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Computer Application for Instructors Evaluation by Students in Colleges of Health

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ABSTRACT

The quality of education has always been the concern of educational institutions. Different means including computer software have been used to evaluate the quality of education. The purpose of this research was to item analyse the question items used to evaluate the instructors by SPSS software package. This was a cross-sectional descriptive research in which the psychometric properties of questionnaires used to evaluate the instructors by the students of the College of Health of Kashan University of Medical Sciences were assessed. The question items that students answered to evaluate their instructors were item analyzed by SPSS: PC software. The result of indicated that the subscales Cronbach's alpha for the subscales of the questioner ranged between 0.71, 0.72, 0.77, 0.74, 0.42, 0.70, 0.58, 0.69, and 0.68 respectively. The questioner used to evaluate the instructors had good to fair psychometric properties tested by computer SPSS. This type of evaluations is necessary to ensure quality of instructors working in an institution.   A re-evaluation of the instrument would be valuable to increase its reliability for the administrators in the college of Health.

Keywords: *Software, Evaluation, Student, SPSS:PC*

1. INTRODUCTION

The quality of education has always been the concern of educational institutions. In this regard, evaluation of the educational factors including the quality of the instructors working and presenting the education content has been and the subjects covered in the curriculum is a common affair that literally takes place in all educational institution (Comfort , 2005). Students' ratings of instruction and instructors, are one of these events that are conducted in different forms by various educational institutions. These types of research on student ratings have a long history and can help to address many questions. The introduction of computer software such SPSS:PC for Windows for validating evaluation instruments such as researcher's designed questioner has resulted in the development of many new and valid questioners that are amenable to comprehensive statistical analysis. Despite the controversy about the validity of such rating, it seems necessary to provide some means by which feedback can be given to the administrators to introduce the appropriate intervention to improve the quality of education. Undoubtedly the significance of skills and knowledge of instructors to function as an efficient teacher is acknowledged by all students and instructors as well. However, measuring abstract concepts such as the effectiveness of teaching is complex and requires appropriate conceptual and theoretical frameworks with which to guide the assessment process (Bullock, 1999).Although there is no 'gold standard' or criteria with which to evaluate the quality of a teacher, the rating of teacher quality is usually measured by employing questionnaire that contain different subscales targeted to assess a predefined concept. The questionnaires used for this purpose contain question items that rate the characteristics from "'very poor to very good". However,

preparing such inventories is not easy and straight

forward task. The internal reliability and internal consistency of a questionnaire or scale has to be established before the questionnaire can be used with certainty to introduce intervention or policy change. The reliability and validity of any question items need to be determined by carefully examining the psychometric characteristics of every single item as well as the subscale composed of several questions. Such validation procedure is carried out by measuring the mean correlation between items within the sub scales as well as the overall Cronbach's alpha. Various arbitrary levels of internal reliability are considered acceptable but most suggest internal consistency of above 0.69 to be appropriate (Oppenheim, 1992). In summary, the literature related to the question of what constitutes effective teaching is extensive, but primarily comprised of observational studies, opinion surveys, and anecdotal "teaching tip" guidelines. There is limited evidence to support the actual influence of these techniques on students' learning. Davis et al. (Davis, 1995) have associated a number of instructional strategies with positive learning outcomes in the realm of provider continuing education (O'Brien, 2003). Key elements of "effective clinical teaching" are quite similar in all disciplines.

The procedure for evaluating teacher's performance by student in College of Health of Kashan University of Medical Sciences relies on a questionnaire distributed by the education department prior to the conduct of final examination. The purpose of this research was to determine the reliability of the sub scales of the instrument through the item analysis purpose.

2. MATERIALS AND METHODS

This was a cross-sectional descriptive research in which the psychometric properties of questionnaires used to evaluate the instructors by the students of College of Health of Kashan University of Medical Sciences was assessed. The questionnaire consisted of 8 subscales including methods of presenting instruction, method instruction, method of speaking, types and sources of educational media, the position of instructor during presentation, method of management of the classroom, method of interaction with students, ethical conduct, and method of evaluation of student. Every subscale contained several question items. A total of 661questioners form was collected from the students by the administration department in the college of health. Item analysis was performed on data and Chronbach's alpha was calculated for every subscale and the total

items. SPSS: PC 16.0 was employed to analyze the data. The result of analysis was presented in tables by using Microsoft Word 7.0.

3. RESULTS

Analysis of data was performed by using inter-item correlation and Chronbach alpha. The result of indicated that the subscales of instruction, teaching methods, teaching sources, and instructional media, standing position, teacher interaction, ethical and social conducts, teacher evaluation, and students evaluation by instructors 0.71, 0.72, 0.77, 0.74, 0.42, 0.70, 0.58, 0.69, and 0.68, respectively.

Table 1: Cronbach's alpha for the subscales of questioner

Subscales	Question No.	Cronbach's Alpha
Methods of presenting instruction	4	0.71
Method instruction	5	0.72
Speaking style	2	0.74
Types and sources of educational media	2	0.42
The position of instructor during presentation	3	0.70
Method of management of the classroom	2	0.58
Method of interaction with students	4	0.69
Students evaluation by the instructors	2	0.68

4. DISCUSSION

Assessing effective teaching is a basic task in an educational setting. However, the assessment of abstract phenomena such as teacher effectiveness is not an easy task. Assessment of abstract phenomenon requires clear cut definition based on which the result by different evaluator show close approximation. Thus, one has to rely on very logical theoretical frameworks with which to guide the assessment process (Bullock, 1999).These approaches provide a valid framework based on which appropriate intervention with the goal of improvement in the teaching setting will be valuable in guiding the development process (Litzelman, 1998). Oakpala (2005) examined 218 college students enrolled in a HBCU from the southeastern United States of America. The results of this study indicated that t the perceptions of college students on teacher quality components vary. The emerging themes from this study are that teaching skills, commitment to student learning, content knowledge and verbal skills are important attributes of a quality teacher. In addition, the medical literature was reviewed to find researches that conducted this type of research and items that were suitable for placing in the pool of questions were chosen following further validation by some of the instructors who were involved in research methods and faculty staff. This procedure was employed to ensure content validity of the scale. For the sake of making the questioner short and easy for students to complete the form, number of questions within the scale were kept to minimum after the item analysis in the pilot study was performed. The variance observed in a much larger item

pool was kept in the form and items with coefficient less than 0.50 were eliminated from the scale. The internal

reliability assesses the internal consistency of a questionnaire or scale. It examines the extent to which a number of items assessing the same underlying concept. By measuring the mean correlation between items within sub scales and overall score, Cronbach alpha is determined. The Cronbach alpha values in this research was less than 0.80 in all domains. Various arbitrary levels of internal reliability are considered acceptable but most suggest internal consistency of above 0.69 to be appropriate (9). In regard to the student evaluation of the teacher, there are concerns about the effectiveness of such evaluation. While there are good reasons to be concerned about the system of teacher evaluation, there are also good reasons to be concerned about claims that measuring teachers' effectiveness largely by student test scores will lead to improved student achievement (Milanowski, 2004).

5. CONCLUSION

In conclusion, a valid and reliable measure to evaluate the health teachers working in the college of health was employed with fair psychometric properties tested by computer SPSS:PC software for Windows following the testing of construct and criterion validity, as well as calculating a moderate internal reliability. A re-evaluation of the instrument would be valuable to increase its reliability for the administrators in the College of Health.

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