Available online at www.sciencedirect.com

ScienceDirect

Procedia - Social and Behavioral Sciences 143 (2014) 106 – 111

Procedia
Social and Behavioral Sciences

CY-ICER 2014

a*Qualitative and quantitative methods to assess the qualities of a lecturer: What qualities are demanded by *on-line* and *on-site* students?

Concepción San Luis[a], Isabel Cañadas[b]

[a]*Universidad Nacional de Educación a Distancia, Madrid, Spain*
[b]*Universidad Miguel Hernández, Alicante, Spain*

Abstract

Traditionally, quantitative methods (for example, the Likert scale) have been used to assess the qualities of university professors. The result of such an assessment is a score that is finally translated into a favourable/unfavourable evaluation. In this type evaluation, we overlook the real actors - the students - who find themselves with instruments whose indicators, categories, and dimensions were chosen by them but provided by others and imposed on them. Important subjective components, which depend on different factors (cognitive style, thinking style, personality, level of education, teacher-student empathy, expectations), are omitted. In this context, we should consider the need to allow students to express their opinions with something more than marking the chosen answer with a cross.

Peer-review under responsibility of the Organizing Committee of CY-ICER 2014.

Keywords: Teaching qualit; assessment of teaching qualit; qualitative method; quantitative methods;

1. Introduction

Assessing lecturers is a matter of concern for those responsible for maintaining the quality of universities. Such assessment began at the end of the nineteenth century with Kratz's 1889 study on lecturer effectiveness evaluated on the basis of student assessments (Janet and Amy, 2010). Today, practically all universities use an instructor-

Corresponding author: Concepción San Luis Tel.:457634890987;
E-mail address: Concepción@hotmail.com

Peer-review under responsibility of the Organizing Committee of CY-ICER 2014.
doi:10.1016/j.sbspro.2014.07.369

evaluation process that is based on a survey of student opinions as a data-gathering strategy. The result is a score that is eventually translated into a favorable/unfavorable evaluation.

Buchanan (2011) not only criticises the reductionist representations of educational quality, such as decontextualised mean scores generated by student surveys, but also questions the reliability and validity of the scales and proposes some alternative approaches to enhance student satisfaction. Indeed, we should not forget that in this type of evaluation process, we overlook the real actors - the students - who find themselves using instruments whose indicators, categories and dimensions they have not chosen but that have been selected for them. Important subjective components, which depend on different factors (cognitive style, thinking style, personality, level of education, teacher-student empathy, expectations), are omitted but should be considered. Rogers and Smith (2011) and Su and Wood (2012) argue that the teacher's efforts must be studied from a teacher's perspective and leave aside the perspective of the target audience, that is the view that students provide on the characteristics they demand from their instructors. However, student opinion is highly significant in enhancing excellence in higher education.

After decades of using surveys to evaluate student satisfaction with teaching, several attempts have been made to gather the same information while granting students more freedom to express their views. For instance, MacDonald and Gibson (2011) used an open-ended process to evaluate student opinions. However, their goal was not to gather data on student satisfaction but to determine why students dropped out during the second year of their degree programs. In this open-ended approach, the sample of students wrote their thoughts regarding certain key issues with reference to the first year of study. The answers were compiled into a flipchart and thereafter, a series of discussions were held. Su and Wood (2012) also implemented a completely open-ended assessment by holding an essay contest. Using a minimum of 900 words and a maximum of 1,000 words, the participants expressed their opinions regarding the qualities of a good university lecturer. Then, a secondary data analysis was performed, which is a widely used technique in educational research. The analysis identified the main characteristics and attributes from a student perspective: command of subject, communication skills, use of new technologies, sense of humour, whether the instructor was motivated, thoughtful, involved and inspiring as well as approachable and whether the instructor facilitated learning and appeared organised. Similar, we used brainstorming combined with the scaling method (Cañadas, 2013) to identified qualities that students would value in a university lecturer.

The preceding discussion pertains to a face-to-face educational setting. However, what about teaching quality and student satisfaction in a distance teaching-learning environment? Today, the popularity of on-line education continues to grow as institutions increasingly include it as part of their long-term strategies. Ferguson and Defelice (2010) claim that on-line learning is one of the most important and significant approaches available for improving learning, and they consider so-called e-learning to be the requisite pedagogical approach for new learning in the 21st century. Improved technology has enabled professors and instructors to design and implement hitherto unimaginable on-line courses. Such courses have direct implications for the role of the professor as a partner. Both the learner and the instructor will benefit from a reciprocal learning process. (Rothman, Romeo, Brennan and Mitchell, 2011).

