

Did Student Ratings of Instruction achieve the Purpose for which they were intended? A Consequential Validity Investigation for Administrative Purposes

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Abstract

Student ratings of instruction are widely practiced in universities. They have been the subject of several validity studies with much of the research focusing on traditional evidence of validity. However, fewer studies have been devoted to consequential validity of student ratings. This study examined consequential validity of student ratings by investigating evidence on 'consequences' and 'utility' of student ratings regarding the use for administrative purposes. The population comprised administrators from 15 faculties of a major research university. The data collected were analyzed using descriptive statistics, multiple group analysis, and Pearson's product moment correlation analysis. The paper's uncovering of administrators' responsiveness to student ratings, and the identification of influenced dimensions of administrative practices, can make useful contributions to the literature on student ratings. The findings improved and supported validity of the student ratings and provided the university with reliable evidence for justifying the use of student ratings for administrative purposes. Also, the findings showed that higher education administrators regarded 'instructor's efforts in student learning enhancement' as the most useful type of information provided by students.

Keywords: student ratings of instruction; consequential validity; consequences; utility; administrative purposes

1. Introduction

In higher education, multiple measures have been utilized to gather information on instructional performance of instructors, such as self-evaluation, peer evaluation, and student ratings of instruction (SRI). Of these measures, the use of student ratings of instruction is widespread (Heckert, Latier, Ringwald, & Silvey, 2006; Lemos, Queirós, Teixeira, & Menezes, 2010). In Malaysian universities, student ratings are widely practiced as a routine procedure and are often used by administrators for their administrative purposes regarding instructional performance of academic staff.

Student ratings of instruction have been the subject of several validity studies with much of the research focusing on traditional concerns of validity evidence such as content related evidence of validity. However, fewer studies have examined consequential validity of student ratings (Ory & Ryan, 2001; Palmer, 2011).

As Ory and Ryan (2001) observed, “in the areas of consequential validity, very little evidence has been provided or even looked for” (p. 40). Hence, the empirical evidence supporting the validity of student ratings of instruction needs to be expanded to include evidence on consequential validity.

Consequential validity is addressed by appraising ‘consequences’ (both actual and potential) of instrument use (Messick, 1995). Indeed, ‘consequences’ are defined as a source of validity evidence within Messick’s validity theory (1989) as well as the Standards for Educational and Psychological Testing including American Educational Research Association (AERA), American Psychological Association (APA), and National Council on Measurement in Education (NCME) (1999). Messick (1996, 1995, &1989) argued that the traditional conception of validity is a partial view especially because it does not succeed in addressing the evidence on ‘consequences’. Ory and Ryan (2001) argue that “to improve the validity of our student ratings, we need to conduct research on their use and consequences” (p.40). Messick’s consequential validity also contains the basic concept of ‘utility’. In Messick’s theory, utility refers to “the benefits of testing” (Messick, 1995, p. 748). According to Beran, Violato, and Kline (2007), utility of student ratings can be addressed by determining “the type of ratings information [user groups] used” (p.38).

Typically, student ratings of instruction are used by higher education administrators for administrative decisions-making pertaining to instructional performance of their academic staff. A general agreement in the literature is that student ratings of instruction affect administrative decisions (Kulik 2001; Murray, 2005). These effects can be termed as both actual and potential consequences. Consequential validity examines the degree to which an instrument has the desired effects (Ory & Ryan, 2001).

In order to evaluate how well student ratings are functioning, we need to reflect on the extent to which use of ratings information helps administrators in achieving desired effects. In other words, without knowing if higher education administrators actually take advantage of the presumed benefits of student ratings, it is difficult to judge the actual consequences and utility of student ratings. Indeed, a paucity of research about the actual role student ratings play in making administrative decisions limits what claims can be made about the value of such ratings for administrative purposes. Hence, developing research study aimed at assessing desired effects of the instrument use is still needed. As such, the purpose of this study was to gain a broader understanding of the actual effects of student ratings on administrative practices and two concepts of the Messick’s consequential validity in terms of ‘consequences’ and ‘utility’ were considered as the basis for establishing the conceptual framework of the study.

