1983

Manual for Use with LOGO-II

James A. Eison
University of Tennessee - Knoxville

Howard R. Pollio
University of Tennessee - Knoxville, hpollio@utk.edu

Ohmer Milton
University of Tennessee - Knoxville

RESEARCH REPORTS
in TEACHING/LEARNING

Manual For Use With
L O G O - II

James A. Eison, Ph.D.
Howard R. Pollio, Ph.D.
Ohmer Milton, Ph.D.

LEARNING RESEARCH CENTER
UNIVERSITY OF TENNESSEE, KNOXVILLE
SUITE #5, HOSKINS LIBRARY
KNOXVILLE, TENNESSEE 37996-4001

W. LEE HUMPHREYS, DIRECTOR
(615) 974-2459

Manual For Use With
L O G O - II

James A. Eison, Ph.D.
Howard R. Pollio, Ph.D.
Ohmer Milton, Ph.D.

Learning Research Center
The University of Tennessee
Knoxville

INTRODUCTION

The empirical study of factors that influence learning in the college classroom has interested both instructors and educational researchers for many years. From the voluminous body of research this interest has prompted (see Lavin, 1965), recognition of the importance of several factors has emerged. The most obvious influence upon student achievement certainly must be that of ability or intelligence. Intellectual ability alone, however, has been found to account for only a portion of the variability in academic achievement.

In attempting to account for the remaining variance, researchers have turned their attention to a number of noncognitive factors, including study habits, test anxiety, personality, and motivation. Of these, the one most clearly requiring closer attention and examination would seem to be that of student motivation. Although student motivation in the classroom has been construed in many different ways and in terms of many different motives and motivational systems, one of the major constructs examined has been that of need for achievement. Need for achievement has been defined as a person's concern over competition with some standard of excellence and has been measured by procedures developed by McClelland and Atkinson and their associates (McClelland, Atkinson, Clark, and Lowell, 1953; Atkinson, 1958). Unfortunately, the general conclusion to much of this work has been that achievement motivation is only of limited value in predicting student learning.

Largely for this reason, Eison (1981) offered an alternative perspective on motivation in the college classroom that specifically acknowledged differences in student attitudes towards the experience of classroom learning. He proposed that a student's academic behavior was often significantly influenced by one of two possible orientations toward the classroom situation which were termed learning orientation and grade orientation. The phrase, learning orientation—LO--was used to describe the predominant attitude held by those students who approach the college experience as an opportunity to acquire knowledge and to obtain educational and personal enlightenment. Grade orientation—GO--was defined as describing an attitude held by other students who view obtaining a good course grade, in and of itself, a valid reason for their being and doing in college.

Using a rational-intuitive approach to test construction, Eison developed a brief paper and pencil test, LOGO, to assess these differing orientations. In two separate papers (Eison, 1981; 1982) evidence was presented demonstrating that LOGO (a) discriminated among students, (b) was statistically reliable (both in terms of internal consistency and temporal stability), and (c) was valid when evaluated against a number of behavioral criteria. In addition, two independent studies compared three different student groups defined by LOGO (i.e., grade-, mixed-, and learning-oriented) on a number of dimensions identified by previous researchers as exerting significant influences upon academic achievement.

Among other results, Eison (1982) found significant differences among these groups on measures of personality (measured by the 16 PF, Cattell, 1967), general ability (measured by the ACT exam), study habits (measured by the SSHA, Brown and Holtzman, 1967), test anxiety (measured by the AAT, Alpert and Haber, 1960), and a specially prepared course and instructor evaluation form. As a group, learning-oriented students were found to be more emotionally stable, trusting, imaginative, forthright, self-sufficient and relaxed than their grade-oriented counterparts. In addition, learning-oriented students scored significantly higher on: (a) the ACT examination, (b) seven of the SSHA subscales, (c) an achievement motivation scale, and (d) the facilitating test anxiety scale of the AAT. Learning-oriented students also reported less debilitating test anxiety. Significantly greater degrees of satisfaction and pleasure with several aspects of the course and with their instructors were also observed among learning-oriented students.

Despite these generally positive finding, the original LOGO scale seemed to have a number of minor statistical-procedural problems and a possibly more severe conceptual difficulty. Perhaps the major statistical problem concerned the number and nature of items designed to assess the LO and GO styles of college students. The original scale (See Appendix I) contained only 20 items; 10 items that LO students might be expected to agree with and 10 with which they might be expected to disagree. As such, LOGO used an agree-disagree item format which yielded dichotomous responses and did not allow for differing levels of agreement or disagreement. Perhaps more critically, all items were essentially of the form: I like (dislike) . . .,

or I feel (think) that . . . . In short, these items identified student attitudes without attempting to identify criterial behaviors that might also serve to differentiate the LO from the GO student.

The most critical conceptual problem with the original LOGO scale was whether LO and GO should be considered as opposite ends of the same continuum (the original position implicity endorsed by LOGO) or if these attitudes represent two different and potentially independent attitudes a student might hold toward the college experience. What this means in terms of thinking about flesh and blood students comes down to a question of whether or not it would be possible for a student to be high (low) on both learning and grade orientations. A little reflection suggests this as a distinct possibility (consider, for example the competitive attitudes of many pre-med students toward grades) thereby leading to the suggestion that LO and GO items ought to be presented in separate questions and not only as agree/disagree choices to the same question. Under this type of approach, it would be possible to describe four different categories of student types defined by the cross of high and low endorsements of both LO and GO statements. This procedure would also allow for a more precise description of the student having a mixed orientation.

