

Comparing Novel and Stable Lecturers' Point of View when they use University Students Working Groups in Their Classrooms.

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Abstract: - One of the purposes of the Bologna process is to establish quality assurance standards in the European higher education area throughout Europe. It is important to train university lecturers in order to achieve this goal. Many educational methodologies could be applied in the university classrooms. One of the teaching methods that is being increased in the university is the workgroup methodology. Our research tries to identify which differences exist between novel and stable lecturers when they use working groups in their educational methodologies. In this work we are going to show if the grade of use of the workgroup technique is different according the status of the lecturer (novel lecturers vs. stable lecturers) and we will discuss all results obtained in our research for all basic techniques of working groups. We will also compare their problems and goals when they are using these techniques. In our final discussion, we will show that the use of working group techniques doesn't seem to be affected by the stability of the lecturers or their age in the university, in opposition to what many people think, so it is not needed different training for novel than for stable university lecturers.

Key-Words: - Novel vs. Stable Lecturers, Working Groups, Active Methodologies.

1 Introduction

One of the main issues at the university is to train its lecturers for teaching using the appropriate methodologies depending on the educational environment [1]. This environment is different according the degree course. Usually, lecturers have to share the same university class independently of their position in the university. There have also appeared multi-lecturer collaborative platforms to do this task [2] [3]. Many teaching methodologies exist for teaching knowledge:

- Lecture (unidirectional monologue or bilateral exchange).
- Reading.
- Audio visual materials (CD ROM, video, Multimedia PCs, etc).
- PC-based software applications [4] [5].
- E-Learning Systems [6].
- Individual research and evaluation (Internet, literature review, etc) [7].
- Case studies.
- Problem Based Learning.
- Technology-based active methodology [8].
- Group discussion.
- Field work (observations, discussions, etc.).

On one hand, several teaching years should give a lecture enough knowledge to use training

methodologies, and, on the other hand, once a lecture is stable in the university, he/she can pay more attention to educational methodologies.

Our research tries to identify which differences exist between novel and stable lecturers when they use working groups in their educational methodologies.

We are going to analyze three issues:

- How many times group based activities are used with lecturer's students?
- Does the lecturer feel trained to use active methodologies based on groups?
- What things are needed to set off or to improve the use of these methodologies?
- What are the main differences between their training?

There are many works that argue the advantages for the university students given by using group-based methodologies [9-19]. However, university lecturers have very few information about the real advantages and drawbacks of these types of methodologies [20], in the Spanish education at least, specially when they are compared with traditional teaching lessons based on lectures. On the other hand, most of those lecturers that know the theory don't know how to implement them or have very few examples of implementation techniques. Shaw et al. [21] consider that there are few works related with group-based methodologies where there

are university students and they encourage to think about it. However, small-group collaborative work is one of the most popular methodological and evaluation strategies used today by university faculty [22, 23]. They give the results of a study on how university students value group work and analyzes whether or not those judgments are reliable. We are not going to analyze the lecturer satisfaction toward the actual learning system in our university because it is not the purpose of our research, but it could be a good scope for future works as other educational researchers have done [24].

The rest of the paper is structured as follows. Section 2 describes and compares traditional teaching with working group methodologies. The method used to achieve our goals is explained in section 3. Section 4 shows the results we have obtained. Finally, section 5 gives and discusses our conclusions.

2 Traditional teaching versus using groups in university teaching.

Traditional teaching is concerned with the teacher being the controller of the class, learning environment and what the students must learn. The teacher assumes the main role of provide information and contents to the students through traditional lecture classes [11; 22]. This information use to be given in logic, structured a lineal manner [25], with examples, solving problems on the blackboard, proposing tests and problems for homework and correcting this tasks given for homework [11].

On one hand, the lecturer writes on the blackboard or shows slides and reads, straining his/her voice, the content of the subset. Usually this content could be found in a textbook or in the notes of the last year [26].

The students, in their way, use to have a passive behaviour. They are seated writing routinely what the lecturer is writing on the blackboard, or showing in the slices, reading the contents of the subject or solving problems, or just dreaming awake. When the lecturer asks a question to the students, usually a student from the first file answers that question, while many others avoid looking to the lecturer at that moment. When the class finishes, students are encouraged to do some homework related to the exercises that have been working in the classroom. It happens every day [26]. Students only take and accept the information and the knowledge provided by the lecturer [11, 22]. Because of it, many people

considers that traditional teaching encourages superficial learning to the students (memorizing and replying contents) [12, 15, 25].

