

Strategies in university teachers training: an experience of video recording in the Universidad Politécnica de Valencia

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Abstract: The video recording technique is considered an important and effective strategy to improve university teaching in novel lecturers. This technique allows to analyze and to evaluate the performance of lecturers in their classroom thus improving their teaching skills and contributing to their professional training. In this work, an experience of video recording in more than 200 lecturers of the Universidad Politécnica de Valencia is reported. It is investigated how video recording helps to identify problems, to analyze the diction and the structure of the lecture and, which is more important, how the lecturer may observe its own action and the perception that students have of him. Furthermore, the common features and implications that were observed in the carried out video recordings are described and discussed.

Key-Words: training strategies, novel lecturers, video recording, observation guide, self-evaluation.

1 Introduction

The Universidad Politécnica de Valencia through the Instituto de Ciencias de la Educación coordinates the pedagogical and teaching training of lecturers. In this sense, the Pedagogical Initial Training Program (FIPPU) is oriented to novel lecturers which are within their firsts three years of teaching [1]. This Program is carried out during one academic year with the aim of giving support and suitable answer to problems and doubts that daily arise from teaching and which are based on the individual circumstances. This training should contribute to a theoretical frame, a technological baggage and a supervised practice that successfully improve the teaching activity and the later professional development [2].

The Training Program, is understood like “an opportunity of improvement” not like “an obligation”. Therefore, it is tried to support the interest and desire to improve and for that reason focuses its attention in the professional experience of each lecturer and in its analysis and evaluation for later confronting them with the others and to obtain, in this way, ideas and sensations that can serve like model for the generation of concepts and generalizations that can be related to the theory.

This approach implies that the important thing is the experience of each one of the participants which is unique according to the idiosyncrasy of each one. Therefore, the objectives of learning during the

Training Program will have to be customized and the support of both the other lecturers that participate in the Program and tutors will be a fundamental piece. Training activities try to be little prescriptives and coherents with the philosophy inherent to the Training Program. On the other hand, the methodology includes different training strategies to provide a wide variety of learning experiences. Among them, the video recording is one of the most important.

2 Video recording as a training strategy

The video recording made to the novel lecturer is considered an effective strategy to improve the teaching skills. It helps to identify problems, to analyze the diction and the structure of the lecture and, which is more important, allows the lecturer to observe its own action and the perception that students have of him, thus being able to reflect on its way to give the lecture [3].

The process followed in the recording implies the observation and the analysis of the didactic act in the classroom since, as Medley and Mitzel [4] affirmed, in the studies of classroom processes “surely there is not an approach more obvious to investigate on education that the direct observation of the professors while they teach and the students while they learn”.

There are a large variety of different approaches on the observation. The followed approach to make this investigation is based on the *systematic approach and independent of observation*, of the classification of Anderson and Burns [5], where the processes to observe are specified beforehand and the observer registers them through the election of a system of categories that includes most of the aspects and events that take place in the classroom.

This methodology allows to make an observation and plural analysis of the performance of the lecturer in the classroom processes. Not to fall in simplifying positions of the multiple dimensions that take part in the teaching activity, it has been used an instrument that besides to reduce the complexity of the process, has meaning in itself and is able to summarize the properties of a whole, the *self-evaluation guide*, validated through judgment of experts and triangulation.

In the next sections, it will be described the genesis of the video recording, the elements of analysis and the difficulties of putting into practice, as well as the results obtained in the hundred of recordings made to different lecturers pertaining to the diverse schools from the Universidad Politécnic de Valencia.

2.1 Observation guide

The lecture is considered in its totality like the unit of observation and analysis. Concretely, the analysis is centered in the teaching performance in the lecture and it tries to identify the series of transactions, changes, movements and acts that take place in it. This process is developed in a space (classroom) and in certain time (the time that the lecture takes place, between 1 and 4 hours). Usually, the recording lasts one hour (beginning, part of the development and closing).

Three basic dimensions are distinguished in the guide: a) situational context, macro context (school and subject) and micro context (classroom); b) social-affective context, describes the interaction between the lecturer and students and c) system of didactic communication, describes the observation and analysis of the real processes that take place in the classroom, i.e. what is denominated the interactive phase of teaching [6,7]. The latter is analyzed with the help of the guide and it allows analyzing the phases of the lecture, beginning, development and closing, as well as more specific categories integrated in each phase [8].

2.1.1 Beginning phase

The initial phase corresponds approximately to 10% of the total of the lecture. It values among other things how the lecturer obtains the attention of the students, wakes up the interest by the subject,

motivates, connects with the previous lecture, presents a scheme of what is going to explain, indicates the objectives, contextualizes the contents, etc.

2.1.2 Development phase

The development phase corresponds to 80% of the lecture. It values so much the expositive clarity: language, concepts to emphasize, exposition and sequence of contents, like the used strategies to maintain the attention and the interest of students: analogies and examples, drawings, schemes, didactic materials, audiovisual media, participation of the student, proposed activities, etc.