DEVELOPMENT OF LOGO-II

With these as major considerations, a new pool of 60 items was developed to tap the learning and grade orientations of college students. Of these items, 30 were specifically concerned with attitudes (e.g., I dislike extra assignments that are not graded), while 30 were concerned with directly re-

portable behavior (e.g., I browse in the library even when not working on a specific assignment). Thirty of these items, (15 attitude and 15 behavior) were so phrased as to tap attitudes and behaviors potentially descriptive of LO students while the remaining 30 were so phrased as to tap attitudes and behaviors potentially characteristic of GO students. All statements were accompanied by a 1-5 rating scale with endpoints defined as "strongly disagree" and "strongly agree" for attitude items and "never" and "always" for behavior items.

The next step involved administering this 60 item test to 228 students enrolled in Introductory Psychology classes at University of Tennessee, Knoxville (N=176) and at Roane State Community College (N=52). Responses produced by these students to each question were intercorrelated thereby producing a matrix of correlations for all 60 questions. The matrix was then factor-analyzed, using the principal components method, and rotated to simple structure on the basis of a varimax procedure.

Results of this initial analysis were next used as a guide to select the final set of 32 items comprising LOGO-II. These questions are contained in Table 1 (See next page). As can be seen, Part I of LOGO-II concerns academic attitudes whereas Part II concerns observable behaviors. Within this table items in Part I are organized into 2 sets of 8 questions each, with the first set consisting of LO attitude statements and with the second consisting of GO attitude statements. Items in Part II also are organized into two sets of 8 each, with the first set consisting of LO behaviors and the second consisting of GO behaviors. For classroom use, items within each part were randomly ordered so as to avoid asking all questions of the same

Table 1

LOGO II QUESTIONS USED IN THE PRESENT STUDY

Part 1

Directions: Below is a series of statements taken from interviews with a large number of college students concerning their reactions to various courses, instructors, and classroom policies. Please read each statement carefully, and indicate how strongly you agree or disagree with each item using the following scale:

1) strongly disagree
2) disagree
3) neither disagree nor agree
4) agree
5) agree strongly

Indicate your response with a nice dark mark on the machine scoreable answer sheet. Also please print your name on the top of the machine scoreable answer key.

1. Easy classes that are not pertinent to my educational goals generally bore me.

2. I get annoyed when lectures or class presentations are only rehashes of easy reading assignments.

3. I enjoy classes in which the instructor attempts to relate material to concerns beyond the classroom.

4. I appreciate the instructor who provides honest and detailed evaluation of my work though such evaluation is sometimes unpleasant.

5. I am more concerned about seeing which questions I missed than I am with finding out my test grade.

6. I find the process of learning new material fun.

7. A teacher's comments on an essay test mean more to me than my actual test score.

8. I prefer to write a term paper on interesting material than to take a test on the same general topic.

9. I dislike courses in which a lot of material is presented in class, or in readings, that does not appear on exams.

10. I do not find studying at home to be interesting or pleasant.

11. Instructors expect too much out-of-class reading and study by students.

12. I think that without regularly scheduled exams I would not learn and remember very much.

13. Written assignments (i.e., homework, projects, etc.) that are not graded are a waste of a student's time.

14. I think it is unfair to test students on material not covered in class lectures and discussions, even if it is in reading assignments.

15. I dislike courses which require ungraded out-of-class activities.

16. I think grades provide me a good goal to work toward.

Part II

Directions: Please read each of the following statements. Indicate how frequently your behavior coincides with the action described using the following rating scale:

1) never
2) seldom
3) sometimes
4) often
5) always

17. I stay after interesting classes to discuss material with the instructors.

18. I participate in out-of-class activities even when extra-credit is not given.

19. I try to keep all my old textbooks because I like going back through them after the class is over.

20. I do optional reading that my instructors suggest even though I know it won't affect my grade.

21. I browse in the library even when not working on a specific assignment.

22. I discuss interesting material that I've learned in class with my friends or family.

23. I try to make time for outside reading despite the demands of my coursework.

24. I buy books for courses other than those I am actually taking.

25. I cut classes when confident that lecture material will not be on an exam.

26. I get irritated by students who ask questions that go beyond what we need to know for exams.

27. I will withdraw from an interesting class rather than risk getting a poor grade.

28. I try to find out how easy or hard an instructor grades before signing up for a course.

29. When looking at a syllabus on the first day of class, I turn to the section on tests and grades first.

30. I'm tempted to cheat on exams when I'm confident I won't get caught.

31. I borrow old term papers or speeches from my friends to meet class requirements.

32. I try to get old tests when I think the instructor will use the same question again.

type at the same time. An example of one of the orders actually used is presented in Appendix II.

Reliability estimates derived from this initial set of data were also computed using Cronbach's alpha coefficient as the statistic of interest for each scale. Results indicated that all 16 items of the LO scale produced a value of .76 whereas the 8 LO attitude statements produced a value of .52, and the 8 LO behavior statements produced a value of .76. Comparable values were .73 for the total 16 item GO scale, .62 for the 8 GO attitude items, and .73 for 8 GO behavior items.

Following this evaluation of item reliability, inter-item correlations were next computed between all pairs of the total pool of 32 items. These correlations are presented in Appendix III in the form of four different matrices: Table 1 presents intercorrelations between LO attitudes and LO behaviors, Table 2 presents intercorrelations between GO attitudes and GO behaviors, Table 3 presents intercorrelations between LO and GO attitudes, whereas Table 4 presents intercorrelations between LO and GO behaviors.

