DOCUMENT RESUME

ED 040 422 CG 005 419

AUTHOR	Blank, Logan F.
TITLE	Relationship Between Student Instructional Ratings and Student-Faculty Psychological Types.
INSTITUTION	Wisconsin State Univ., Oshkosh.
PUB DATE	Mar 70
NOTE	11p.
EDRS PRICE	EDRS Price MF-$0.25 HC-$0.65
DESCRIPTORS	Achievement Rating, *College Students, Instruction, *Instructional Improvement, Instructional Staff, *Rating Scales, *Student Teacher Relationship, *Teacher Evaluation, Teacher Improvement

ABSTRACT

Previous research has found little or no relationship between student instructional ratings and numerous academic and personal variables. This study sought to determine if such ratings are related to student and instructor psychological types. Undergraduate engineering students (297) and nine instructors were administered the Myers-Briggs Type Indicator which is a personality classifier based on self-reporting. In addition, students responded to the Student Instructional Rating Report (SIRR) which provides a composite profile of five categories: (1) Instructor Involvement; (2) Student Interest; (3) Student-Instructor Interaction; (4) Course Demands; and (5) Course Organization. Various analyses of the data were described. They revealed no significant differences in student instructional ratings among student types. There were, however, significant differences in student ratings among faculty types for three of the SIRR categories: (1) Instructor Involvement; (2) Student Interest; and (3) Student-Instructor Interaction. The paper concludes by emphasizing the potential influence of personal behavior variables among instructors in determining student reaction to classroom instruction. Implications are discussed. (TL)

3

2

RELATIONSHIP BETWEEN STUDENT INSTRUCTIONAL RATINGS AND STUDENT-FACULTY PSYCHOLOGICAL TYPES

Logan F. Blank, Assistant Dean
School of Letters and Science
Wisconsin State University-Oshkosh
Oshkosh, Wisconsin

March 1970

STUDENT-FACULTY PSYCHOLOGICAL
TYPES AND STUDENT INSTRUCTIONAL RATINGS

The number of student instructional rating programs on college and university campuses is increasing. Undergraduates have always evaluated their instructional experiences through rumors and student peer group norms (Gwynne, 1966), but controlled student instructional ratings are advocated as a means to improve undergraduate instruction (Michigan State University, 1967). Even among individuals who agree that students should be given a chance to formally evaluate their classroom instructional experiences, there is controversy regarding the validity and educational implications of student instructional ratings.

Student instructional ratings have been studied extensively in terms of many variables. Studies of student ratings have focused on a common problem of explaining differences in student ratings. Studies have found little or no relationship between student ratings and grades, class size, instructional method, and class level (Echert, 1950; Guthrie, 1954; and Crannel, 1948). Student ratings did not correlate with such factors as age, sex, grade level, major, or grades previously received (Rayder, 1966).

The purpose of the study was to determine if student instructional ratings were related to the Myers-Briggs psychological types of undergraduates and their classroom instructors. An association of particular attitudes, values, and behaviors for the respective psychological types provided the theoretical structure of the study. Asserted commonalities and differences in psychological behaviors of students and instructors were the basis for predicting significant differences in student instructional ratings among student-instructor psychological types.

Procedure

The study involved undergraduate engineering students (Electrical Engineering and Mechanical Engineering majors) and Electrical Engineering faculty who were enrolled in or teaching courses offered by the Department of Electrical Engineering at Michigan State University during Spring Term, 1969. The sample included 297 students (juniors and seniors) and 9 instructors.

Two instruments were used in the study. The Myers-Briggs Type Indicator (MBTI) is an experimental instrument to test and verify hypotheses regarding variations in behavior of individuals (Myers, 1962). The instrument classifies people according to their self-reported behaviors, preferences, and value judgments into dichotomous categories along each of four dimensions: Extraversion-Intraversion (E-I), Sensation-Intuition (S-N), Thinking-Feeling (T-F), and Judgment-Perception (J-P). Form F of the MBTI was used in the study.