2.1.3 Closing phase

The closing phase corresponds approximately to 10% of the total of the lecture. It analyzes if the lecturer concludes with a summary, reviews notes, asks, connects with the next lecture, proposes complementary data to extend or to improve the learning, motivates the students to extend certain aspects of the subject, etc [9].

2.1.4 General aspects

The guide includes a section of general aspects with three blocks: a) speed, expressivity and speaking rate: control of the speed in the exposition, verbal diction, nonverbal communication, tone and volume of the voice - variations, verbal fluidity; b) teaching personality: affectivity in the educative relation, the creativity of the lecture; and c) organization: notes of the lecture, use of the bibliography, the control of the time of the lecture, participation in assisting students, etc.

2.2 Description of the process

The video recording process is developed through three differentiated phases: planning of the activity, recording of the lecture and its later technical analysis. The attainment of all these phases gives rise to the best advantage of the video recording technique as it allows a critical study before and after the recording has been carried out.

2.2.1 Planning

The organization of the recordings begins with the elaboration of an individual card in which the necessary data of the subject and the group of students are reflected to contextualize the recorded session and that will perform as variables in the analysis of the didactic act: number of credits, weight in the degree, compulsory or optative, practical or theoretical, degree of responsibility, number of students, previous sessions, etc.

2.2.2 Recording

The day of the recording, it is registered a general plane of the lecturer and, when required, a view of the classroom or of the students. Existing bibliography around international studies on observation in classrooms indicates that some concepts and variables related to the learning-teaching process are more suitable than others [10,11]. Among them, we can consider the time of the lecture, the organization of the students, activities of the lecturer and students, the resources that are used, etc.

In the guide, which is presented in this work, are introduced fundamental variables for the obtaining and analysis of quantitative and qualitative data. In this sense, different points have been analyzed, like how the lecturer uses the resources of the classroom (blackboard, slide projector, video projector, etc.), the relation that it establishes with the group, the methodology that is used, the control of the time, the structure of the lecture, etc.

2.2.3 Technical analysis

Once made the recordings, the pedagogical experts elaborate a technical report taking care of the three key phases of the lecture: the beginning, the body or central part and the closing. Of the extracted data of the guide, the strong points, the weak points and the suggestions are indicated for each one of the above phases. Also, this analysis is made at three levels:

- *Individual evaluation*: The lecturer is asked to analyze its recording and to elaborate a personal report
- *Group evaluation*: The individual reflection serves for later contrasting and analyzing the recording with the other lecturers that participate in the Program.
- *Technical evaluation*: The academic and pedagogical tutors point out methodological and content aspects that need be reviewed.

3 Evaluation

The evaluation of video recording and its reports has to show the quality of teaching and how to improve it. So, it must be focused to establish the main features of performance. For that, it is necessary to determine if the lecture is well prepared and structured. The performance must be clear with a high participation of the students and in a suitable environment. Following these guidelines, a qualitative analysis of results was performed.

Most videos have been recorded teaching during a session based on presential lectures with a range from 20-50 students. The lecturers had established a relation with the group for at least 6 sessions. Respect to the resources, the classrooms had a blackboard and a slide projector. In most cases, a video projector was

also available. Therefore, the conditions of classrooms were suitable for a normal teaching performance.

With respect to the teaching process, the results obtained from different planned activities enables to retrieve useful information for each novel lecturer. Observations of teaching and feedbacks sessions using video recording identified strengths and weakness of the teaching activity. A customized list of topics was then obtained in order to improve teaching quality.

Nevertheless, the comparison of revised topics showed that there are not significant differences among novel lecturers. Therefore, it is possible to establish the common features of university lecturers in the initial phase of their teaching activities.

Table 1 summarizes the relevant topics, included in the observation guide. They are classified according to the future perspectives: strong points and points to be improved. Therefore, these topics highlight those areas for being developed by a novel lecturer. Any course devoted to teaching training should consider them.

The main strong points are related to the content and structure of the lecture. The relevance of topics and accuracy of language are properly employed. Meanwhile, the weak points are related to some personal communications skills, the participation of students and the feedback of learning-teaching process. Other frequent errors are related to provide excessive information, high speech rate, the absence of partial summaries and too technical language. Although, the novel lecturers underline the important issues of the subject, they do not emphasize the frequent problems of students in this area. The aim is to achieve an educational and participative activity instead of a conference. Non-verbal communication (body language, paralinguistic) has to be a focus of attention for the refinement of presentation skills. A novel lecturer usually does not employ this tool as a complement to the spoken language.