To relate these results somewhat more closely to issues concerning learning and grade oriented students, a second principle components factor analysis, rotated to simple structure on the basis of a Varimax procedure, was performed across the complete set of 496 correlations. Results of this analysis are presented in Table 2 (See next page). As can be seen, the data are described best by a 9 factor solution and the task now becomes one of defining these factors in terms of educationally relevant attitudes and behaviors.

Table 2

Factor Analytic Results Produced By the 32 Items of LOCO-II

(Varimax Rotation)

ITEM NUMBER	FACTOR I	FACTOR II	FACTOR III	FACTOR IV	FACTOR V	FACTOR VI	FACTOR VII	FACTOR VIII	FACTOR IX
1	0.11543	-0.07700	0.09101	-0.04991	-0.01248	0.47758	-0.01388	0.10155	0.07705
2	0.07544	0.02139	0.08322	0.11847	-0.03761	0.58307	0.07234	-0.09016	-0.11481
3	0.05090	0.06173	0.00160	0.57737	-0.08107	0.00204	0.01030	0.09317	-0.05256
4	0.15196	-0.03774	0.00911	0.65504	0.05669	0.06419	0.09010	0.03285	0.18237
5	0.23805	-0.07509	-0.10170	-0.01075	0.03533	0.07985	0.61725	0.00822	-0.03071
6	0.35341	-0.28060	-0.12975	0.31889	0.03867	0.00587	0.11718	0.13708	-0.00931
7	0.18003	-0.06651	0.02898	0.18410	-0.08838	-0.00056	0.58996	-0.12058	0.21055
8	0.16347	-0.00355	-0.07004	0.09045	-0.03664	0.01947	0.09843	-0.01921	0.52471
9	-0.12077	0.18344	0.19781	-0.07045	0.23801	0.17562	-0.05149	0.14957	-0.28093
10	-0.29969	0.13898	0.14768	0.06250	0.20022	0.18914	-0.19218	-0.05342	-0.12533
11	-0.04260	0.08137	0.25299	-0.01610	0.56913	-0.00589	0.05189	0.05960	-0.02467
12	-0.02391	-0.00023	0.18276	0.05954	-0.00562	-0.03332	-0.00161	0.61448	-0.02681
13	-0.12082	0.02091	0.63474	-0.03336	0.24831	0.22110	-0.00193	0.05933	0.01846
14	-0.06016	0.17925	0.25358	-0.10013	0.28316	-0.05347	-0.08137	0.02850	0.04292
15	-0.11943	0.10990	0.68404	0.03632	0.12291	0.04404	-0.06665	0.03444	-0.17631
16	-0.04590	-0.07219	-0.15759	0.16685	0.22314	0.11911	-0.09051	0.47660	0.00665
17	0.55692	-0.07457	0.02393	0.07909	0.16189	0.06528	0.15393	-0.11032	-0.00198
18	0.47676	-0.07457	-0.19103	0.11796	0.11989	0.14164	0.20561	-0.06359	0.12778
19	0.47126	-0.15606	-0.10626	-0.07393	-0.18171	-0.04032	0.10645	-0.14328	0.12502
20	0.54247	-0.23538	-0.18157	-0.09614	-0.11907	0.26938	0.13871	0.10396	0.01040
21	0.53486	-0.07908	-0.05973	0.20904	-0.08969	0.07691	-0.04904	0.01501	0.04448
22	0.44680	-0.09850	-0.04461	0.18826	-0.01185	-0.03085	0.10164	0.12033	0.11221
23	0.49033	-0.15982	0.08027	0.06711	-0.32425	0.25065	-0.03318	0.02515	0.05617
24	0.49704	-0.02473	-0.00814	-0.09770	-0.28561	-0.00777	0.15091	-0.22738	0.10090
25	-0.15099	0.46427	0.06458	0.16494	-0.01662	0.12304	0.08011	-0.09301	-0.26552
26	-0.12177	0.31163	0.14923	0.02991	0.32884	-0.09773	-0.05358	0.12264	-0.07087
27	-0.04477	0.34250	0.17557	-0.03234	-0.00835	-0.28281	-0.07759	0.00842	-0.17328
28	-0.01517	0.50958	0.04027	-0.08609	0.20860	-0.01219	-0.09143	0.00107	-0.04070
29	-0.16720	0.40113	0.02519	-0.00662	-0.03671	-0.19990	-0.18151	0.23115	0.09839
30	-0.13027	0.45345	0.01408	0.08172	0.14449	-0.06570	0.03733	-0.09827	-0.29785
31	-0.20564	0.59201	0.02932	-0.14240	0.14377	0.05649	-0.00930	-0.14937	0.09946
32	-0.13039	0.79748	0.03595	0.02974	-0.04228	-0.02763	-0.04970	0.08187	0.07101

The most obvious aspect to Factor I is that items 1-8 and 17-24 all show positive factor loadings whereas items 9-16 and 25-32 all show small, essentially insignificant, negative factor loadings. Of the 16 positive loadings, it seems quite clear that all 8 questions producing a value of .44 or greater involve items concerning LO behaviors. The one remaining, relatively high, factor loading concerns LO attitude statement number 6: "I find the process of learning new material fun". On the basis of this pattern of results it seemed reasonable to label Factor I as Learning-Oriented Behaviors.

Factor II also yielded a clearcut pattern. An examination of items producing high loadings (r >.30) on this factor reveals that all 8 concerned GO behaviors. As was true in the case of Factor I, Factor II was defined by an extremely clear pattern with the name suggested by this pattern that of Grade-Oriented Behaviors.

