their perceptions of success and control, students were asked to respond to two questions regarding the aptitude test: "How successful did you feel at the end of the test?" and "How much control did you have over your successes and failures on the aptitude test?" (0 = very little, 9 = extremely successful). Using the success scale's natural median (4.5), students scoring four or less and five or more were classified as low (M = 2.37, SD = 1.23) and high success, (M = 5.81, SD = 0.99), respectively. Given that the distribution of student's perception of control was bimodal, the bimodal points determined the cutoffs such that students scoring five or less and seven or more were classified as low (M = 3.42, SD = 1.59) and high

control, ($\underline{M}$ = 7.65, $\underline{SD}$ = 0.72), respectively. These dichotomies ensured suitable subjective definitions of perceived success and perceived control, while maintaining acceptable sample sizes.

Instruction manipulation. Given its effect on student achievement (Perry et al., 1979), its significance in implicit theories of teaching (Marsh, 1984) and its common occurrence in the college classroom (Murray, 1983), expressiveness was the teaching behavior selected to represent effective teaching. Expressiveness was manipulated with two 25-min. color videotapes, presented with an Advent 1000A Videobeam Color Projection Unit onto a 2.2 meter diagonal screen. A male psychology professor gave an actual lecture on the topic of repression. His presentation varied according to expressiveness defined in terms of eye contact, voice inflection, physical movement, and humor (Perry & Dickens, 1984). These characteristics were minimized and maximized for the low and high expressive conditions, respectively. The amount of material presented was held constant by equating the two lectures for the number of teaching points. Previous research has demonstrated the use of these videotapes as being ecologically and empirically valid in showing teaching effects in college classrooms. For instance, the manipulation of teacher expressiveness (low, high) through videotape has been shown to have significant effects on students education attainment, including cognitions and behavioral outcomes (Perry & Dickens, 1984; 1987; Perry & Magnusson, 1987; 1989; Perry & Penner, 1990).

Postlecture achievement test. The achievement test, derived from the lecture and composed of 30 multiple-choice items, was administered to assess retention and conceptual understanding of the lecture.

Postachievement questionnaire. A postachievement questionnaire probed students' emotional reactions to their test performance on 10-point bipolar scales for the following items, confidence, pride, and encouragement (i.e., 0 = ashamed, 9 = pride).

Procedure

Students completed the timed aptitude test and responded to the post-aptitude questions regarding perceived control and perceived success. Their responses to these two items were used to classify them into low and high perceived success and perceived control groups. Students were then informed that the experiment involved the teaching process and that they would view a videotaped lecture and write an exam based on the lecture. In groups of approximately 20, students viewed either the low or high expressiveness videotaped lectures. After viewing the lecture, they wrote the achievement test and completed the postachievement questionnaire. Debriefing involved an explanation of the experiment. Finally, all students received course credit for their research participation.

Experimental Design and Analyses

The experimental design was a Perceived Success (low, high) by Perceived Control (low, high) by Instructor Expressiveness (low, high)

2 x 2 x 2 factorial. Since high expressive instruction tends to compensate for students' maladaptive cognitions, minimal observable differences were expected between groups. Presented with low expressive instruction, however, students would not experience the facilitating effects of expressive instruction and should exhibit achievement differences related to their perceptions of success and control. In order to test these hypotheses, Perceived Success (low, high) by Perceived Control (low, high) 2 x 2 ANOVAs were conducted in the low and high expressive conditions separately. Significant interactions were followed up with Bonferroni t tests which control for family-wise error rate (Kirk, 1982).

Given that high success/high control students were hypothesized to perform the best and that low success/low control students were thought to perform the worst in both expressive conditions, five one-tailed comparisons were possible for each dependent measure (Pillemer, 1991; i.e., high success/high control > high success/low control, high success/high control > low success/high control, high success/high control > low success/low control, low success/low control < high success/low control, low success/low control < low success/high control). Thus, with alpha set at .05, Bonferroni critical t(65) was 2.38 for each comparison. Because the outcomes of high success/low control and low success/high control students has never been tested before, the direction of their outcomes could not be predetermined. Thus, a comparison of these two groups of students required a two-tailed Bonferroni t test (Pillemer, 1991; i.e., high success/low control > ? < low success/high control). With alpha at .05, critical t(65) was 2.30.