2. Method

2.1. Population and Sampling

The present study was conducted at a public research university with 25,628 students (undergraduate and postgraduate). The university consisted of 15 faculties which at the time of the study had 191 administrators in the positions of dean, deputy dean, and head of departments. The Cochran’s sample size formula (1977) for continuous data was utilized to calculate the sample size for this study. In this study, the researchers planned to use the maximum of 22 variables in principal component analyses and wished to use the STV ratio of five to one. Before proceeding with sample size calculations, assuming continuous data, the researchers planned to use a four point scale, set the alpha level a priori at .05, set the level of acceptable error at 3%, and estimated the standard deviation of the scale as 1.33. Then, proportional stratified random sampling technique was used to ensure that an adequate number of subjects were chosen. The sampled members of each faculty were randomly selected within each faculty using the table of random numbers where all numbers had an equal chance of appearing. In all, 110 administrators were surveyed with a response rate of 80%. All of the returned questionnaires were used in the analysis.

2.2. Design and Instrumentation

This study utilized a self-developed questionnaire which involved a combination of 48 items within four parts. The first part addressed administrators’ demographic characteristics. The next three parts focused on the perceived actual consequence/effect of SRI based on dimensions of administrative practices (Part 2), perceived potential consequence/effect of SRI based on dimensions of administrative practices (Part 3), and perceived utility of SRI based on dimensions of ratings information (Part 4), respectively. The administrative practices were inspired by research literature and similarly were used as 11 items within parts 2 and 3 of the questionnaire.

Then, the respondents were asked to determine if the result from student ratings actually had any effect on each administrative practice within a range of four-point Likert scale from 'Never' to 'Always'. They were also requested to determine the expected effect that the result from student ratings should have on each administrative practices within a range of four-point Likert scale from 'Strongly Disagree' to 'Strongly Agree'. Finally, the 22 items in the rating instrument of the university were duplicated within Part 4, and the respondents were asked to determine the utility of each item for their administrative purposes ranging from 'Not at all Useful' to 'Very Useful'.

3. Results

3.1. Respondents' Demographic Characteristics

The majority of the administrators were male. From 15 faculties of the university, almost three quarters of the participants were department heads and more than one third of them were deputy deans and deans. The respondents' experiences in administrative positions of higher education ranged from less than 3 years to more than 12 years with a mean of about 7 years. On average, they had about 5 years' experience in using information from student ratings for administrative purposes. Hence, it can be stated that the respondents were well qualified to identify effects of student ratings on administrative practices as well as to identify the utility of ratings information for their administrative purposes.

3.2. Perceived Effects of SRI on Administrative Practices

This study examined actual and potential effects of SRI based on administrative dimensions as perceived by the administrators. Two principal component analyses with Varimax rotations were utilized to explore underlying dimensions of SRI's effect on the administrative practices regarding instructional performance of academic staff. The methods of Kaiser Criterion and Scree plot specified perceived effects of SRI in three dimensions of administrative practices. The mean for each dimension was produced by averaging the means of the individual administrative practices in the dimension and was the basis for interpreting the perceived effects of the SRI on each administrative dimension. The results indicated that from the perspective of the administrators, the SRI actually had an effect on a dimensions of administrative practices, namely Personnel Decisions ($M=2.82$), while, the two other dimensions of their administrative practices, namely Monitoring-Documenting of teaching quality ($M=2.46$) and Teaching-Course schedule Development ($M=1.67$) were not actually influenced by the results from the SRI.