Research on student satisfaction with distance learning has been directed toward the analysis of indicators such as the following: the academic institution's responsiveness to student needs, the quality of on-line teaching, the timeliness of the institution's feedback to students, the frequency of professor-student interaction and financial aid availability. Herbert (2006) found that the most important institutional variable in student satisfaction was the capacity to be responsive to student needs. Herbert's data also reflected how significant it is for students to interact with the course instructor: immediacy and feedback are fundamental to student success. A review by Kuo, Walker, Belland and Schroder (2013) emphasises the interaction with the professor/instructor as one of the most significant determinants of on-line student satisfaction, precisely because of the distance. Other important factors are the efficacy of the Internet and other technology and the possibility to regulate learning (self-regulated learning). The study confirmed that the interaction with the professor and self-regulated learning are the most important predictors of student satisfaction. Importantly, all of the preceding studies were performed using traditional questionnaires and surveys in a manner identical with the evaluation of on-site student satisfaction.

The studies that have compared on-line with on-site learning have fundamentally aimed at studying learning effectiveness. The results indicate that both type of learning provide the same opportunities to students (Ferguson

and DeFelice, 2010). Regarding satisfaction, only course length was compared. Occasionally, differences were found but not always. Fu (2010), which is an evaluation study on distance student satisfaction, provides valuable expertise while providing distance learners more freedom to express their opinions. In this study, the critical incident technique was applied. This instrument is widely used in educational contexts to enhance the learning atmosphere and process (Yánez, López-Mena and Reyes, 2011; Nail, Gajardo and Muñoz, 2012). The goal was to examine satisfaction and dissatisfaction indicators in face-to-face and Web-based learners as well as blended classrooms. The results indicated that the satisfaction or dissatisfaction factors depend on the type of classroom. In a face-to-face classroom, the professor's teaching ability and enthusiasm are the most important factors. In contrast, a Web-based or blended classroom students value more the availability of the on-line learning system. In any case and independently of the type of teaching activities, collaborative learning remains the key factor in student satisfaction, thus leading to better performance.

The present paper combines the scaling method with brainstorming to determine which teaching qualities students value more in the context of on-line higher education. Next, the paper compares the previous qualitative method with the traditional Likert scale, which is one of the most widely used quantitative methods for data collection.

2. Method

2.1. Sampling

One theory of second-year student dropout suggests that students can experience a decline during this year, with poorer results and a subsequent rise in the dropout rate. (Macdonald and Gobson, 2011). Therefore, we determined to investigate an incidental sample that consisted of 300 second-year students from various fields from the National University of Distance Education (UNED). In addition, 142 students from the Miguel Hernández University were evaluated.

2.2. Procedure

To achieve our objectives, we first considered using a variation of the Thurstone scaling procedure. This approach is known as the Law of Categorical Judgement, i.e., a scaling method according to which subjects must award a numerical value to submitted stimuli. That value can, for example, reflect an order of preference or importance. In this paper, instead of presenting the subjects with stimuli for scaling, it was determined to provide the students with complete freedom and thus to obtain a larger variety of responses. To this end, the scaling method was combined with the qualitative technique known as brainstorming. Starting from the qualities expressed by students in the second phase of the study, a Likert-type questionnaire with 45 items was created with 5 answer choices for each item, 1 being less significant and 5 more significant. Finally, the same procedure used in the first phase was applied with on-site students to determine whether both on-line and on-site students value the same qualities in a university lecturer.

3. Results

First, to calculate scalar values using the qualitative technique, a scaling method was employed for large samples. The scalar value of each category results from a weighted sum of ranges of qualities according to their significance. Based on the quantitative method, the scalar value results from a weighted sum of averages of each item according to the item's significance. The lists of the on-line students, which are organised from a greater to a lesser significance, are shown in Table 1.

Table 1. Quality ranges for each method for the on-line university.