Instruction Manipulation

In order to check the validity of instructor expressiveness, one-way Expressiveness (low, high) ANOVAs were conducted on each of the dependent variables and are presented in Table 1. The expressiveness manipulation replicated previous findings, demonstrating that high as compared to low expressive instruction yielded higher achievement outcomes (Perry & Dickens, 1987; Perry & Magnusson, 1987; 1989). Furthermore, the present study also extends previous findings for affect, demonstrating that high expressiveness also yielded more positive affects (i.e., encouragement, pride, and confidence) than low expressive instruction.

Results

The results are presented separately for the low and high expressive conditions, within each, according to the major dimensions of Weiner's model (1986): achievement performance and affects. Only significant main effects and interactions are reported. Furthermore, the means and standard deviations for each measure are presented in Table 2.

Insert Table 1 & 2 here

Low Expressive Instruction

According to the principle hypothesis, students' performance should be affected by their perceptions of success and control, depending on the type of instruction they receive. More specifically, for low expressive instruction, high success/high control students were predicted to exhibit higher achievement scores and to experience more positive affects than low success/high control, low success/low control, and high success/low control students. Furthermore, students with low success/low control perceptions were expected to yield lower responses than all other types of students.

Achievement. In order to test the hypotheses for achievement in the low expressive condition, a Perceived Success (low, high) by Perceived Control (low, high) 2 x 2 ANOVA was conducted. No significant main effects were observed. However, as predicted, a significant two-way interaction was found, $F(1,65) = 4.92$, $MSe = 10.28$, $p < .03$ (see Figure 1a). Bonferroni t tests revealed that high success/high control students performed better than high success/low control $t(65) = 4.83$ ($M = 16.28$ vs 13.22) and low success/high control students $t(65) = 2.58$ ($M = 16.28$ vs 14.62). These results suggest that high perceptions of success and control may be important buffer mechanisms that protect students from the debilitating effects of poor instruction, whereas high success/low control and low success/high control perceptions tend to be maladaptive for student achievement.

A closer look at Figure 1a provides some further insights. Surprisingly, low success/low control students did not exhibit the poorest performance as expected from the literature, but rather, had high achievement scores similar to the high success/high control students. In fact, low success/low control students actually performed better ($M = 15.13$) than either the high success/low control $t(65) = 3.14$ ($M = 13.22$), or the low success/high control $t(65) < 1.00$ ($M = 14.62$) groups! Students showing the worst performance had high success/low control perceptions. Thus, student perceptions of success and control have an important impact on their achievement performance, especially when exposed to low ineffective instruction.

Insert Figure 1 here

Emotions. Perceived Success (low, high) by Perceived Control (low, high) 2 x 2 ANOVAs were conducted on ashamed-proud, discouraged-encouraged, and confident-helpless affects. No significant Perceived Success main effects were found, however, Perceived Control had a significant main effect on ashamed-proud, $F(1,61) = 4.16$, $MSe = 3.46$, $p < .05$, suggesting that high control students felt more pride ($M = 5.23$, $SD = 1.80$) than low control students ($M = 4.45$, $SD = 1.91$). A significant two-way interaction on discouraged/encouraged, $F(1,61) = 4.34$, $MSe = 4.04$, $p < .05$, demonstrated that high success/high control ($M = 4.06$) and low success/low control students ($M = 4.18$) were more discouraged than low success/high control students [$M = 5.67$, $t(65)$'s = 2.94 & 3.03, respectively; see Figure 2a]. Although low success/low control students were hypothesized as experiencing more negative affects given

their low perceptions, it was surprising to find high success/high control students also having discouraging affects, especially since their perceptions were so high!

Although not statistically significant, $F(1,61) = 1.37$, MSe = 2.50, $p = .21$, the pattern of confident/helpless scores in Figure 3a was also interesting. First, the scores of all four groups of students were closely clustered around the scale's mid-point. Of the four types of students, high success/high control, high success/low control and low success/low control students all displayed scores in the helpless direction, whereas low success/high control students demonstrated scores in the confident direction. This pattern is somewhat similar to the encouraged/discouraged scores found in Figure 2a, demonstrating that students with low success/high control perceptions have unique positive emotions in comparison to the other groups of students.

Insert Figures 2 and 3 here

In summary, exposed to low expressive instruction, high success/high control students' achievement scores and low success/low control students' affects supported initial hypotheses. However, low success/low control students' achievement scores and high success/high control students' affects were opposite to initial expectations. Finally, the positive affects demonstrated by the low success/high control students seemed unique to the study and are further deliberated upon in the discussion section.

High Expressive Instruction

Minimal achievement and achievement-related affect differences were predicted in the high expressive condition, given the facilitative effects of high expressive instruction demonstrated in previous studies.