The Student Instructional Rating Report (SIRR) was used for instructional evaluation responses by students. Developed at Michigan State University since 1967, the SIRR is a multidimensional scale. Each statement item of the SIRR had a five-choice format for student responses: (1) strongly agree with statement; (2) agree with statement; (3) neither agree nor disagree with statement; (4) disagree with statement; and (5) strongly disagree with statement. The instrument was designed to provide a composite profile of five categories: (1) Instructor Involvement; (2) Student Interest; (3) Student-Instructor Interaction; (4) Course Demands; and (5) Course Organization. Each category consists of four consecutive statement items. The instrument has been revised several times to improve its validity for use in obtaining and reporting student instructional ratings to each instructor.

Psychological types of students and instructors were identified with the Myers-Briggs Type Indicator at the beginning of the term. Student Instructional Rating Reports were completed by students in each class during the term. Each student identified his Student Instructional Rating Report. Data were compiled for each class and reported to the instructors. At the end of the term, Student Instructional Rating Reports were completed by students in eleven of the same classes, but the ratings were not identified.

To provide descriptive data from the study, frequency percentiles of student and faculty psychological types were determined. Mean student ratings were calculated for each SIRR item and the five Composite Profile Categories. An analysis of variance model was used to test for significant differences in student ratings among student and faculty psychological types. Post-hoc comparisons were made with the Scheffé method to identify pair-wise comparisons which resulted in significant differences.

Self-estimated instructional ratings by six faculty were compared with student ratings of their classes. Student ratings obtained during the term and at the end of the term were compared for eleven classes.

<u>Results</u>

Mean student instructional ratings for each of twenty (20) individual SIRR statements ranged from a low (more favorable) rating of 1.85 to a high of 3.01 on a 1-5 scale. Correlation studies indicated little overlap between the five Categories of the SIRR Composite Profile, although desirably high correlations between the four items of each category were found. Calculation of mean student ratings for each of the five Composite Profile Categories revealed the lowest or most favorable student rating for Category II (Student Interest); the highest or least favorable student rating was 2.12 for SIRR Category III (Student-Instructor Interaction).

The distribution of available faculty and student types is given in Table 1.

Table 1 Comparison of Percentage Frequencies of Electrical Engineering Faculty and Students, and Mechanical Engineering Students.

Engineering Groups	Percentages of Psychological Types			
	ISTJ	ISFJ	INFJ	INTJ
E.E. Faculty (N=15)	6.7	none	6.7	40.0
E.E. Students (N=206)	12.1	5.3	2.9	12.6
M.E. Students (N=105)	27.6	3.8	1.0	2.8
	ISTP	ISFP	INFP	INTP
E.E. Faculty	none	none	none	6.7
E.E. Students	7.3	2.4	10.2	9.2
M.E. Students	6.7	6.7	4.8	2.8
	ESTP	ESFP	ENFP	ENTP
E.E. Faculty	none	6.7	13.3	none
E.E. Students	2.9	1.4	5.3	6.7
M.E. Students	8.6	1.0	3.8	7.3
	ESTJ	ESFJ	ENFJ	ENTJ
E.E. Faculty	6.7	none	6.7	6.7
E.E. Students	6.8	2.4	1.9	9.7
M.E. Students	10.5	4.8	4.8	3.8

The dominance of intuitive-judging (INTJ) type among Electrical Engineering faculty (40%) is indicated in Table 1. The largest percentage frequencies for Electrical Engineering Students were INTJ (12.6%), ISTJ (12.1%), and INFP (10.2%). The highest percentage frequencies for Mechanical Engineering Students were ISTJ (27.6%), ESTJ (10.5%), and ESTP (8.6%).

Due to the limited variety of faculty types with more than one instructor, only three faculty types were included in the two-way analysis of variance model; fourteen of the sixteen possible student types were included.