An examination of items loading on Factor III indicates that the highest loadings (r >.60) consisted of the following questions:

Q 15 I dislike courses which require ungraded out of class activities;

Q 13 Written assignments (i.e. homework, project, etc.) that are not graded are a waste of student's time.

In addition to these two items the following set also produced moderate loadings (r >.25):

Q 11 Instructors expect too much out-of-class reading and study by students.

Q 14 I think it is unfair to test students on material not covered in class even if it is in the reading assignments.

Taking all of these items into consideration suggested that this factor concerned one component of a more general GO attitude which focuses around the issue of ungraded, out of class work. For this reason, Factor III was called Disvaluation of Non-graded Assignments.

Factor IV was defined by positive loading (r >.37) for the following questions:

Q 3 I enjoy classes in which the instructor attempts to relate material to concerns beyond the classroom.

Q 4 I appreciate the instructor who produces honest and detailed evaluation of my work though such evaluation is sometimes unpleasant.

Q 6 I find the process of learning new material fun.

The attitudes expressed by these questions would seem to contain two parts; one expressed by items 3 and 4 which indicate a sincere valuation of the role of the instructor and a second relating more specifically to item 6. As may be remembered, this item also loaded strongly a Factor I and seems to represent a reasonably general positive attitude toward learning that cuts across at least two of the major LO factors. On the basis of this pattern of loadings, Factor IV was interpreted more narrowly as expressing a Positive Valuation of Feedback.

Factor V seems a less cohesive factor than those considered previously and consists primarily of Question 11 (Instructors expect too much out-of-class reading and study by students) and to lesser extent of items 14 (I think it is unfair to test students on material not covered in class..., even if it is in the reading assignments) and 26 (I get irritated by students who ask questions that go beyond what we need to know for exams). This latter

item, which also is part of Factor II, concerns being irritated at classroom questions that go beyond what "we need to know for exams." As such, it relates quite well with Question 14 and, through this item, to Item 11. On this basis it seems reasonable to propose that Factor V represents Resentment Toward Non-tested Information; an attitude component characteristic of the more general GO attitude pattern.

Factor VI is clearly defined by items 1 and 2:

Q 1 Easy classes that are not pertinent to my educational goals generally bore me.

Q 2 I get annoyed when lectures or class presentations are only rehashes of easy reading assignments.

The factor, which forms part of the LO attitude pattern, seems best described as a negative evaluation of classes presenting non-pertinent material even if such material is easy to understand. This factor suggests that one criterion for the LO attitude is relevance (and not simplicity) and for this reason Factor VI was defined as Irritation at Irrelevance.

Factor VII, like many of the preceding factors, is a quite clear one consisting primarily of items 5 and 7.

Q 5 I am more concerned about seeing which questions I missed than I am in finding out my test grade.

Q 7 A teacher's comments on an essay test mean more to me than my actual test score.

This factor suggests a concern for, and with, feedback on examinations and again seems clearly part of a learning-orientation to classroom learning and testing. The specific wording of these items suggests that Factor VII be defined as Relative De-emphasis of Grades Relative to Feedback.

Factor VIII, which is the last of the GO attitude factors, was clearly defined by positive loadings for items 12 and 16:

Q 12 I think that without regularly scheduled exams I would not learn and remember very much.

Q 16 I think grades provide me with a good goal to work towards.

As can be seen the role of grades, as incentives for learning, is clearly stressed by these items and for this reason it seems reasonable to name this cluster as a Grade Incentive factor. Although it is possible to expect items 5 and 7, which defined Factor VII (the feedback factor), to be negatively related to the present factor, this was not the case suggesting these are independent attitude components not necessarily experienced as opposite to one another as, perhaps, apriori logical analysis might predict.

Factor IX, which is the last of the LO factors, was defined by item 8 which suggests a preference "for term papers over tests". Although the preference is clear, the meaning of this factor is not. From present data it is impossible to decide if the major component is avoidance of testing or appreciation of greater involvement with a given topic. Although our conceptualization of the LO student would suggest the latter alternative, the data do not allow for an unequivocal decision. Further support for this conclusion, however, may be derived from earlier work on LOGO (Eison, 1982) where the LO student seemed to have lower test anxiety than the GO student. Whatever the reason(s), LO students prefer term papers to examinations.

Summary of LOGO-II Factors

Results of the present factor analysis of LOGO-II were quite clear in revealing that LO and GO behaviors form stable and mutually exclusive groupings.

Although it is difficult to decide if these behaviors represent polarities of the same dimension, it is easy to decide that they represent non-overlapping sets of college student behaviors in regard to learning, testing and grading.

The case of LO and GO attitudes is a bit more complex. Present results suggest four separate components to the LO attitude pattern and three separate components to the GO attitude pattern. Of the 16 questions comprising the attitude portion of LOGO-II, only two items, numbers 9 and 10, did not load unequivocally on any specific factor. Item 9 (I dislike courses in which a lot of material is presented in class... that does not appear on exams) would seem to belong most clearly with Factor V and, indeed, a re-examination of results presented in Table 2 reveals that it did have its major positive loading on this factor. This situation is somewhat different for item 10 (I do not find studying at home to be interesting or pleasant) which did not load positively on any of the LO or GO factors. In fact, its major value involved a negative loading on Factor I perhaps suggesting that studying at home, while not defining any specific behavior pattern, is opposite to the LO pattern.