Achievement. A Perceived Success (low, high) by Perceived Control (low, high) 2 x 2 ANOVA revealed a significant interaction for achievement, $F(1,65) = 3.92$, MSe = 15.85, $p < .05$ (see Figure 1b). Bonferroni t tests demonstrated that high success/high control students out-performed ($M = 21.08$) high success/low control students ($M = 18.00$) and low success/high control students [$M = 18.23$, $t(65)$'s = 3.82 & 3.68, respectively]. High success/high control students not only benefitted from their adaptive perceptions, but also from high expressive instruction. Students with only one maladaptive perception, high success/low control or low success/high control, did not perform as well. However their scores, as compared to those in the low expressive condition, were much higher.

Contrary to the initial hypothesis, the low success/low control students out-performed student groups with one maladaptive perception, low success/high control and high success/low control. In fact, low success/low control students ranked second highest in their performance, marginally higher than low control/high success students, $t(65) = 2.19$ (see Figure 1b). Furthermore, a comparison of Figure 1a

with 1b, reveals some intriguing findings. First high success/high
control as well as low success/low control students performed
consistently better while high success/low control students
consistently performed worst, in both low and high expressive
conditions. Secondly, high expressive instruction elevated the
performance of all students, and in particular, highlighting the
performance of the high success/high control group. Thus, perceptions
of high success/high control and low success/low control are
instrumental in yielding high achievement scores that are elevated in
the high expressive condition.

Emotions. Again, no significant main effects were demonstrated,
distinguishing student groups on emotions. However, a significant
interaction was found on helplessness-confident, $F(1,64) = 5.81$, $MSe =$
2.01, $p< .01$ (see Figure 3b). Bonferroni t tests revealed that both
high success/high control ($M = 7.18$) and low success/low control
students ($M = 6.53$) felt more confident than high success/low control
students, $[M = 5.67, t(65)$'s $= 3.12 \& 2.38$, respectively]. These
results confirm that high success/high control as compared to high
success/low control students, have high self-esteem as reflected in
their high levels of confidence. Surprisingly, the low success/low
control students exhibited higher levels of confidence as compared to
high success/low control students. The initial hypothesis predicted
that students with a combination of maladaptive perceptions should
have the poorest performance and this performance should have led to
lowered levels of self-confidence.

Of further interest were the patterns displayed in Figure 2b and
3b. Although not significant, the pattern displayed in Figure 2b was
important. The high as compared to the low expressive condition,
increased students overall encouragement above the mid point of the
scale. Here again, both low success/low control and high success/high
control students had similar affect scores, whereas high success/low
control studen' scored the lowest. Furthermore, Figure 3b revealed
that high as compared to low expressive instruction boosted all
student groups' confidence levels, specifically, the high success/high
control students. In the low expressive condition, students'
confidence levels were much more closely clustered to the mid point of
the scale.

Overall, high success/high control students demonstrated higher
achievement scores as well as higher levels of confidence. Unexpected
were the findings of the low success/low control students. This group
also demonstrated higher levels of achievement and confidence than the
high success/low control group. The latter findings are unique to
this study and are discussed below.

Discussion

Student Achievement

Individual differences that students bring to the college
classroom present a profound challenge to educators. Students'
learning progress has been directly related to their individual
differences, suggesting that individual differences may mediate

learning mechanisms necessary for adaptation to the college classroom
environment. For instance, the present study found that first year
college students bring certain personal belief patterns or perceptions
regarding their past performances to the college classroom. These
perceptions regarding their success and control tend to have important
implications for achievement and affects. For instance, the data
suggests that students with high success/high control or low
success/low control perceptions have higher achievement scores than
either high success/low control students under low expressive
instruction or high success/low control and low success/high control
under high expressive instruction. Under low expressive instruction,
high success/high control and low success/low control perceptions were
instrumental, compensating for the lack of achievement facilitating
effects found in teaching; whereas high success/low control
perceptions tended to be detrimental to students' scholastic
performance, especially under the debilitating effects of ineffective
instruction. Thus, high success/high control and low success/low
control students tend to have a scholastic advantage over their
counterparts, being able to perform well even under poor conditions of
instruction. When exposed to effective instruction, these same
students not only benefitted from their adaptive perceptions but also
from the facilitative effects of expressive instruction.