Thurstone and brainstorming method		*Likert method*	
Closeness to students	1,205	Learning assessment	552
Involvement in subject	900	Clearness of presentation	174
Command of subject matter	643	Teacher's responsibility	169
Clearness of presentation	521	Command of subject matter	146
Communicative skills	434	Involvement in subject	144
Teacher's responsibility	312	Motivating	133
Respect towards students	245	Communicative skills	92
Organisation of subject	235	Organisation of subject	87
Learning assessment	231	Openness	86
Didactic resources	220	Respect towards students	85
Openness	102	Closeness to students	80
Motivating	99	Didactic resources	49
Friendliness	62	Group management	49
Group management	37	Teacher's image	14
Teacher's image	16	Friendliness	12

Given that differences occur in the range of qualities according to a quality's significance to the students and that the data are ordinal, the Spearman rank correlation was calculated for the scalar values. The result was not statistically significant ($r = 0.55$; $p = 0.031$), and so the effect size was not relevant (only a 30 per cent of explained variance). In addition, the Mann-Whitney U test was used for the independent samples to corroborate the equal distributions derived from the different methods. The results indicated that the difference is statistically significant ($p = 0.019$).

With reference to on-site university students, the results after applying the scaling method appear in Table 2.

Table 2. Weighting of quality ranges in the on-line and on-site universities.

	On-line Students				On-site Students		
Order	Quality	Rank mean	Scale value	Order	Quality	Rank mean	Scale value
1	Closeness to students	1,205	99	1	Closeness to students	1,356	100
2	Involvement in subject	900	74	2	Command of subject matter	1,194	87
3	Command of subject matter	643	53	3	Clearness of presentation	1,075	78
4	Clearness of presentation	521	43	4	Communication skills	905	65
5	Communication skills	434	36	5	Involvement in subject	859	61
6	Teacher's responsibility	312	25	6	Teacher's responsibility	852	61
7	Respect towards students	245	20	7	Respect towards students	451	30
8	Organisation of subject	235	19	8	Organisation of subject	400	26
9	Learning assessment	231	19	9	Didactic resources	269	16
10	Didactic resources	220	18	10	Learning assessment	263	15
11	Openness	102	8	11	Teacher's friendliness	266	15
12	Motivating	99	8	12	Group management	264	15
13	Teacher's friendliness	62	5	13	Motivating	206	11
14	Cultural competence	41	3	14	Teacher's image	115	4
15	Group management	37	3	15	Openness	99	3
16	Teacher's image	16	1	16	Cultural competence	79	1

Because the categories exhibited differences among the derived ranges, the Mann-Whitney U test was used for the independent samples to corroborate the equal distributions. The results were not statistically significant ($p = 0.51$). The Spearman's rank coefficient correlation was also estimated between both distributions and appeared to be statistically significant, with a high effect size ($r = 0.924$; $p = 0.000$). Because a high correlation and no statistically significant differences appear between both distributions, a common list of the teacher qualities most valued by on-line and on-site university students could be established (Table 3).

Table 3. Most-valued qualities by on-line and on-site students.

Order	*Quality*	*Scale value*
1	Closeness to students	113
2	Command of subject matter	80
3	Involvement in subject	76
4	Clearness of presentation	69
5	Communication skills	57
6	Teacher's responsibility	49
7	Respect towards students	28
8	Organisation of subject	25
9	Learning assessment	19
10	Didactic resources	18
11	Friendliness	11
12	Motivating	10
13	Group management	10
14	Openness	6
15	Teacher's image	2

4. Discussion and conclusions

The qualitative and quantitative methods provide different results with the same categories. In accordance with Buchanan (2011), Rogers and Smith (2011) and Su and Wood (2012), it is important to state that the Likert scale is an instrument that influences student opinion because it is a closed-ended questionnaire with restricted categories. Consequently, this type of method should be considered cautiously when collecting information on the qualities of professors that students value most.

The Thurstone scaling method, which was noted in a paper by Cañadas (2013), is one of the most widely used methods in psychometric studies because of its easy and quick implementation. This technique has been compared with others, such as Dunn-Rankin's method of successive intervals and apparently equal-appearing intervals and is the most recommended one since its process combines the most accurate results with the highest grade of simplicity (Sanduvete et al., 2009). By enabling students to submit their own categories, the method allows the students to express their opinions with complete freedom. It is important to add that the students who used this method felt they were participating in the research. This was not the case with the students who completed the Likert scale, whose opinion is summarised in the comment of a degree student in pedagogy: "Despite how relevant it is to look into students' vision, the survey raises unanswered fundamental issues that are left out because of the use of closed-ended qualities and without any possibility to gather any significant clarifications or assessments by students. Even though I took part in this survey, I must leave this comment, since I have had different experiences of student participation in assessing teachers. And I could see how enriching participatory qualitative approaches to evaluating teachers are".

