The Observational Instrument of Best Practices: An Observational Instrument to Measure Best Practice Behaviors in University Teachers

África Borges[1], Elena Rodríguez-Naveiras[2], Matilde Díaz[1], Marta Domínguez[1], Teresa González de la Fé[1], Rosa Lelia Dorta[1] & Rosa Isla[1]

[1] University of La Laguna, Spain.

[2] European University of Canary Island, Spain.

Correspondence: Africa Borges, Sección de Psicología, Campus de Guajara, 38205 La Laguna, Santa Cruz de Tenerife, Spain.

Abstract

The concept of best practices emerged in various disciplines to explain the professionals' adequate performance in their work-related setting. In the educational context, it means theoretical and practical knowledge which includes a differentiated conduct in other teachers and in different contexts, or observable operations which can be measured by instruments specially designed for this purpose. When the university teachers best practices are behaviors, observational methodology is the main procedure to study it. In this research, five university teachers' behaviors during the class were analyzed, measuring them with an observational instrument, The Observational Instrument of Best Practices (OBEP), which allows the coding of indicator behaviors of best practices, including the posture, where they are looking and if the teachers address their students while they are explaining the class contents. Results show that the observational instrument is useful to measure behavioral best practices. Studied university teachers' behaviors have best practices during their class, but they could improve them. Some suggestions are given.

Keywords: university teachers, best practices, observational instrument.

1. Introduction

Nowadays, quality is the first challenge in Education, mainly in Higher Education. This issue concerns to educational institutions (American Council of Trustees and Alumni, 2015; Welsch & Metcalf, 2003) because it is the base in the Bologna process, which has unified higher education in Europe (Ghedin & Aquario, 2008).

Assessing Education quality is not a simple task, since it means evaluating several factors like educational systems, centres, institutions, programmes, students' learning and the lecturers' teaching activity (Mateo & Martínez, 2008; Martínez, 2013), being the lecturer's behaviour one of the key points in this process (Cid-Sabucedo, Pérez-Abellás & Zabalza, 2009).

In the Spanish context, evaluating the lecturer's behaviour is so relevant that an evaluation programme named DOCENTIA[1] has been designed. This programme helps Universities to create evaluation systems for their lecturers and professors. ANECA, which is the national agency that safeguards the quality of the universities, has specified the guidelines of this procedure, but the universities structure the implementation of the DOCENTIA programme.

Some time ago, the best practices concept emerged in various disciplines like Medicine, Psychology and Nursing, explaining the professionals' adequate performance in their work-related setting. In the educational context, best practices mean theoretical and practical knowledge, which includes a differentiated conduct of other teachers and in different contexts, or observable operations which can be measured by instruments specially designed for this purpose (Gaitán, Campos, García, Granados Jaravillo & Panquera, 2005).

Nevertheless, defining what constitutes best practices is not so easy, because it includes very different aspects like teaching attitudes (Revell & Wainwright , 2009), personal lecturer's characteristics like leadership, where lecturers show a sociable, intelligent, objective, and supportive attitude toward their students (Bain, 2004; Ibernon, 2013; Paoline,

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[1] http://www.aneca.es/Programas/DOCENTIA

2015), including building positive relationships with them (Bain, 2006; Paolini, 2015); the way that they plan their class (Cid-Sabucedo et als, 2009; Ibernon, 2013; Paoline, 2015); and how they teach the class: instructional delivery, encouraging students to develop higher-order and critical thinking skills, emphasizing quality over quantity, effective communication during lesson delivery, stimulating class environment and content knowledge (Bain, 2004; Ibernon, 2013; Paoline, 2015). Paoline's list of best practices (2015) is more extent: instructional delivery, self-management and consultation, building positive relationships with students, emphasizing quality over quantity and using evaluation assessments to improve practice.

Ibernon (2013) considers very concrete aspects related to how the lecturer's behaviour has to be when teaching a class: a) during the explanation, they must be standing, facing the students and speaking in an appropriate rhythm; b) notes in the blackboard must be clear and visible for all the students; and c) multimedia presentations must be made with little text and in a proper size.

Stains, Pilarz & Chakraverty (2015) used a sample of Chemistry assistant professors. They divided them in groups and found that there was a difference between teachers who had received a short training and those who did not, because the former improved in teaching self-efficacy, their behaviours were more focused on the students and better interactions with their students. It proves that best practices should be trained in a short space period.