However, complex learning that require comprehension, application, analysis, synthesis and critics to the content, needs an active participation of the student in the learning process. So he/she passes from receiving information to the knowledge evaluation and organization [22]. This manner of learning provides a higher lasting knowledge retention [25].

Between proposed alternatives to the traditional learning we can find problem/project based learning, case study or active learning [11, 15]. First option implies a radical change, because it forces to break the degree courses into isolated subjects (it use to happen in the Spanish university). The second option (case study method) forces students to grapple with exactly the kinds of decisions and dilemmas managers confront every day. It is used as part of professional development. The third option (active learning) could be a good alternative which is also compatible with the fact of breaking the knowledge into separated subjects as it use to happen in many university degree courses. Active learning employs discursions that are guided by the lecturer. Students participate asking questions that are answered in the classroom by the workgroup [11].

From these options, we are interested on researching in the workgroup methodology. Several techniques allow us to teach working the students in groups [27]:

- Role-plays: It consists on representing a concrete space and action previously defined with some elected figures. The students, that are involved, interact freely in the elected environment. Every one adjusts his/her role to the others.
- Fish-bowl: It consists on forming 2 concentric circles of persons. One of them (the one inside) discusses or acts about a topic while other group observes. The observers could have some pre-established criteria of observation.
- Jigsaw: It consists on breaking down a very big group into subgroups (e.g. a group of 30 students could be broken down into 6 groups of 5 students). These subgroups interact during some moments to share tasks. When the time is finished, a spokesperson must be chosen to shown to all other groups the subgroup conclusions. There is another manner to interact: the subgroups members are numbered, then five new groups are created with six components (all

members number 1 together, all members number 2, etc.).

- Ice-breakers: They are short and carefree exercises that students must solve in the classroom. They will release the creativity of the students and to promote an adequate atmosphere in the classroom to make their development easier.
- Brainstorming: It is a technique to generate a great number of ideas. The participants express their ideas as they produce them, without giving matter about their applicability or about the other type of mental filters. It can be carried out in a many variants: the members give their idea without establishing any shift. They use their notes to collect ideas (they could be organized easily).
- Multi-vote: It consists on grading a list of ideas (giving points from 1 to 10 to every idea), or limiting the number of votes that are meting every student (e.g. to vote only the most important ideas in the list). They are ordered as a function of the number of votes and the group analyzes the items, discusses and summarizes the results. It could be used combined with other techniques like the nominal group or the brainstorming.

Although many lecturers give tasks to the group of students, there is not a workgroup culture and an active learning method culture in the actual model of teaching techniques in many universities [11; 28]. Lecturers propose the tasks in groups to reduce the number of Works to correct or to give the students the opportunity of experiment by their way what is work in group, but without supervising or guiding the process. Although some of them give some initial instructions explaining the type of product they want, and suggest the materials to be used. But they are focused on training contents and consider that the process of how groups should work and set up must be explained by other lecturer or in another subject [10].

Some of the habitual justifications given by the lecturers to avoid devoting time to train students in workgroups, and guiding their process, are the following ones [10, 29]:

- The subjects don't have enough time to use some of it in group activities. If group activities are explained in class all the topics of the subject will not be covered because, actually, degree courses content are saturated.
- The students wish to learn by themselves without being manipulated by the lecturers; the lecturer considers that the students make it correct without the support of the lecturer, so the

lecturer doesn't know how to help because he/she doesn't have enough time for making activities.

- One of the main problems to implement this type of teaching methodologies is that the groups of students are quite large (25 or more students) to foment their participation [12]. To exceed the problem of the size of the group, and to maintain the teaching quality assurance, it is needed additional lecturers (the university must contract more lecturers) and there has to be available university classrooms (and big enough) to give the lecture. Another choice is to use creative alternatives such as to break the class into several parts and ask to a part of the students some autonomous activities while the rest of the students stand in groups with the lecturer.
- To prepare and adapt any exercise to be given using workgroup techniques implies to consume many time and many efforts, so not all lecturers are able to dedicate his personal time to it.
- The lecturer is afraid to loose the control of the classroom because the lack of organization [22, 30].

In our research we are going to investigate if the grade of use of the workgroup technique, what they need and how they feel teaching using workgroup strategies, is different according the status of the lecturer (novel lecturers vs. stable lecturers) in the university.