When the same method was applied to on-site students, the results were practically equivalent. In fact, the correlation was high, and no significant differences were found. Therefore the 15 valued qualities of university lecturers for university students were scaled in the following order of importance: 1 - Closeness to students, 2 - Command of subject matter, 3 - Involvement in subject, 4 - Clearness of presentation, 5 - Communication skills, 6 - Teacher's responsibility, 7 - Respect towards students, 8 - Organisation of subject, 9 - Learning assessment, 10 - Didactic resources, 11 – Friendliness, 12 – Motivating, 13 – Group management, 14 - Openness and 15 - Teacher's image. As other papers have found (reference my papers), it is noteworthy that students emphasise closeness to students as the most valued quality of a teacher, whether in on-line or on-site learning. Rogers and Smith (2011) also found that the best predictors of global satisfaction of students with learning is the teacher's genuine involvement in their needs and progress, which translates as empathy, approachability, ability to encourage and support. Although most of the surveys used to assess teaching quality do not address this aspect, such surveys are being developed in light of the approach to the classroom as a teaching and learning context, i.e., a classroom context created by its

participants, both teachers and students, which is becoming a priority. In this spirit, today, there is a need for more professional teachers, in other words, for the development of their emotional side and the acquisition of emotional skills during their initial training. In a review of this aspect in different countries, López-Goñi and Goñi (2012) observed that the competences linked to interpersonal skills were found in a higher proportion than those linked to professional development. If students prioritise closeness with the teacher, it will be necessary for graduate training programmes to consider these emotional skills to enhance teaching quality.

References

Buchanan, J. (2011). Quality teaching: means for its enhancement? *Australian Universities' Review, 53*(1), pp. 66-72.

Cañadas, I. (2013). Study of the qualities of a good University lecturer of Health Sciences. *Procedia – Social and Behavioral Sciences, 89*, pp. 342 -350.

Ferguson, J.M. y DeFelice, A.E. (2010). Length of Online Course and Student Satisfaction, Perceived Learning, and Academic Performance. *The International Review of Research in Open and Distance Learning, 11*(2).

Fu, F.-L. (2010). Comparison of Students' Satisfaction and Dissatisfaction Factors in Different Classroom Types in Higher Education. *Lecture Notes in Computer Science, 6248*, pp. 415-426.

Herbert, M. (2006). Staying the Course: A Study in Online Student Satisfaction and Retention. Online Journal of Distance Learning Administration, 9(4).

Janet, M. y Amy, E. (2010). Length of Online Course and Student Satisfaction, Perceived Learning, and Academia Performance. *The International Review of Research in Open and Distance Learning, 11* (2).

Kuo, Y., Walker, A. E., Belland, B. R. & Schroder, K. E. E. (2013). A predictive study of student satisfaction in online education programs. *The International Review of Research in Open and Distance Learning, 14*(1), pp. 17-39.

López-Goñi, I. y Goñi Zabala, J.M. (2012). La competencia emocional en los currículos de formación inicial de los docentes. Un estudio comparativo. *Revista de Educación, 357*, pp. 467-489.

MacDonald, K. y Gibson, C.E. (2011) Your tutor is your friend: using experiential learning to enhance second year transition. *Journal of Applied Research in Higher Education, 3*(2), pp.107 – 115

Nail, O., Gajardo, J. y Muñoz, M. (2012). La técnica de análisis de incidentes críticos: una herramienta para la reflexión sobre prácticas docentes en la convivencia escolar. *Psicoperspectivas. Individuo y Sociedad, 11*(2).

Rogers, J. y Smith, M. (2011). Demonstrating genuine interest in students' needs and progress: Implications for student satisfaction with courses. *Journal of Applied Research in Higher Education, 3*(1), pp. 6 – 14.

Rothman, T., Romeo, L., Brennan, M. y Mitchell, D. (2011). Criteria for Assessing Student Satisfaction with Online Courses. *International Journal for e-Learning Security, 1*, pp. 27-32.

Sanduvete, S., Barbero, M.I., Chacón, S., Pérez-Gil, J.A., Holgado, F.P., Sánchez, M. y Lozano, J.J. (2009). Métodos de escalamiento aplicados a la priorización de necesidades de formación en organizaciones. *Psicothema, 21*(4), pp. 509-514.

Su, F. y Wood, M. (2012). What makes a good university lecturer? Students' perceptions of teaching excellence. *Journal of Applied Research in Higher Education, 4* (2), pp. 142-155.

Yánez, R., López-Mena, L. y Reyes, F. (2011). La Técnica de Incidentes Críticos: Una herramienta clásica y vigente en enfermería. *Ciencia y Enfermería, 17*(2), pp. 27-36.