Nevertheless, the difficulty is not only determining the meaning of best practices, it is also necessary to measure the construct. Several ways have been proposed like interviewing lecturers and their students or their colleagues (Bain, 2003; Paolini, 2015), interviewing teachers and recording the class. Curiously, in this study researchers found that the best practices lecturers who participated in the research develop their class in a very traditional way, with a master class, but using multimedia resources.

When the evaluation goal is lecturers' behaviours, observational methodology must be selected, because it is able to study the natural context, by analysing discrete behaviours like eye contact with the students, posture, position of the lecturers (Borges et al., in press) or the interaction behavioural patterns with their students (D áz, Borges, Valadez & Zambrano, 2015).

The objective of the present study is to analyse the best practices of lecturers and professor behaviours developed in the classroom.

2. Method

2.1 Participants

Five university teachers of the University of La Laguna were selected, one professor and four senior lecturers, belonging to the knowledge areas of Social Sciences, Health Sciences, Natural Sciences and Engineering. Their teaching experience is over 20 years. The number of students of each university teacher depends of the degree, being eight in the case of the Natural Sciences' teacher to about 40 in the other degrees. The duration of the class lessons was between one or two hours.

2.2 Instruments

In order to measure discrete best practices behaviors, we used the second version of *The Observational Instrument of Best Practices* (OBEP, Mesa, 2014; Borges et al, in press), which includes discrete behaviors (it collects the presence of goal behaviors) and it is structured in three moments: in the beginning of the class, in the middle and at the end (see table 1). The instrument considers behaviors related with best practices, or others that are not (Ibernon, 2009). The first ones are bolded.

This second version, which is used here, includes new codes. It considers the teachers' movement while they explain: around the classroom or the dais; and how they explain the contents while they are using the board: explaining while looking towards the board, which makes it more difficult for the students to hear the teacher's voice, or writing in the board and then turning around and explaining the lesson.

The sessions were filmed using two video cameras, SONY DCR-SR58E and JVC GZ MG750.

2.3 Procedure

Participant teachers and their students signed an informed consent allowing us to film them in video, following the normative in terms of data protection in Spain. They were filmed for eight hours.

Two procedures were used for the coding of the behaviors included in the instrument a) behaviors belonging to the criteria *Beginning of the Class* or *End of the class* coding "yes" when the behavior appears; b) behaviors belonging to the criterion *Middle of the class,* were coded everytime the behaviors included in the instrument appears.

2.4 Statistical Analysis

Data analysis was carried out using the Generalizability Theory to calculate its reliability and also frequency analysis with the SDIS-GSEQ, 5.1. (Bakeman & Quera, 1996).

3. Results

3.1. Decision Study

One of the most important problems of the observational methodology is that it is expensive and time consuming for the observers. The Generalizability Theory allows to do an analysis, the Decision Study of the facet period, determining which is the minimum time needed to obtain reliable data during the class (Rodríguez, Cadenas & Díaz, 201). The generalizability facet was time (C/T). Results are showed in the table 2. We coded periods of five minutes. In all the cases, three periods of five minutes were enough to assure reliable data.

Table 1. The Observational Instrument of Best Practices, OBEP

Criteria	Codes	
	BEGINNING THE CLASS	
BEGINNING THE CLASS	Greets his/her students	GA
	Introduction of class	IC
	MIDDLE OF THE CLASS	
POSITION: position taken by the teacher while explaining.	Seated	SE
	Seated on the table	SO
	Standing	ST
	Leaning on the table	LT
	Moves around Classroom	MC
	Moves around the Dais	MD
LOOK: that or who looks at the teacher.	Looking at the students	LS
	Looking at the board while writing and explaining	LB
	Writing on the board and then he or she turns around to explain	TE
	Looking at the resource	LR
	Looking at other directions	LO
TEACHER ADDRESSES THE STUDENTS: how the teacher communicates with his or her students.	Calls them by his or her name	CN
	The teacher does not address the students by name	NN
	END OF THE CLASS	
END OF THE CLASS	Connection with previous	CP

content		
Connection with later contents		CL
Saying goodbye		SG

Table 2. Decision Study of the Facet Period C / T.