Also, a consistent pattern of student perceptions were related to
their achievement performance in both instructional conditions. High
success/high control students demonstrated higher achievement scores
than low success/low control students, who surprisingly, had higher
scores than low success/high control students, who in turn had higher
scores than high success/low control students (i.e., **high success/high
control > low success/low control > low success/high control > high
success/low control**). Although not statistically significant, this
pattern in both instructional conditions demands further research
attention. Closer scrutiny of this pattern reveals that compatible
perceptions (i.e., high success/high control, low success/low control)
yielded enhanced achievement, whereas incompatible perceptions (i.e.,
high success/low control, low success/high control) produced lesser
achievement. Furthermore, when perceptions were incompatible, high
perceptions of control (i.e., low success/high control) tended to be
more benefic al to students than high perceptions of success (i.e.,
high success/low control), suggesting that perceptions of control may
have more impact on student outcomes than perceptions of success.
Therefore, compatible perceptions as well as high perceptions of
control may be instrumental in providing adaptive scholastic
cognitions for students.

Student Affects

Affective reactions should support the notion that students with
high perceptions of success and control should also feel more pride
than students with maladaptive perceptions. However, this was not the
case for high success/high control students. Contrary to this belief,
low success/high control students demonstrated significantly higher
levels of encouragement than the high success/high control students in
the low expressive condition. Exposure to the debilitating effects of
ineffective instruction may explain this finding. For instance, it is

12

possible that students with low success/high control came to the
learning environment, not expecting to do well at the present task
because of their initial low perceptions of success. Students with
high perceptions, on the other hand, probably came to the learning
environment with high expectations to perform well because of their
initial high success perceptions. Exposed to low as compared to high
expressive instruction, all students, regardless of perceptions,
performed poorer. However, since the low success/high control group
may not have had a high expectancy to perform well, their actual
performance was not unexpected. But for the students with high
success/high control perceptions, their initial expectations may have
been threatened by their poorer performance, and this threat, in turn,
may have induced discouragement.

Further support of the latter interpretation was demonstrated in
the opposite finding in the high expressive condition. Overall higher
student achievement scores were found. Furthermore, high success/high
control students exposed to high expressive instruction benefitted the
most. They displayed higher achievement scores as well as higher
levels of confidence. Therefore, expressive instruction may have a
beneficial impact on students with high perceptions of success and
control. While low expressive instruction induced discouragement,
high expressive instruction enhanced confidence.

Instructor Expressiveness

As expected, the expressive teaching behavior was uniquely
related to student scholastic performance and affects (see Table 1).
The present study replicated and extended previous findings
demonstrating that high expressiveness was directly related to
students' higher achievement performance and heightened feelings of
encouragement, pride, and confidence. On the other hand, students
exposed to the low expressive instructor performed more poorly and
felt less confident. Thus, when instruction was effective, students'
self-regulatory learning processes were enhanced. However, when
instruction was ineffective, students' self-regulatory learning
processes were adversely effected and student performance suffered.

Implications for Learning and Instruction

These findings have important implications for university
classroom learning. For instance, from a students' point of view,
perceptions of success and control prior to entering the college
classroom have very important consequences on students' learning and
subsequent scholastic outcomes, with the latter perception playing a
potentially more crucial role than the former. Therefore, factors
such as exposure to instructor and/or experiences of successful
performance in previous learning environments (i.e., high school) that
may have led to higher perceptions of control and success, have
beneficial effects on students' subsequent scholastic outcomes.
However, factors reducing students' perceptions of success and control
will also reduce their subsequent scholastic outcomes.

From an instructional point of view, learning how to make the
most of student strengths while compensating for student learning

inequalities, represents a a major challenge for educators! These results suggest that one of the major contributions of effective teaching is its capacity to increase achievement in at least two of four possible types of students instructors face in college environment, high success/high control and low success/low control students. Perceptions of successful achievement for these students, in turn, increases self-efficacy which in turn, increases motivation for future performance outcomes. Therefore, high expressiveness as well as perceptions of high control (and to a lesser extent, perceptions of high success) may elevate the probability of long term success in the university setting. Contrary to previous studies (i.e., Perry & Dickens, 1987), students characterized by less effective learning orientations, such as the high success/low control students in the present study, did not benefit from effective instruction. These students benefitted least from the facilitating effects of effective instruction and should be of concern to educators and institution of higher learning!