3 Method

For our research purposes, we have created a workgroup activity with 43 university lecturers that assisted to 2 lecturer training workshops. This workshop was done through the lecturers training initiative of the Educational Science Institute of the Polytechnic University of Valencia. The first training workshop had 22 novel lecturer attendees. These novel lecturers had less than 4 years of teaching experience. There were 21 stable lecturers in the second training workshop. All these lecturers had a stable contract with the state or with the university and had more than 4 years of teaching experience. All lecturers are teaching at the Polytechnic University of Valencia. Polytechnic University of Valencia has 15 schools with 30 first grade degrees, 15 first plus second grade degrees and 13 second grade degrees. It has 4 campuses in a circle of 100 kilometres and its main campus has 50 buildings in a 2 Km² area that is close to Valencia City.

The subjects given by the lecturers in our research for both groups were very different: Chemistry, Biology, Statistical Study, Business, Electronic Technology, Structure Theory, Computer Science and so on. Some of these subjects are being taught in first degree courses and other of the second degree, but we did not take it into account for our study.

Stable lecturers' classrooms were a little more overcrowded than novel lecturer's classrooms. The number of students attending to the novel lecturers classrooms is between 15 and 45 students (most of them with less than 25 students. While in stable lecturers classrooms the groups are between 15 and 100 students (most of them with more than 45 students).

Almost all stable lecturers thought that they were novel in using workgroup methodologies with their students and they were not trained in it. However, only a third of novel lecturers had read quite about group methodologies and had implemented some techniques with them.

Every one of the groups (novel and stable) prepared individually the meeting for 20 minutes. This preparation consisted on answer a questionnaire with open questions related with the use of the workgroup methodology with their students. Then, they met for 30 minutes in groups of 5 people to show their opinions and annotate the contributions of the all members of the group. Next, they made new groups having a representative of each one of the initial groups and each one of the group explained his/her information for 30 minutes. We have used data obtained from the individual answers of the questionnaire and the annotations given during the second meeting of each one of the groups.

4 Results

Table 1 shows the grade of use of the different basic techniques of working groups. Although there is one more in novel lecturers, the grade of the use of basic techniques is generally very similar in stable lecturers than in novel lecturers. The most popular ones are brainstorming, jigsaw and ice-breakers, while fishbowl technique was not used by any type of lecturers and multivoting was not used by stable lecturers.

Figure 1 shows graphically the comparative between them. We can observe that jigsaw, ice-

breakers and brain storming were more used by stable lecturers than by novel lecturers. Role playing and multivoting were more used by novel lecturers than by stable lecturers. Multivoting technique was the reason of having more techniques used by novel lecturers than stable lecturers.

On the other hand, many lecturers considered that the role playing technique couldn't be used in their subjects (9 stable lectures and 7 novel lecturers). It was also something similar with the fishbowl technique (4 stable lecturers and 4 novel lecturers). On the other hand, all stable lecturers that used any of these basic techniques were happy with their results. 3 novel lecturers said that they didn't like the experience of using jigsaw or ice-breakers methodologies.

Great differences are not appreciated in the perception of lecturers' preparation to set up workgroup activities with their students. The 50% of both stable and novel lecturers is considered to be ready for workgroup activities (30% of them is able to work with it and the 20% are only ready for some cases like small groups, laboratory practices and other activities). Lecturers that consider they are not ready to work with workgroups in the classroom, said that it is given because they do not have enough preparation and knowledge about workgroup techniques. On the other hand, those that consider they are ready, admit that for this type of activities it is needed many time and effort to prepare the tasks and control and evaluate the works of the students of the groups. But, they are motivated to learn and improve the workgroup methodologies that they are using.

About the lecturer's necessities, there is again an agreement between novel and stable lecturers. The greatest necessity (50% of the lecturers) is to have more knowledge about what are the best workgroup techniques to use in the classroom.

Table 1. Number of lecturers using group activities

| Technique | Stable Lecturers | Novel Lecturers |
|----------------|------------------|-----------------|
| Role playing | 5 | 6 |
| Multivoting | 0 | 4 |
| Jigsaw | 10 | 9 |
| Ice-breakers | 8 | 7 |
| Fishbowl | 0 | 0 |
| Brain storming | 14 | 9 |
| Total | 21 | 22 |