The results also showed that from administrators' perspectives, student ratings should ideally have effect on two dimensions of administrative practices, namely Personnel Decisions ($M=2.99$) and Monitoring-Documenting of teaching quality ($M=3.10$). However, they were of the opinion that student ratings should have potentially no effect on administrative practices regarding Teaching and Course schedule Development ($M=1.93$) The dimension of Personnel Decisions (PD) contained the administrative practices such as making personnel decisions in annual reviews, tenure, promotion, and reappointment. Also, the dimension of Monitoring-Documenting of teaching quality (MD) included administrative practices such as documenting teaching quality, monitoring improvements in a specific course, assessing course quality, comparing teaching quality of departments, and monitoring teaching improvements in faculties/departments. The dimension of Teaching-Course schedule Development (TCD) reflected the administrative practices pertaining to development of teaching and course schedules. Tables 1 and 2 illustrate individual means, dimensions mean, Cronbach's alpha, and inter-item correlations mean for the perceived dimensions of actual and potential effects on administrative practices, respectively.

Pearson product moment was used to determine the correlation between the actual dimension and the potential dimension of perceived effects on administrative practices. The result indicated that the actual and potential dimensions of perceived effects were significantly correlated to the administrative dimension of Personnel Decisions ($r=.56$, $p < 0.01$). This result indicated that the perceived actual consequence of the SRI was consistent with the perceived potential consequence of the SRI regarding the administrative dimension of Personnel Decisions (PD).

3.3. Perceived Utility of SRI for Administrative Purposes

This study addressed the utility of the SRI for administrative purposes based on the dimensions of ratings information from administrators' perspectives.

A principal component analysis was utilized to explore the perceived utility of the SRI based on the underlying dimensions of ratings information. Both methods of the Kaiser Criterion and the Scree plot illustrated perceived utility of the SRI in five dimensions of ratings information with eigen values greater than 1.0 which accounted for 74.46% of the variance.

The findings revealed that a dimension of ratings information which reflected instructors' efforts in Learning Enhancement (LE) of students was perceived by the administrators as the most useful dimension of information for their administrative purposes ($M=2.88$) followed by the ratings information on the dimension of Overall ($M=2.87$), Interpersonal Skills ($M=2.86$), Preparation-classroom Management ($M=2.84$), and Assessment-Grading ($M=2.77$). Table 3 illustrates individual means, dimensions mean, Cronbach's alpha, and inter-item correlations mean for the explored dimensions of ratings information regarding their utility for administrative purposes. The results indicated that although some dimensions of information were recognized by the administrators as more useful than others, all dimensions of ratings information were regarded as useful.

As can be seen in Table 3, the dimension of LE contained information about instructors' effort in learning enhancement of students and focused on the role of instructors' delivery and their organized presentation in enhancing students' interests, stimulating their thoughts, and facilitating their learning process. The dimension of Overall concerned an overall view of the instructors' personality and performance, and the dimension of Interpersonal Skills reflected students' attitude about instructors' professionalism such as demonstrating concern and responsibility, having respect for students, and maintaining a climate of mutual courtesy. The dimension of Preparation-classroom Management consisted of the ratings information on the instructors' practices about preparation and classroom management. Also, the dimension of Assessment-Grading provided information regarding instructors' practices in assessment and grading such as providing feedback on graded work, reflecting course content on tests, and scoring practices.

4. Discussion

In Messick's theory, evidence on consequences is considered as essential component of validity evidence. In fact, lack of evidence on consequential validity of student ratings leaves a gap in overall validity of student ratings even if the traditional aspects of validity evidence have been carefully examined. Ory and Ryan (2001) recommend universities to conduct studies in order to determine the existence of consequences. They believe that conducting research studies on the consequences of student ratings will improve the validity of student ratings instruments.

This study provided evidence on perceived actual consequence of the SRI regarding the use for administrative purposes by exploring the actual effect of the SRI on a dimension of administrative practices, namely Personnel Decisions (PD) as perceived by the administrators. The Personnel Decisions (PD) dimension consisted of some administrative practices such as making personnel decisions in annual reviews, tenure, promotion, and reappointment. This finding is more supported by the common idea in the literature particularly the idea of two leading experts, namely Algozzine et al. (2004) and Abrami (2001) that student ratings are valid measures for making the personnel decisions.