Implications for Future Research

A number of problems should be addressed by future research. For instance, the approach of this study to explain effective instruction by isolating instructional variables has fundamental restrictions and shortcomings. First, the effects associated with instructor expressiveness may not characterize other effective teaching behaviors that have been identified (e.g., Feldman, 1976; Murray, 1983). Thus, other teaching behaviors should also be included. Second, the "impersonal" video-taped instructor does not allow for student-instructor interaction. Students having opportunities to exchange dialogue with instructors may establish relationships that are otherwise not possible in the laboratory setting. Third, the laboratory simulation is less representative of small-group seminars but more representative of classrooms having large numbers or videotaped lectures in which teacher-student interactions are minimal. Furthermore, given that such strict controls can impose artificial conditions that limit the representativeness of laboratory findings, lack of external validity tends to suffer (Perry, Abrami, & Leventhal, 1979). Finally, experiments and cognitive measures may not tell us anything about thinking and behavior about the laboratory. Therefore, field studies, which have better external validity, are of value to the researcher[1]. In summary, these problems suggest extreme care is necessary when making generalizations regarding these results and specify important issues for future research.

References

Bandura, A. (1982). Self-efficacy: Mechanisms in human agency. American Psychologist, 37, 122-147.

Braun, C. (1976). Teacher expectation: Sociopsychological dynamics. Review of Educational Research, 46, 185-213.

Dweck, C.S. (1986). Motivational processes affecting learning. American Psychologist, 41(10), 1040-1048.

Feldman, K.A. (1976). The superior teacher from the student's view. Research in Higher Education, 24, 115-127.

Feldman, K.A. (1989). The association between student ratings of specific instructional dimensions and student achievement: Refining and extending the synthesis of data from multisection validity studies. Research in Higher Education, 30, 583-645.

Helmke, A., Schneider, W., & Weinert, F.E. (1986). Quality of instruction and classroom outcomes - results of the German contribution to the classroom environment study of the IEA. Presented at the annual meeting of American Educational Research Association, Chicago, Ill.

Kirk, R. (1982). Experimental design: Procedures for the behavioral sciences, second edition, Belmont, CA.: Brooks/Cole.

Marsh, H. (1991). Multidimensional students' evaluation of teaching effectiveness: A test of alternative higher-order structures. Journal of Educational Psychology, (in press).

Murray, H.G. (1983). Low-inference classroom teaching behaviors and student ratings of college teaching effectiveness. In J.G. Donald & A.M. Sullivan (Eds.), Using research to improve university teaching. San Francisco: Jossey-Bass.

Murray, H.G. (1991). Effective teaching behaviors in the college classroom. In J.Smart (Ed.), New York: Agathon Press. Higher Education: A handbook of theory and research (vol. 7), New York: Academic Press.

Pillemer, D.B. (1991). One- versus two-tailed t tests in educational research. Educational Researcher, 20(9), 13-17.

Perry, R.P. (1985). Instructor expressiveness: Implications for improving teaching. In J.G. Donald & A.M. Sullivan (Eds.), Using research to improve teaching: New directions for teaching and learning. (pp. 35-49). San Francisco: Jossey-Bass.

Perry, R.P. (1991). Perceived control in college students: Implications for instruction in higher education. In J. Smart (Ed.), Higher Education: Handbook of Theory and Research (vol. 7), New York: Academic Press.

Perry, R.P., Abrami, P.C., & Leventhal, L. (1979). Educational seduction: The effect of instructor expressiveness and lecture content on student ratings and achievement. Journal of Educational Psychology, 71, 107-116.

Perry, R.P., & Dickens, W. (1984). Perceived control in the college classroom: Response-outcome contingency training and instructor expressiveness effects on student achievement and causal attributions. Journal of Educational Psychology, 76, 966-981.

Perry, R.P., & Dickens, W. (1987). Perceived control and instruction in the college classroom: Some implications for student achievement. Research in Higher Education, 27, 291-310.

Perry, R.P., & Magnusson, J. (1987). Effective instruction and students' perceptions of control in the college classroom: Multiple lecture effects. Journal of Educational Psychology, 79, 453-460.

Perry, R.P., & Magnusson, J. (1989). Causal attributions and perceived performance: Consequences for college students' achievement and perceived control in different instructional conditions. Journal of Educational Psychology, 81, 164-172.

Perry, R.P. & Penner, K.S. (1990). Enhancing academic achievement in college students through attributional retraining and instruction. Journal of Educational Psychology, 82(2), 262-271.

Perry, R.P., & Tunna, K. (1988). Perceived control, Type A behavior, and instructional quality. Journal of Educational Psychology, 80, 102-110.

Ross, M., & Fletcher, G.J.O. (1985). Attribution and social perception. In G. Lindzey & E. Aronson (Eds.), Handbook of social psychology, 12, (pp. 73-122). New York: Random House.