Only one of three predictive hypotheses was supported by the results of the two-way analysis of variance test. With the stated .05 level of probability, interaction between student and faculty types was not revealed. The data did not reveal significant differences in student instructional ratings among student types. Significant differences in student ratings among faculty types were found for three of the SIRR Composite Profile Categories: Instructor Involvement, Student Interest (close to significance), and Student-Instructor Interaction. These three Categories were most related to the theoretical structure of the study. The results (Tables 2, 3, and 4) provided a basis for tentative support of the hypothesis of student ratings being related to psychological types of instructors.

Post-hoc comparisons were made to identify which of the pair-wise comparisons resulted in significant differences. For Instructor Involvement, the differences between INTJ and ENFP instructor types resulted in significant differences. For Student-Instructor Involvement, each pair-wise comparison between INTJ, ESFP, and ENFP were sufficiently large to result in significant differences.

A comparison of instructor self-ratings and the most similar student ratings, according to student psychological types, did not reveal any similarities of ratings between student and faculty types. Self-ratings by judging type instructors tended to be closer to actual student ratings than perceptive type instructors. In general, the comparison of student ratings and instructor self-ratings tended to be similar to Taylor's study (1968) which reported no correlation between class observation scores and MBTI types of students and instructors.

Table 2 Analysis of Variance Table for Dependent Variable X_1 (SIRR Category I - Instructor Involvement).

Source	Sum of Squares	Df	Mean Squares	F Ratio	Sig.
A. Student types	11.041	13	0.849	2.07	0.017*
B. Instructor types	14.519	3	4.840	11.813	<.0005*
C. Interaction of A-B	18.148	39	0.465	1.1358	0.280
D. Error	90.955	222	0.409		

*Significant -.05 stated level of probability

Table 3 Analysis of Variance Table for Dependent Variable X_2 (SIRR Category II - Student Interest).

Source	Sum of Squares	Df	Mean Squares	F Ratio	Sig.
A. Student types	10.703	13	0.823	1.615	0.082
B. Instructor types	3.574	3	1.192	2.339	0.074
C. Interaction of A-B	17.550	39	0.450	0.883	0.670
D. Error	113.117	222	0.510		

Table 4 Analysis of Variance Table for Dependent Variable X_3 (SIRR Category III - Student-Instructor Interaction).

Source	Sum of Squares	Df	Mean Squares	F Ratio	Sig.
A. Student types	8.694	13	0.669	1.434	0.145
B. Instructor types	9.866	3	3.289	7.053	<.0005*
C. Interaction of A-B	18.633	39	0.478	1.025	0.438
D. Error	103.511	222	0.466		

*Significant -.05 stated level of probability.

Other comparative analysis resulted in the following results. Engineering students rated lecture classes much more favorably than discussion. A majority of instructors received lower or better student ratings at the end of the term than during the term. Students also indicated the course demands were less at the end of the term. All changes to higher student ratings (less favorable) at the end of the term were found for classes with extraverted types of instructors.

Discussion

For electrical engineering and mechanical engineering students in the study, significantly different student instructional ratings were found for Instructor Involvement and Student-Instructor Interaction (differences for Student Interest were close to significance) among three instructor psychological types (INTJ, ENFP, and ESFP). These results tended to provide a basis for support of the predictive hypothesis of a relationship between student instructional ratings and instructor psychological types.

Collectively, instructor type INTJ received the lowest (most favorable) ratings from engineering students for each Category of the Student Instructional Rating Report. Examination of student ratings for individual classes also revealed lower ratings for INTJ instructors. If student ratings were considered as valid measures of teaching competence or quality instruction, improved instruction, as measured by student ratings, could be achieved by filling all teaching positions with INTJ faculty. Because of the indicated relationship between student ratings and instructor psychological type, the use of student ratings as a single measure of teaching competence was considered to be invalid.