Since the lecture is the most employed activity in university teaching, the correction of these key topics is fundamental for a course of teaching training. So, the technique of video recording makes easy the identification of the most common errors in a bad lecture. Finally, the feedback sessions must show alternative ways to correct them, using strategies which develop and integrate the teaching skills. Therefore, the evaluation has to conclude indicating how to improve the quality of teaching.

4 Implications

Previous to experience of video recording, the lectures feel threatened by a process which could seem to be judgmental. Moreover, the observation of an only class could be insufficient since it does not

Table 1. Summary of observation points

	Strong points	Points to improve
Initial phase	<ul style="list-style-type: none"> - Link the subject to previous learning - Contextualize the topics - Introduce the class in an interesting way 	<ul style="list-style-type: none"> - Secure the attention of the students - Make the learning objectives clear
Development phase	<ul style="list-style-type: none"> - Underline important/key points - Use relevant examples to make the explanations clear - Adopt a logical and structured approach - Use of learning resources to support the explanations 	<ul style="list-style-type: none"> - Use of adequate techniques to topics - Provide alternative explanations - Explore to assure a correct learning - Make reference to additional situations - Keep student attention - Emphasize frequent errors
Closing phase	<ul style="list-style-type: none"> - Summarize key points - Identify links with the following session 	<ul style="list-style-type: none"> - Promote on follow up work - Check that the learning objectives has been reached
General aspects	<ul style="list-style-type: none"> - Control of timing - Speak clearly - Handle students questions appropriately - Provide well-designed materials - Develop a correct teacher-student interaction 	<ul style="list-style-type: none"> - Make eye contact with the audience - Use of non verbal communication - Encourage all students to participate - Relate concepts to students' experience - Module strength of voice

really register how it develops the complete student training.

During teaching observation, the presence of video camera and the observer could change the usual performance. Students could behave unusually well and the lecturer is likely to feel nervous about having its teaching practice observed. But, in general, this situation only appears in the first stages of the session. Watching a video of yourself is a valuable experience. This enables to the novel lecturer to get a feel of how the teaching comes across.

The discussion sessions are based on giving a constructive feedback avoiding demoralizing or ineffective comments. It has to consider that there is no one “best way” to teach. But the observation reports and feedback session can provide a useful starting point to improve the teaching quality. So, the contribution of these sessions is double. The more experienced colleague improves the teaching skills in the specific knowledge area and the multidisciplinary sessions provide a refreshing point of view. And, the analysis of other novel lecturers is also a potential way to learn valuable skills. Both observing session is a productive strategy in terms of sharing of ideas for a best practice.

After the complete process, the novel lecturers admitted that the video observations are an interesting means of enhancing quality in teaching. It is a valuable experience as part of their training as shown in the following reflections made by novel lecturers that have been recorded:

- “It is a splendid tool to observe yourself as your students see you every day. It enables to know your weak points and to plan the proposals for improvement”
- “Video recording allows comparing your perceptions and the reality of your teaching”

Hence, they concluded that observation is one direct source of quality evidence on teaching. Other indirect benefits of experience are to build academic links and to foster innovation. Even, the motivation of students can be improved since it reveals the efforts of lecturer in order to achieve a better yield of the teaching-learning process.

Moreover, the inclusion of an activity of video recording in a course of teaching training has an additional advantage. The lectures know directly the methodology in order to extrapolate the use of video recording for other teaching proposals. This technique can be applied to supervise activities based on cooperative learning, academic debates or any educational event. The students can learn from the observation of themselves as the lecturers have done. Finally, we have analyzed the issues of this technique which can be improved.

Video recording focused in the performance of lecturer has some limitations of learning-teaching process. For instance, it is not possible to analyze some reactions of students. This problem is partially solved with the presence of an observer during the video recording. A professional point of view contributes with additional information that the video recording does not register. This kind of valuable

details about two-way interaction between the lecture and students can be discussed in feedback sessions. Nevertheless, the use of two cameras can increase the depth of the analysis. A camera focused on lecturer (speech, blackboard and slides) and other focused on students (distribution, reactions, notes). The simultaneous analysis of both videos allows the detection of problems following the student behavior. So, the lecturer has a disposal for further details which help to clarify doubts or to identify the best strategy for each situation.

Also, video recording can be applied to review teaching evolution. The evaluation of this process produces a list of topics that a novel lecturer has to improve. Further observations contribute to check the effectiveness of the learning experience. In those cases, there is the opportunity to choose or highlight areas for the observer to focus on. Therefore, the fundamental purpose is to enhance the quality of teaching practice in those topics which were detected as weak points.

5 Conclusion

The video recording technique as strategy to improve university teaching, especially in novel lecturers, have been analyzed in the framework of the experience of video recording in more than 200 lecturers of the Universidad Politécnica de Valencia. The methodology, evaluation and implications of the whole process have been described. Furthermore, it has been shown that although observations of teaching and feedbacks sessions using video recording are customized it is possible to establish common features among university lecturers in the initial phase of their teaching activities.

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