Schunk, D.H. (1989). Social cognitive theory and self-regulated learning. In B.J. Zimmerman & D.H. Schunk (Eds.), Self-regulated learning and academic achievement: Theory, research, and practice. (chp 4). New York: Springer-Verlag.

Seligman, M. (1975). Helplessness: On depression, development and death. San Francisco: Freeman.

Stipek, D.J., & Weisz, J.R. (1981). Perceived control and academic achievement. Review of Educational Research, 51, 101-138.

Weiner, B. (1986). An attributional theory of motivation and emotion. New York: Springer-Verlag.

Figure Caption

Figure 1. The interactional effects of student perceptions of success and control on student achievement under low and high expressive instruction.

Figure 2. The interactional effects of student perceptions of success and control on encouraged-discouraged under low and high expressive instruction.

Figure 3. The interactional effects of student perceptions of success and control on confident-helplessness under low and high expressive instruction.

Footnotes

[1] However, the identification of causal relations is problematic and can only be dealt with by referring back to supporting laboratory

research.

Table 1: EXPRESSIVENESS MAIN EFFECTS

Measures	MSe	F
EFFORT[a]	3.92	9.35*
TEST DIFFICULTY[a]	3.53	0.31
DISCOURAGED/ENCOURAGED[b]	3.53	14.54**
ASHAMED/PROUD[b]	2.82	10.56**
HELPLESS/CONFIDENT[b]	2.50	5.60*
ACHIEVEMENT[c]	13.11	40.73**

Note: * p < .05; ** p < .01; LC=LOW CONTROL; HC=HIGH CONTROL; LS=LOW SUCCESS; HS=HIGH SUCCESS; "How much did [a] determine your performance on the test?" (not at all = 0, entirely = 9); [b]"Rate the extent to which you experienced each of the following feelings as a result of the achievement test" (i.e., 0 = discouraged, 9 = encouraged); [c]The achievement test scores (range 0 - 30).

Table 2: Means and Standard Deviations

MEASURES	Low Expressive Instruction					High Expressive Instruction				
	LC-LS	LC-HS	HC-LS	HC-HS	TOTAL	LC-LS	LC-HS	HC-LS	HC-HS	TOTAL
EFFORT[a]										
M	5.66	5.67	4.62	5.94	5.54	6.61	5.75	6.69	7.36	6.59
SD	2.27	2.18	1.94	1.92	2.12	1.80	2.53	1.65	1.12	1.86
N	29	9	13	18	69	33	12	13	11	69
TEST DIFFICULTY[a]										
M	5.93	6.67	5.39	6.72	6.13	6.09	5.83	6.54	5.46	6.03
SD	2.25	1.73	1.50	1.49	1.91	1.94	1.59	1.61	2.01	1.86
N	29	9	13	18	69	33	12	13	11	69
DISCOURAGED/ENCOURAGED[b]										
M	4.18	4.88	5.67	4.06	4.51	6.13	5.92	5.77	6.46	6.07
SD	1.96	1.64	2.06	2.19	1.89	1.86	1.73	1.59	1.57	1.61
N	28	8	12	17	65	32	12	13	11	68
ASHAMED/PROUD[b]										
M	4.39	4.25	6.08	4.65	4.57	5.94	5.75	5.77	6.09	5.90
SD	1.83	1.39	1.78	2.12	1.59	1.48	1.14	1.30	1.97	1.44
N	28	8	12	17	65	32	12	13	11	68
HELPLESS/CONFIDENT[b]										
M	4.79	4.50	6.17	4.77	5.00	6.53	5.67	6.23	7.18	6.43
SD	1.77	1.77	1.40	1.86	1.79	1.37	1.07	1.64	1.60	1.46
N	28	8	12	17	65	32	12	13	11	68
ACHIEVEMENT[c]										
M	15.13	13.22	14.62	16.28	15.16	19.27	18.00	18.23	21.08	19.17
SD	3.59	2.22	3.38	2.78	3.23	4.14	4.02	3.66	3.80	4.03
N	29	9	13	18	69	34	12	13	12	71

Note: LC=LOW CONTROL; HC=HIGH CONTROL; LS=LOW SUCCESS; HS=HIGH SUCCESS; [a]"How much did you determine your performance on the test?" (not at all = 0, entirely = 9); [b]"Rate the extent to which you experienced each of the following feelings as a result of the achievement test" (i.e., 0 = discouraged, 9 = encouraged); [c]The achievement test scores (range 0 - 30).

BEST COPY AVAILABLE

19