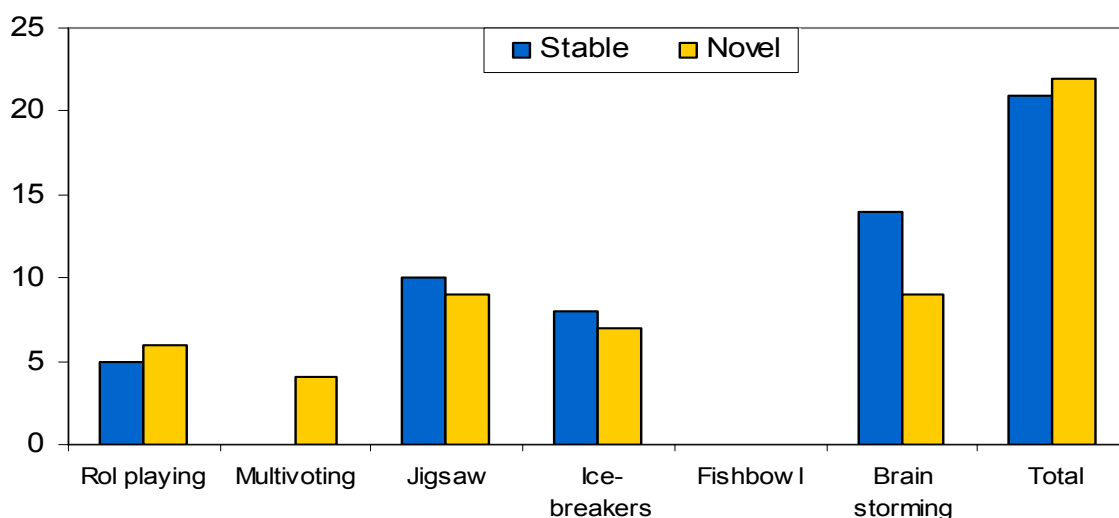
Lecturers

Figure 1. Group activities comparison.

In order to know what were their necessities they had the following answers:

1. I have not enough time to prepare workgroup activities in my classroom.
2. I have not enough practical experience.
3. I don't know workgroup techniques to apply in my classroom.
4. I don't know how to control and direct the group and I don't have enough knowledge to teach it.
5. I don't have enough authority in my classroom.
6. I don't know how to prepare the materials.
7. I don't know how to motivate my students.
8. My students do not participate in my activities.
9. I don't know how to guide my students in workgroup activities.
10. I don't know how to make the students think.
11. I have problems with the student's class assistance.
12. I have problems with the groups composition because they are not homogeneous.
13. I don't know how to clarify what I am looking for.
14. I don't know if working group techniques could be applied to my classrooms.
15. I don't know if workgroup techniques are useful.
16. I would like to have examples of working group activities.
17. I would like to know which weigh has to have the process versus the product.
18. I would like to know which weigh has the mark of every individual student versus his/her group.
19. I don't know how to avoid parasites.
20. I don't know how to redefine the work in the classroom.
21. I don't have a classroom prepared for these types of activities.
22. I have many students, so working group techniques can not be applied.
23. I have to coordinate with other lecturers.
24. I have problems with my class schedule.
25. I have to evaluate the students quickly.

Figure 2 shows the answers of stable lecturers. Their answers show that stable lecturers are more worried about knowing how to prepare materials (having examples of working group activities). On the other hand, they say that they don't have enough practical experience and they don't know if working group techniques could be applied to their classrooms. There are also worried about the time and the effort needed to prepare workgroup activities in my classroom and how to evaluate the students quickly.

Figure 2 also shows that none of the stable lecturers is worried about the participation of the students in the activities or on how to avoid parasites. Issues such as how to guide their students in workgroup activities and the difficulty of composing homogeneous groups do not concern them. They don't have problems with the student's class assistance.