The major attitudes components of LO, as revealed by Factors IV, VI, VII and VIII would seem to be best described as follows: positive regard for instructors; negative regard for easy, but irrelevant, material; positive feelings for feedback over evaluative grading; and a preference for term papers over examinations. Perhaps the best summary of this attitude is given by item 6: "I find the process of learning new material fun."

The major attitude component of GO would seem to be well defined by 3 different clusters; those involving Factors III, V and VII. As may be remembered these components were described as a general disvaluation of ungraded assignments; a tendency to resent material not covered in class and to be annoyed at tests covering such material; and a tendency to view grades as the basic reason for learning. Perhaps the best summary of this attitude is given by item 13: "Written assignments that are not graded are a waste of time."

Implications and Future Directions

A. Individual Difference Analysis

One of the major reasons for undertaking a revision of LOGO was to determine if learning and grade orientations represent opposite ends of the same dimension or if they are better considered as separate attitude categories. Results of the present analysis suggest that while there is some degree of inverse relationship between learning and grade orientations, it is not unreasonable to consider them as essentially independent categories of student attitudes and behaviors. If we take this as a starting point it is possible to produce a typology of students based on the joint categories of learning and grade orientation. Under such a system students can provisionally be described as falling into one of the following 4 groups established by dividing both LO and GO into a high and low group: high LO/high GO; high LO/low GO; low LO/high GO and low LO/low GO.

The first of these groups—high LO/high GO--represent a recognizable type on most college campuses and is probably best realized as the pre-

professional student auch as those following the pre-med or pre-law curricula. These students are motivated both to learn and to achieve high grades; the former perhaps out of personal interest and avocation; the latter out of necessity.

The second of our major groupings--high LO/low GO--represents the original intuition used for developing LOGO. The central focus of classroom attitudes and actions for these students is the pursuit of personal growth and educational enrichment. Although grades are viewed as an unavoidable part of the classroom experience, they are incidental to understanding the learner's underlying motivation. In short, grades serve neither as a uniquely relevant goal nor as a means to achieving some goal.

The third major type—low LO/high GO--likewise represents our initial intuitions concerning the GO student. These individuals tend to view all aspects of the classroom in terms of their effect on a course grade. Instructional procedures and policies that make getting good grades easier are highly valued whereas activities not related to course grades are viewed as an inconvenient waste of time and may well be ignored.

Finally, the fourth major type—low LO/low GO--represents something of enigma, although we can possibly recognize such a student as one who is going to college for a "good" time or to avoid having to "get a job." Under this interpretation both LO and GO are irrelevant, and the student's reason for being in school must be sought outside the context of either learning or grades.

Given this typology, the next obvious issue to explore is the way these four student groups differ on educationally relevant dimensions such as

those identified in previous research with the LOGO scale. For this reason, an examination of personality traits, study habits, and test anxiety levels of each of these student types is presently underway. Other noncognitive factors such as locus of control and introversion-extroversion are also included in this project as are student grade-point averages as well as their evaluations of the incentive values associated with the various grade levels of A through F.

B. Educational Implications and Possibilities

If these four LOGO categories represent meaningful student types, it seems reasonable to wonder how they could (or should) be treated differentially in the college environment. One obvious suggestion would be to make some attempt to match LO students with LO instructors and GO students with GO instructors. Although few instructors would ever publically admit to having a strong personal GO orientation, it is possible to identify instructors who implicitly or explicitly structure and conduct their classes with a clear GO focus in mind. For example, such instructors:

- seldom assign non-graded projects
- use frequent tests, and possibly surprise quizzes, strictly to enforce student reading
- believe that students will not attend class regularly without coercion
- post test grades without also reviewing correct answers
- use elaborate point systems to monitor or reward student work

While it is impossible at present to predict the extent to which such matches (or mismatches) between student and faculty orientations influence

student achievement and/or student satisfaction, personal anecdotal evidence suggests that the effect could be profound. That this is to be expected can be summarized easily in terms of the behaviors characterizing both the LO and GO student. How can we possibly expect a LO student who describes his or her behavior to include the following characteristics; I participate in out of class assignments even when extra-credit is not given; I do optional reading ... even though it won't effect my grade; etc., not to be adversely affected by a professor who believes that non-graded activities are a waste of time or who believes students will not do things unless coerced (or rewarded) by the threat (promise) of grades? Similarly how can we possibly expect a GO student, whose behaviors include the following: I will withdraw from an interesting class rahter than risk getting a poor grade; I get irritated by students who ask questions that go beyond what we need to know for exams, etc., not to be irritated, if not downright upset, by an instructor who frequently recommends optional assignments and who feels comfortable (even virtuous) in presenting material in class that goes well beyond the scope of his or her examinations? While these are interesting possibilities at present, only future empirical work will determine the relationship between student and instructor attitudes and behaviors in regard to learning and grade orientations, and this is a task we intend to pursue in the not too distant future.

References

Alpert, R., and Haber, R. Anxiety in academic achievement instructors Journal of abnormal and social psychology, 1960, 61, 207-215.

Atkinson, J. W. (Ed.) Motives in fantasy, action and society. Princeton: Van Nostrad, 1958.

Brown, W., and Holtzman, W. Survey of study habits and attitudes Manual New York: Psychological Corporation, 1967.

Cattell, R. 16 Personality Factor Questionnaire. Champaign: Institute for Personality and Ability Testing, 1967.

Eison, J. A. A new instrument for assessing student annexation towards grades and learning. Psychological Reports, 1981, 919-924.