In addition, this finding is consistent with the findings of other research studies such as Wan Salmuni Wan Mustaffa and Hariri Kamis (2007), Beran et al. (2005), and Murray (2005, 1997). For instance, Wan Salmuni Wan Mustaffa and Hariri Kamis in 2007 conducted a research study in 17 public Malaysian universities. The respondents were consisted of 2580 decision makers including of deans, deputy deans, department heads, senior lecturers and lecturers who had the responsibility of making decisions for academic staff promotion. The result indicated that student ratings were a rationale and a source of evidence in annual reviews of academic staff performance. Also, Beran, Violato, Kline, and Frideres (2005) found that 82% of the administrators who surveyed in their study used student ratings for personnel decisions such as promotion.

Also, this study provided evidence on perceived potential consequence of SRI regarding the use for administrative purposes by exploring the potential effect of the SRI on two dimensions of administrative practices in terms of Personnel Decisions (PD) and Monitoring- Documenting of teaching quality (MD) as perceived by the administrators. There are parallels between the opinion expressed by the administrators in this study and the administrators' opinion in a Canadian university found by Beran et al. in 2005.

They found that administrators were of the opinion that SRI can be useful for making personnel decisions, monitoring progress, and evaluating teaching at the unit level. The findings is further supported by the opinion expressed by distinguished scholars in this field such as Murray (2005), Algozzine et al. (2004), Penny (2003), and Abrami (2001). These scholars generally accepted that student ratings are a major input for making the personnel decisions such as hiring and promotion.

The findings revealed perceived utility of the SRI for administrative purposes based on five dimensions of ratings information, which correspond with dimensions of instructional effectiveness found in other studies (e.g. Arreola, 2000; Seldin, 1999; Braskmap and Ory, 1994; Centra, 1993; March and Hocevar, 1991a; Cashin, 1990; Abrami and d'Apollonia, 1990). In addition, the ratings information found in explored dimensions were consistent with information from the instrument which was developed by Loup in 1994, namely 'Student Assessment of Teaching and Learning' (SATL). The SATL contains 54 items providing user groups such as administrators with information pertaining to quality of instruction in four dimensions, namely 'preparation-classroom management', 'enhancement of learning', 'interpersonal skills', and 'student evaluation practices'.

It was found that all dimensions were regarded by the administrators as useful. This suggests that administrators consider student ratings can provide them with useful and multi-dimensional information. In addition, the findings showed that among the five explored dimensions in this study, the dimension which reflected the instructors' efforts in Learning Enhancement (LE) was perceived by administrators as the most useful type of ratings information. This finding indicated that effective student learning was one of the most important concerns of the administrators.

It was found that overall information about instructors' personality and performance was regarded by the administrators as useful. This would support the findings of previous studies which found that overall feedback information can be used for instructional evaluation (e.g., Arreola, 2000; Cashin 1990; and d'Apollonia's & Abrami's, 1997). However, among the 22 individual statements of the university's rating instrument, the overall information pertaining to the global statement of '*Overall, this instructor is the best instructor*' received the lowest value of the individual utility mean (2.57) for administrative purposes. A possible explanation might be due to wrong phrasing. In other words, being as the least degree of individual utility for this global statement confirms Scriven's (1995) idea that overall information that requires comparison between teachers are undesirable. Scriven (1995) considers it wrong to phrase items like if a course or a teacher is the best they have ever had.

Consequential validity is introduced by Messick (1989) as a source of justification for the use of an instrument. This study examined consequential validity of SRI by providing evidence on two basic concepts of validity evidence in terms of 'consequences' and 'utility'. Hence, the findings of the study can provide the university with reliable evidence for justifying the use of the SRI for administrative purposes regarding quality of instruction.