The absence of interaction among student and faculty types plus the lack of significant differences in student ratings among student types might have resulted from the absence of two student types (INFJ and ESFP). A second factor was also considered as a possible influence. The student ratings indicated a kind of halo effect of engineering student norm of approval for the INTJ instructor type. The high percentages of thinking-judging types among engineering instructors and students were noted throughout the study. Consideration of this fact in the various data analysis results led to a speculation that student ratings might be reflecting socio-psychological factors which influenced the students' presence in engineering (Astin, 1965).

The influence of a halo effect which favored the dominant electrical engineering instructor type (INTJ) was suggested, but student ratings for individual INTJ type instructors did vary. The results were similar to McKeachie's (1959) conclusion that the halo effect did not prevent students from discriminating among instructors even if it does reduce the validity of student ratings for overall teaching competence.

Several other suggestions were obtained from additional investigation of the data. If behavior change is considered to be a goal of higher education, a non-modal type instructor might be more effective in changing student behavior than a modal type who would reinforce existing student behaviors. Non-modal instructor types were rated less favorably in the study.

The six INTJ instructors in the study were theoretically the most ideal for research. In contrast to the idea that research faculty are often poor instructors, the study revealed that engineering faculty ith behaviors ideally suited for research, were not poor instructors, ut rather, the most favorably rated by students.

A final conclusion of the study refuted the concept that faculty embers would strongly oppose student ratings of their classès. ngineering instructors displayed a genuine interest in receiving data bout student reactions for their classes. From the experience of the tudy, it was possible to report that cooperation of faculty can be chieved for the purpose of investigating the nature of student instructional ratings.

The results of the study strongly suggest similar research with tudent instructional ratings and student-faculty types from other on-engineering areas of study. If student ratings for modal instructor types are also favorable in other academic areas, student instructional ratings could be interpreted more intelligently and used more ffectively by instructors who want to improve their instruction. he results of the study were not conclusive to suggest drastic changes n instruction as a result of student instructional ratings. The indings did emphasize the potential influence of personal behavior ariables among instructors in determining student reaction to classoom instruction. Perhaps higher education should be more aware of tudent-faculty academic contacts which will take advantage of the ttitudes, interests, and behaviors of instructors, and should concentrate less on matters such as class size, instructional techniques, nd amount of contact.

BIBLIOGRAPHY

Astin, A. W. Effects of different college environments on the vocational choices of high aptitude students. Journal of Counseling Psychology, 1965, 12, 28-34.

Crannell, C. A. An experiment in the rating of instructors by their students. College and University, 1948, 24, 5-11.

Eckert, R. E. Ways of evaluating college teaching. School and Society, 1950, 71, 65-69.

Guthrie, E. R. The evaluation of teaching: A progress report. Seattle: Un. of Washington, 1954.

Gwynn, F. L. And sadly we teach. In L. E. Dennis and J. F. Kaufman (Eds.), The college and the student. Washington, D.C.: American Council on Education, 1967. Pp. 196-201.

McKeachie, W. J. Research on teaching at the college and university. In N. L. Gage (Ed.), Handbook of research on teaching. Chicago: Rand McNally, 1963, Pp. 1118-1164.

Michigan State University, Committee on Undergraduate Education. Improving undergraduate education. East Lansing, Michigan: 1967.

Myers, I. The Myers-Briggs Type Indicator Manual. Princeton: E.T.S., 1962.

Rayder, Nicholas F., Student ratings of instructors, unpublished Doctoral Dissertation, Colorado State College, 1966.

Remmers, H. H. Rating methods in research on teaching. In N. L. Gage (Ed.), Handbook of research on teaching. Rand McNally, 1963, Pp. 329-378.

Taylor, R. E. An investigation of the relationship between psychological types in the classroom and the student perception of the teacher and preferred teaching practices. (Doctoral Dissertation, University of Maryland) Ann Arbor, Michigan: University Microfilms, 1968. No. 69-2235.