Facets	Levels	Size	University Teacher				
			1	2	3	4	5
T	n=2	N=α	3	3	3	3	3
C	n=18	N= α	17	17	17	17	17
G relative Coefficient			0,970	0,934	0,959	0,995	0,994

Note: T: Time; C: Codes.

3.2 Reliability

In order to assure the data quality, two inter observer's reliability sessions were made, one in the beginning of the codification and a second one in the middle of it. Observations were coded by two expert observers. In both moments we used the Kappa coefficient and the Generalizability Theory. In the first session the Kappa obtained was 0.872 and 1 in the second one. In the tables 3 and 4 the generalizability coefficients are showed. These results reach criteria of an adequate reliability (Fleiss, 1981; Salvia, Ysselydke, & Bolt, 2010).

Table 3. Reliability 1. Random estimation effect and measurement plan O x C

Sources of variation	Freedom degrees	MC	Variance components	Standard error of measurement	% Total variance
O	1	0.026	-0.579	0.184	0.000
C	17	2045.588	1017.281	323.441	98.928
OC	17	11.026	11.026	3.487	1.072

Coefficient G relative =   0,995

Coefficient G absolute =   0,995

Note: O: Observers; C: Codes; OC: observers by codes

Table 4. Reliability 2. Random Estimation Effect and Measurement Plan C/O

Source of variance	Freedom degrees	CM	Variance components	Standard error of measurement	% Total variance
O	1	160.105	4.389	6.998	0.122
C	17	7104.295	3513.789	1123.353	97.744
OC	17	76.716	76.716	24.260	2.134

Coefficient G relative =   0,989

Coefficient G absolute =   0,989

Note: O: Observers; C: Codes; OC: observers by codes

3.3 Behavior Analysis

Behaviors frequencies of each code are showed in the following tables. First, teachers' behaviors developed in the beginning or at the end of the class are presented (table 5). All the teachers show best practices both in the beginning and the end of the class. The only behavior that is not found in all the teachers is connection with previous content (three out of five).

Table 5. Behaviors Belonging to the Beginning and End of the Class Criteria

	Beginning		Ending		
University teacher	GA	IC	CP	CL	SG
1	Yes	Yes	-	Yes	Yes
2	Yes	Yes	Yes	Yes	Yes
3	Yes	Yes	-	Yes	Yes
4	Yes	Yes	Yes	Yes	Yes
5	Yes	Yes	Yes	Yes	Yes

Note: GA: Greet; IC (Introduction of class), CP: Connection with previous content; CL: Connection with later contents; SG: Saying goodbye.

Behaviors developed during the class are showed in tables 6 (Position), 7 (Look) and 8 (The teacher addresses the students). The bolded codes are the ones which are considered best practices.

All the university teachers present best practices in general, but some of them should improve their position: standing or leaning on the table is better than being seated. If teachers move, walking around the dais is preferable to walking around the classroom. The reason why these behaviors are considered best practices is that they allow the students to hear the teacher's explanation better.

Table 6. Relative Frequencies of the Position Criteria (Middle of the Class)

		University Teachers				
Criteria	Codes	1	2	3	4	5
	SE	0,09	0,00	0,00	0,00	0,75
	SO	0,00	0,00	0,10	0,00	0,00
	ST	0,48	0,55	0,50	0,53	0,00
Position	**LT**	0,15	0,06	0,36	0,00	0,25
	MC	0,00	0,13	0,00	0,15	0,00
	MD	0,27	0,24	0,03	0,30	0,00

Note: SE: Seated; SO: Seated on table; ST: Standing; LT: Leaning on table; MC: Moves by classroom; MD: Move by the Dais.

The Look criterion, presented in Table 7, shows that university teachers preferably look at their students, which is an indicator of good practices. If they used the board to explain, more frequently they turn around to face the students, equally a best practice.

Table 7. Relative Frequencies of the Look Criteria (Middle of the class)

		University Teachers				
Criteria	Codes	1	2	3	4	5
	LS	0,71	0,86	0,80	0,74	0,72
	LB	0	0	0,02	0,02	0
Look	TE	0,01	0,01	0,01	0,01	0
	LR	0,21	0,10	0,11	0,19	0,17
	LO	0,05	0,02	0,05	0,03	0,09

Note: LS: Looking at the students; LB: Look at board while writing and explain; TE: Writing on the board and he or she

turns to the students to explain; LR: Looking at the resource; LO: Looking at other directions.