5. Conclusion

The present study focused only on the intended/positive effects of student ratings on administrative practices. However, a comprehensive assessment of consequential validity should include appraising both intended and unintended effects. More broadly, future research is needed to address unintended consequences from perspectives of higher education administrators.

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Table 1: Perceived Actual Effect of SRI Based on Dimensions of Administrative Practices

Administrative Dimension	Mean	Reliability	
		Coefficient alpha	inter item correlation
Administrative Practice			
Personnel Decisions (PD)	2.82	.95	.84
Personnel decisions regarding tenure	2.75		
Personnel decisions regarding promotion	2.93		
Personnel decisions regarding reappointment	2.81		
Monitoring-Documenting (MD)	2.46	.83	.50
Monitoring improvements in a specific course	2.55		
Assessing course quality	2.32		
Comparing teaching quality of departments	2.06		
Monitoring teaching improvements in faculties/departments	2.50		
Teaching- Course schedule Development (TCD)	1.67	.88	.79
Teaching schedule development	1.73		
Course schedule development	1.61		

Perceived actual effect of SRI based on administrative dimensions’ mean score: (Less through 2.5) had no effect, (2.51 through highest) had effect

Table 2: Perceived Potential Effect of SRI Based on Dimensions of Administrative Practices

Administrative Dimension	Mean	Reliability	
		Coefficient alpha	inter item correlation
Administrative Practice			
Personnel Decisions (PD)	2.99	.77	.45
Personnel decisions regarding tenure	2.84		
Personnel decisions regarding promotion	3.25		
Personnel decisions regarding reappointment	3.00		
Monitoring-Documenting (MD)	3.10	.88	.60
Monitoring improvements in a specific course	3.21		
Assessing course quality	3.01		
Comparing teaching quality of departments	2.90		
Monitoring teaching improvements in faculties/departments	3.14		
Teaching-Course schedule Development (TCD)	1.93	.91	.85
Teaching schedule development	1.93		
Course schedule development	1.94		

Perceived potential effect of SRI based on administrative dimensions’ mean score: (Less through 2.5) had no effect, (2.51 through highest) had effect

Table 3: Perceived Utility of SRI Based on Dimensions of Ratings Information

Dimensions of Ratings Information	Mean	Reliability	
		Coefficient alpha	inter item correlation
Ratings Information			
Learning Enhancement (LE)	2.88	.92	.56
Student easily understood teaching delivery.	2.97		
Important aspects are emphasized in the teaching.	2.80		
Lesson contents are summarized.	2.71		
Delivery method stimulates student's thought.	2.84		
Delivery method enhances student's interest in the subject.	2.77		
Examples are helpful for students in their learning process.	2.90		
Teaching materials are helpful in learning process.	2.81		
Students are encouraged to ask question.	3.00		
Students are exposed to current issues.	3.11		
Preparation-classroom Management (PM)	2.84	.84	.65
Teaching plan is clearly explained.	2.90		
Instructor is always prepared for each teaching session.	2.75		
Learning activities are managed effectively.	2.88		
Interpersonal Skills (IS)	2.86	.85	.59
The instructor shows concerns and demonstrates responsibility.	2.92		
Student is being respected.	2.77		
The instructor portrays a good image.	2.81		
The instructor's delivery is convincing.	2.93		
Assessment- Grading (AG)	2.77	.82	.54
Assessments are implemented as planned.	2.78		
Tests/assignments given conformed to the course content.	2.82		
Feedback is given on assignment.	2.79		
Assessment marks are announced within the stipulated period.	2.69		
Overall (O)	2.87	.81	.70
Overall, the teaching of this course is effective.	3.17		
Overall, this instructor is the best instructor.	2.57		

Perceived utility of ratings information for administrative purposes based on dimensions' mean score: (Less through 2.5) not useful, (2.51 through highest) useful