Eison, J. A. Educational and personal dimensions of learning and grade oriented students. Psychological Reports, 1982, in press.

Lavin, D. The prediction of academic performances. New York: Wiley, 1965.

McClelland, D. C., Atkinson, J. W., Clark, R. A. and Lowell, E. L. The achievement nature. New York: Appleton-Century-Crofts, 1953.

APPENDIX I

The Original LOGO Scale

Table 1

The Original LOGO Scale

(Eison, 1981)

Directions: Below is a series of statements taken from interviews with a large number of college students concerning their reactions to various courses, instructors, and classroom policies. Please read each statement carefully and decide whether or not it expresses an opinion with which you personally agree. If you agree with the statement, please fill in *choice 1* on the answer sheet. If you disagree with the statement, please fill in *choice 2*. Make only nice dark marks to indicate your responses.

1. It would not disturb me very much to earn a grade lower than I would have wanted if I feel I have learned something from the class. (Agree)*
2. The one thing I enjoy most about college is being able to interact socially with other students. (Omit)
3. I dislike courses in which a lot of material is presented in class, or in readings, that does not appear on exams. (Disagree)
4. I think I would rather take a small discussion group class than a large lecture, even if it would require me to work harder. (Agree)
5. I don't mind courses that require a lot of simple memorization of facts, names, and dates so long as I know that if I do the work, I will get a good grade on exams. (Disagree)
6. I generally choose my courses based upon my interests rather than upon other considerations, such as requirements, instructors, etc. (Agree)
7. Extra credit should not have to be given to get students to participate in out-of-class activities. (Agree)
8. I think that without regularly scheduled exams, I would not learn and remember very much. (Disagree)
9. I don't think I would learn very much in a class in which the teacher announced on the first day that all would automatically get an A. (Disagree)
10. I only like courses which will teach me things that will be useful to me in my future career. (Omit)
11. I generally do some of the optional recommended reading that my instructors suggest even though I know it won't affect my grade. (Agree)
12. I think it is my fear of getting a poor grade that often motivates me to study. (Disagree)
13. When I don't need the money, I try to keep all my old textbooks because I like going back through them long after the class is over. (Agree)
14. I try to remember what I've learned even after being tested on it. (Agree)
15. I came to school mainly to get away from a situation I really didn't like. (Omit)
16. I think that all things considered, the teacher is a better judge than the student of how much a student has learned. (Disagree)
17. I think test questions which require you to take the material you have studied and apply it to new situations are unfair. (Disagree)
18. I generally like courses that are hard and require a lot of work as long as I learn a good deal of new material. (Agree)
19. I think it is more important for a teacher to know how to prepare interesting class presentations than to construct good tests. (Agree)
20. I get annoyed when lectures or class presentations are only rehashes of easy reading assignments. (Agree)
21. I am generally more concerned with finding out my test grade than I am about seeing which questions I have missed. (Disagree)
22. I think it is unfair to test students on material not covered in class lectures and discussions, even if it is in reading assignments. (Disagree)
23. I think grades provide me with a good goal toward which to work. (Disagree)

*The responses in parentheses provide the scoring key for computing learning-orientation scores.

APPENDIX II

Example of LOGO-II Questionnaire

Name_____

STUDENT SURVEY OF ATTITUDES

PART I

Directions: Below is a series of statements taken from interviews with a large number of college students concerning their reactions to various courses, instructors, and classroom policies. Please read each statement carefully, and indicate how strongly you agree or disagree with each item using the following scale:

1) strongly disagree
2) disagree
3) neither disagree nor agree
4) agree
5) agree strongly

Indicate your response with a nice dark mark on the machine scoreable answer sheet. Also please print your name on the top of the machine scoreable answer key.

1. I enjoy classes in which the instructor attempts to relate material to concerns beyond the classroom.

2. I think it is unfair to test students on material not covered in class lectures and discussions, even if it is in reading assignments.

3. I dislike courses which require ungraded out-of-class activities.

4. I prefer to write a term paper on interesting material than to take a test on the same general topic.

5. I get annoyed when lectures or class presentations are only rehashes of easy reading assignments.

6. Written assignments (i.e., homework, projects, etc.) that are not graded are a waste of a student's time.

7. I appreciate the instructor who provides honest and detailed evaluation of my work though such evaluation is sometimes unpleasant.

8. I think that without regularly scheduled exams I would not learn and remember very much.

9. Instructors expect too much out-of-class reading and study by students.

10. I find the process of learning new material fun.

11. I dislike courses in which a lot of material is presented in class, or in readings, that does not appear on exams.

12. Easy classes that are not pertinent to my educational goals generally bore me.

13. A teacher's comments on an essay test mean more to me than my actual test score.

14. I do not find studying at home to be interesting or pleasant.

15. I am more concerned about seeing which questions I missed than I am with finding out my test grade.

16. I think grades provide me a good goal to work toward.

PART II

Directions: Please read each of the following statements. Indicate how frequently your behavior coincides with the action described using the following rating scale:

