

Title: Students' Ratings of Professors' Competence: An Application of the G-Theory
Author(s): Jesus Arce-Ochave
Edna Luz Raymundo-Abulon
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Abstract:

The primary purpose of this research was to find out whether the current evaluation scale being used at the Philippine Normal University is able to detect differences in professors' competence inside the classroom. In carrying out this purpose, the researchers applied the system of the generalizability theory as used in a study of Ochave (1977) in the University of Toledo, Ohio, U.S.A. The Generalizability Theory has been described as a liberalization of classical test theory because it gets away from a tedious separate calculation of reliability coefficients for equivalence, internal consistency and stability. Most especially, it has the capability to identify multiple sources of errors in measurement. Analysis through the use of the generalizability theory (Cronbach, 1972) suggests instrument improvement by its ability to specify and estimate sources of errors, the information much needed in our system of performance evaluation to arrive at optimum desired precision and dependability.

In the study of Ochave (1977), the index of the ability of the scale to differentiate faculty in terms of teaching effectiveness is called a generalizability coefficient. Different generalizability coefficients were calculated to suit the varied purposes of the scale users. The process of calculating these coefficients suggest how an obtained observed average class rating is to be correctly interpreted. The generalizability coefficients calculated in the study were: 1) Generalizability Coefficient Ep^2 (osi), generalizing over occasions (i.e., semesters), students and items; 2) Generalizability Coefficient Ep^2 (so), generalizing over students and occasions; 3) Generalizability Coefficient Ep^2 (i), generalizing over items; 4) Generalizability Coefficient Ep^2 (s), generalizing over students; 5) Generalizability Coefficient Ep^2 (o), generalizing over occasions; 6) Generalizability Coefficient Ep^2 (oi), generalizing over occasions and items; and 7) Generalizability Coefficient Ep^2 (si), generalizing over students and items.

The seven research problems addressed in this study asked about the degree of precision in which the PNU faculty evaluation scale can detect differences in professors' competence in terms of: 1) universe of generalization composed of the occasion, student and item facets; 2) universe of generalization composed of occasion and student facets; 3) specific students and occasions, with generalization made over items; 4) reference to items used and a given set of occasions with generalization made over students; 5) reference to the set of students who responded to the particular scale with generalization made over occasion; 6) universe of generalization over occasion; 6) universe of generalization composed of the item and occasion facets; and 7) universe of generalization composed of the item and student facets.

Calculations of the mean squares, the variance components corresponding to each source of variance in the design and the seven generalizability coefficients were made possible via the SAS Programming Language available at the Computer Laboratory School of Statistics, University of the Philippines. The variance components of the seven generalizability coefficients were also computed by hand using the formulas adapted from the study of Ochave (1977).

The following conclusions were obtained:

- 1) The scale is generally able to differentiate professors' competence without reference to occasions or to a particular semester that the scale was administered, to particular students who rated the faculty and to the items employed in obtaining the rating.
- 2) The scale is able to differentiate professors' competence given the 24 items used regardless of the set of students and the occasions employed.
- 3) The scale, with its 24 items, is able to differentiate professors' competence given the students and occasions employed. Hence, the items used in the scale were well represented by those items that could have been included in the scale.
- 4) The scale is able to differentiate professors' competence given the items used and the occasion regardless of any particular set of students who responded to the scale.
- 5) The scale is able to differentiate professors' competence given the students who responded to the scale regardless of occasions. Hence, the scale is considered precise across repeated administration, given a particular scale and the same set of students.
- 6) The scale is able to differentiate professors' competence given the responding set of students regardless of items used and occasions responded to. Thus, the average rating given by a class could represent all other ratings assigned by the same set of students across several different occasions.
- 7) The scale is able to differentiate professors' competence given a particular occasion for random sets of items in the scale which are responded to by independent random samples of students.

While there was evidence that the scale had a moderate to a high degree of precision, it is recommended that a regular conduct of the faculty evaluation be done for every course taught by each faculty member in every semester so that a follow-up study with increased number of professors, semesters/occasions and students be undertaken. This follow-up study can further dwell on the magnitude of variance accounted for by the variance components due to the course effects.