The last criterion is related with how teachers address their students (see table 8). In this case, only one of the teachers addresses their students by his or her name.

Table 8. Relative Frequencies of the Teacher Addresses the Students Criterion (Middle of the class)

Criteria	Codes	University Teachers				
		1	2	3	4	5
Teacher addresses the students	CN	0	0	0	0,57	0
	NN	1	1	1	0,43	1

Note: CN: Teacher calls by his or her name; NN: Teacher is not addressed to student by name.

In reference to the results obtained, we can conclude the university teachers evaluated showed appropriate educational practices while they were teaching although some aspects could be improved.

4. Discussion

We are presenting here a very simple instrument to observe behaviors which indicate best practices. On one hand, best practices is a very complex construct, that includes aspects ranging from the way teachers plan their class to the attitude towards their students. But even when the focus is on the behavior, the Observational Instrument of Best Practices is not the only observational instrument available. If the interest is the interactions between teachers and their students, a more complex instrument may be used. For example, the Observational Protocol in the Teaching Functions at the University (Díaz, Borges, Valadez & Zambrano, 2015) allows measuring not only isolated behaviors, but behavior patterns showing best practices, and this way it is possible to analyze the relationship between university teachers and their students, in aspects like reinforcement, answering the students' questions, among other. But, for simple behavior, the Observational Instrument of Best Practices may be the best option.

To the extent that teaching is a relational work (Lampert, 2009), and being the communication of the teachers with their students one of most relevant factors in the development of the quality in education (Colina, Medina, Parra, Cendrós, & Montoya, 2009; De Juanas Oliva, & Beltrán Llera, 2014; Pianta & Harme, 2009) behaviors considered as best practices might reflect this relationship in some way. In the current research, these behaviors respond to two possibilities: that the university teachers make themselves easily heard and, secondly, these kind of behaviors increase the students' motivation.

In the first case, a good class should avoid any difficulties to be understood. For this reason, university teachers should assure that their behaviors contribute to facilitate being well heard. Selecting a good position is a crucial point, but university teachers should realize these very simple behaviors, which allow the students to easily follow the teacher's explanation: standing, moving around the dais but not around the classroom, turning around after writing on the board. Additionally, a more active position, as standing, is preferable to be seated, because it is a more dynamic position and, secondly, students can hear them better.

The other criteria, Look and the way that university teachers address their students, connect with motivational issues. These criteria are directed to increase the connection between the educator and their students. A direct look makes the students and the teacher feel closer to each other, just like knowing the students' name and addressing them by his or her name.

The observational instrument presented here is a very simple one, which with little effort and time produces a very rich information. It may be a useful tool detecting behaviors that could be improved easily. In this case, the studied behavior of the university teachers indicates, in general, best practices. But punctual recommendations could improve their behavior, contributing to a better relationship with their students.

Nevertheless, some conditions of the educational system sometimes make following these simple rules of best practices difficult. Long classes, of two or more hours of duration, can make standing up all the time hard for the teachers. Secondly, massive classes, with more than 30 students, even more than 100, do not help the teacher learn the students' names.

This observational instrument has proved its usefulness detecting simple behaviors that indicate best practices. Nevertheless, since the sample used in this research is small, it may be convenient to reply this study with a larger sample and in other universities.

The quality of education is a common task, which includes both big processes and small ones, and very different actors, from the authorities who establish rules and laws, to individual teachers who worry about improving their teaching and

learning skills. Recently, the most traditional teaching procedure, which is masterly classes where teachers explain the lessons and students adopt a passive role by taking notes they have to study to pass the exams, is being be changed by other ways of teaching and learning, as, for example, projects-based learning (PBL) (Johari & Bradshaw, 2008; Mora, Martín-Gutiérrez, Añorbe-Díaz, González-Marrero & Arriola-Gutiérrez, 2015; Moral, Ballesteros, Tijero & Torrecilla, 2015). But these new educational procedures must prove that they work, and for this reason it is necessary to have rigorous instruments to evaluate them.

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