1) never
2) seldom
3) sometimes
4) often
5) always

17. I do optional reading that my instructors suggest even though I know it won't affect my grade.

18. I try to make time for outside reading despite the demands of my coursework.

19. I try to get old tests when I think the instructor will use the same questions again.

20. I will withdraw from an interesting class rather than risk getting a poor grade.

21. I get irritated by students who ask questions that go beyond what we need to know for exams.

22. I stay after interesting classes to discuss material with the instructors.

23. I discuss interesting material that I've learned in class with my friends or family.

24. When looking at a syllabus on the first day of class, I turn to the section on tests and grades first.

25. I participate in out-of-class activities even when extra-credit is not given.

26. I buy books for courses other than those I am actually taking.

27. I borrow old term papers or speeches from my friends to meet class requirements.

 Name_____

28. I cut classes when confident that lecture material will not be on an exam.

29. I try to keep all my old textbooks because I like going back through them after the class is over.

30. I try to find out how easy or hard an instructor grades before signing up for a course.

31. I'm tempted to cheat on exams when I'm confident I won't get caught.

32. I browse in the library even when not working on a specific assignment.

APPENDIX III

Computer Printouts of

Intercorrelations Among the Various Components of LOGO-II

Table 1 LO-Attitudes with LO-Behaviors

Table 2 GO-Attitudes with GO-Behaviors

Table 3 LO-Attitudes with GO-Attitudes

Table 4 LO-Behaviors with GO-Behaviors

TABLE I

Intercorrelations Between LO Attitude Items and LO Behavior Items

Item Number	Item Number 17	18	19	20	21	22	23	24
1	0.1087 (249) P=0.043	0.1204 (248) P=0.029	0.0849 (248) P=0.091	0.1449 (249) P=0.011	0.0794 (249) P=0.106	0.0515 (249) P=0.209	0.1949 (249) P=0.001	0.0329 (248) P=0.303
2	0.0487 (249) P=0.222	0.0868 (248) P=0.086	0.0476 (248) P=0.228	0.2149 (249) P=0.000	0.0809 (249) P=0.102	0.0548 (249) P=0.194	0.1846 (249) P=0.002	0.0559 (248) P=0.190
3	0.0237 (249) P=0.355	0.0764 (248) P=0.115	0.0166 (248) P=0.397	-0.0022 (249) P=0.486	0.1620 (249) P=0.005	0.1111 (249) P=0.040	0.0492 (249) P=0.220	-0.0299 (248) P=0.320
4	0.1778 (249) P=0.002	0.1725 (248) P=0.003	0.1031 (248) P=0.053	0.0664 (249) P=0.148	0.1960 (249) P=0.001	0.2319 (249) P=0.000	0.1476 (249) P=0.010	0.0157 (248) P=0.403
5	0.2090 (249) P=0.000	0.2845 (248) P=0.000	0.2127 (248) P=0.000	0.3130 (249) P=0.000	0.0828 (249) P=0.097	0.1653 (249) P=0.004	0.0761 (249) P=0.116	0.1912 (248) P=0.001
6	0.2632 (249) P=0.000	0.3150 (248) P=0.000	0.1904 (248) P=0.001	0.2185 (249) P=0.000	0.2829 (249) P=0.000	0.3119 (249) P=0.000	0.2310 (249) P=0.000	0.1126 (248) P=0.038
7	0.1959 (249) P=0.001	0.2319 (248) P=0.000	0.1968 (248) P=0.001	0.1866 (249) P=0.002	0.1223 (249) P=0.027	0.1962 (249) P=0.001	0.1343 (249) P=0.017	0.2610 (248) P=0.000
8	0.1266 (249) P=0.023	0.2193 (248) P=0.000	0.1162 (248) P=0.034	0.1019 (249) P=0.054	0.1839 (249) P=0.002	0.1472 (249) P=0.010	0.0649 (249) P=0.154	0.1555 (249) P=0.007

Table 2

Intercorrelations Between GO Attitude Items and Go Behavior Items

Item Number	Item Number 25	26	27	28	29	30	31	32
9	0.1335 (249) P=0.018	0.1912 (249) P=0.001	0.0817 (249) P=0.101	0.1551 (248) P=0.007	0.0619 (249) P=0.165	0.2158 (249) P=0.000	0.1707 (249) P=0.003	0.1586 (249) P=0.006
10	0.1371 (249) P=0.015	0.1847 (249) P=0.002	0.0781 (249) P=0.110	0.1971 (248) P=0.001	0.0999 (249) P=0.058	0.1611 (249) P=0.005	0.1458 (249) P=0.011	0.1236 (249) P=0.026
11	0.0903 (249) P=0.078	0.2272 (249) P=0.000	0.0407 (249) P=0.261	0.1117 (248) P=0.040	0.0186 (249) P=0.385	0.1747 (249) P=0.003	0.1434 (249) P=0.012	0.0996 (249) P=0.079
12	-0.0129 (249) P=0.420	0.1323 (249) P=0.018	0.0492 (249) P=0.220	0.0081 (248) P=0.450	0.1655 (249) P=0.004	-0.0598 (249) P=0.174	-0.1170 (249) P=0.033	0.0423 (249) P=0.253
13	0.0231 (248) P=0.359	0.1514 (248) P=0.009	0.0932 (248) P=0.072	0.0987 (247) P=0.061	0.0116 (248) P=0.428	0.0350 (248) P=0.291	0.1297 (248) P=0.021	0.0276 (248) P=0.333
14	0.0469 (249) P=0.231	0.2328 (249) P=0.000	0.1866 (249) P=0.002	0.1571 (248) P=0.007	0.1585 (249) P=0.006	0.1088 (249) P=0.043	0.1678 (249) P=0.004	0.1467 (249) P=0.010
15	0.2055 (249) P=0.001	0.2272 (249) P=0.000	0.1482 (249) P=0.010	0.1094 (248) P=0.043	0.0366 (249) P=0.283	0.1168 (249) P=0.033	0.0991 (249) P=0.083	0.1322 (249) P=0.019
16	-0.0524 (249) P=0.205	0.0294 (249) P=0.322	-0.0567 (249) P=0.187	-0.0343 (248) P=0.296	0.0430 (249) P=0.250	-0.0063 (249) P=0.461	-0.0928 (249) P=0.072	-0.0065 (249) P=0.447

Table 3

Intercorrelations Between LO Attitude Items and CO Attitude Items

Item Number	Item Number 9	10	11	12	13	14	15	16
1	0.0915 (250) P=0.075	0.0535 (250) P=0.200	-0.0557 (250) P=0.190	0.0823 (250) P=0.097	0.1492 (249) P=0.009	-0.0067 (250) P=0.458	0.0368 (250) P=0.281	0.0484 (250) P=0.141
2	0.1131 (250) P=0.037	0.1411 (250) P=0.013	0.0073 (250) P=0.454	-0.0485 (250) P=0.223	0.1402 (249) P=0.013	-0.0346 (250) P=0.293	0.0645 (250) P=0.155	0.0083 (250) P=0.448
3	-0.0029 (250) P=0.482	-0.0159 (250) P=0.401	-0.0773 (250) P=0.112	0.0905 (250) P=0.077	-0.0489 (249) P=0.221	-0.0619 (250) P=0.165	0.0622 (250) P=0.164	0.0308 (250) P=0.101
4	-0.1115 (250) P=0.039	-0.0467 (250) P=0.231	-0.0320 (250) P=0.307	0.0106 (250) P=0.434	0.0128 (249) P=0.421	-0.0409 (250) P=0.260	-0.0271 (250) P=0.335	0.2001 (250) P=0.001
5	-0.0503 (250) P=0.214	-0.1943 (250) P=0.001	-0.0116 (250) P=0.428	-0.0296 (250) P=0.321	-0.0744 (249) P=0.121	-0.0661 (250) P=0.149	-0.1177 (250) P=0.032	-0.0099 (250) P=0.444
6	-0.0999 (250) P=0.058	-0.1192 (250) P=0.030	-0.0603 (250) P=0.171	0.0639 (250) P=0.157	-0.1283 (249) P=0.022	-0.1472 (250) P=0.010	-0.1653 (250) P=0.004	0.1339 (250) P=0.017
7	-0.2114 (250) P=0.000	-0.1984 (250) P=0.001	-0.0263 (250) P=0.340	-0.0471 (250) P=0.229	-0.0359 (249) P=0.286	-0.1207 (250) P=0.028	-0.1174 (250) P=0.032	-0.1060 (250) P=0.047
8	-0.1990 (250) P=0.001	-0.1656 (250) P=0.004	-0.0417 (250) P=0.256	-0.0206 (250) P=0.373	-0.0575 (249) P=0.144	-0.0262 (250) P=0.340	-0.1378 (250) P=0.015	0.0117 (250) P=0.427

Table 4

Intercorrelations Between LO Behavior Items And CO Behavior Items

Item Number	Item Number 25	26	27	28	29	30	31	32
17	-0.0280 (249) P=0.330	-0.0551 (249) P=0.193	-0.0653 (249) P=0.152	-0.0209 (248) P=0.372	-0.2244 (249) P=0.000	-0.0586 (249) P=0.179	-0.1127 (249) P=0.038	-0.1549 (249) P=0.007
18	-0.0994 (248) P=0.059	-0.1418 (248) P=0.013	-0.1935 (248) P=0.001	-0.0704 (247) P=0.135	-0.2108 (248) P=0.000	-0.0842 (248) P=0.093	-0.1348 (248) P=0.017	-0.1114 (248) P=0.040
19	-0.2291 (248) P=0.000	-0.1763 (248) P=0.003	-0.1215 (248) P=0.028	-0.0833 (247) P=0.096	-0.1615 (248) P=0.005	-0.1692 (248) P=0.004	-0.1844 (248) P=0.002	-0.1984 (248) P=0.001
20	-0.1825 (249) P=0.002	-0.2057 (249) P=0.001	-0.2236 (249) P=0.000	-0.1173 (248) P=0.033	-0.2411 (249) P=0.000	-0.2724 (249) P=0.000	-0.2402 (249) P=0.000	-0.2749 (249) P=0.000
21	-0.0302 (249) P=0.318	-0.1386 (249) P=0.014	-0.0731 (249) P=0.125	-0.0739 (248) P=0.123	-0.1260 (249) P=0.023	-0.1277 (249) P=0.022	-0.1610 (249) P=0.005	-0.1720 (249) P=0.003
22	-0.1257 (249) P=0.024	-0.0936 (249) P=0.070	-0.0902 (249) P=0.078	-0.1105 (248) P=0.041	-0.0627 (249) P=0.162	-0.1239 (249) P=0.025	-0.1890 (249) P=0.001	-0.0939 (249) P=0.070
23	-0.1038 (249) P=0.051	-0.2813 (249) P=0.000	-0.1189 (249) P=0.031	-0.2316 (248) P=0.000	-0.1731 (249) P=0.003	-0.2020 (249) P=0.001	-0.2250 (249) P=0.000	-0.1239 (249) P=0.025
24	-0.1259 (248) P=0.024	-0.1937 (248) P=0.001	-0.0562 (248) P=0.189	-0.1146 (248) P=0.036	-0.1309 (248) P=0.020	-0.0730 (249) P=0.126	-0.1093 (248) P=0.043	-0.0932 (248) P=0.072