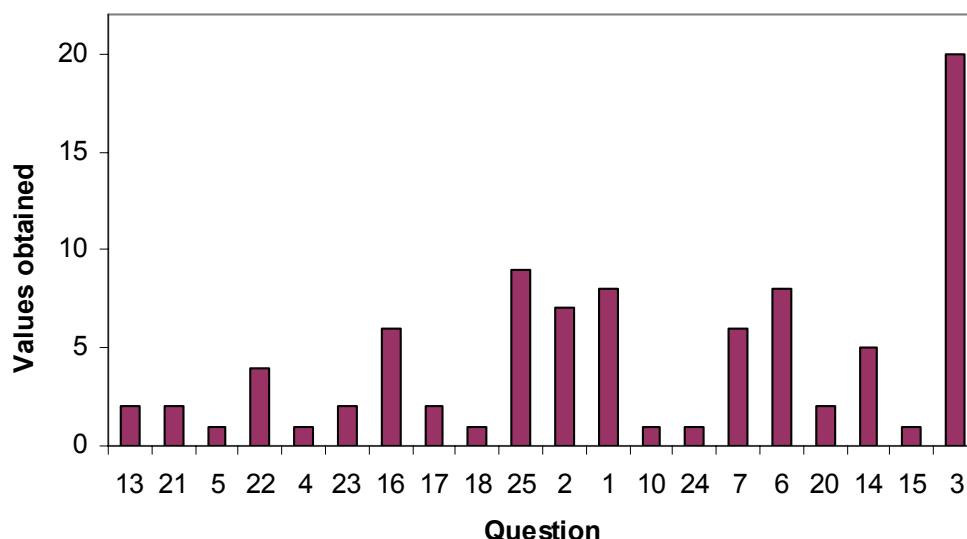


Figure 2. Values obtained from stable lecturers

Figure 3 shows the answers of novel lecturers. They say that they don't know workgroup techniques to apply in their classroom and they don't know how to prepare the materials. They would like to have examples of working group activities. Some of them say that they have many students, so working group techniques can not be applied. Others are worried because they have to evaluate the students quickly, while others because they don't know how to motivate and stimulate their students.

Figure 3 also shows that novel lecturers are not worried about how to control and direct the group and they are not worried about to have enough knowledge to teach it. They are not worried about which weigh has to have the process versus the product and also about which weigh has to have the mark of every individual student versus his/her group. Answers like "I don't know how to make the students think", "I don't know how to redefine the work in the classroom" and "I have problems with my class schedule" didn't have any mark by the novel lecturers. These answers confirm other works [31].

Figure 4 shows their comparison. Only 6 questions have a notable difference (with more than three marks of difference). They were answers 25, 2, 1, 14, 15 and 3. Answer 15 "I don't know if workgroup techniques are useful" was marked more by novel lecturers than by stable lecturers. The highest difference was in answer 3 "I don't know workgroup techniques to apply in my classroom" with 11 marks of difference. Answers such as "I have many students, so working group techniques can not be applied", "I would like to have examples of working group activities", "I have to evaluate the

students quickly", "I have not enough time to prepare workgroup activities in my classroom", "I don't know how to prepare the materials", "I don't know how to motivate my students", "I don't know workgroup techniques to apply in my classroom" have had 4 marks or more in both stable and novel lecturers.

The following necessities are related with the preparation of usable materials:

- They must be attractive
- Lecturer must know how to evaluate the activities (which system has to be used, the weigh for each individual and group activity and how to distinguish between individual notes and notes for the whole group).
- How to motivate the students for their participation in the classroom activities and avoid shirking.
- Examples of application of the techniques in similar contexts (similar subjects or with the same number of students).
- Less number students in their classrooms
- They need more time to be used for adapting their teaching to the workgroup methodology.

All these necessities have been discussed by more than a third of the members of both workshops.

Two issues are different for both stable and novel lecturers. On one hand, stable lecturers think that they need to set up all techniques to learn from the experience (this aspect was not discussed by the novel lecturer's group). On the other hand, novel lecturers wondered if the workgroup methodology was really useful (it was not questionable by stable lecturers).

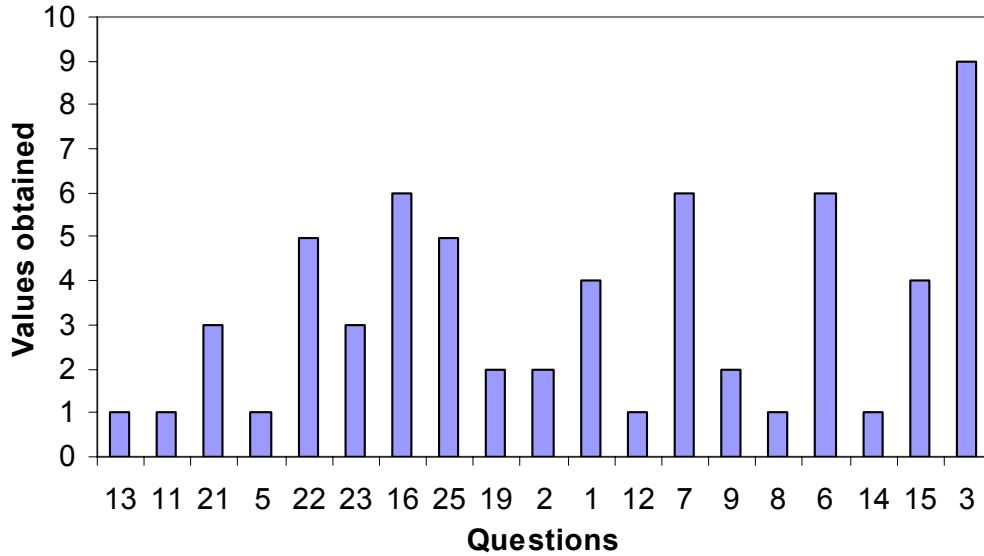


Figure 3. Values obtained from novel lecturers

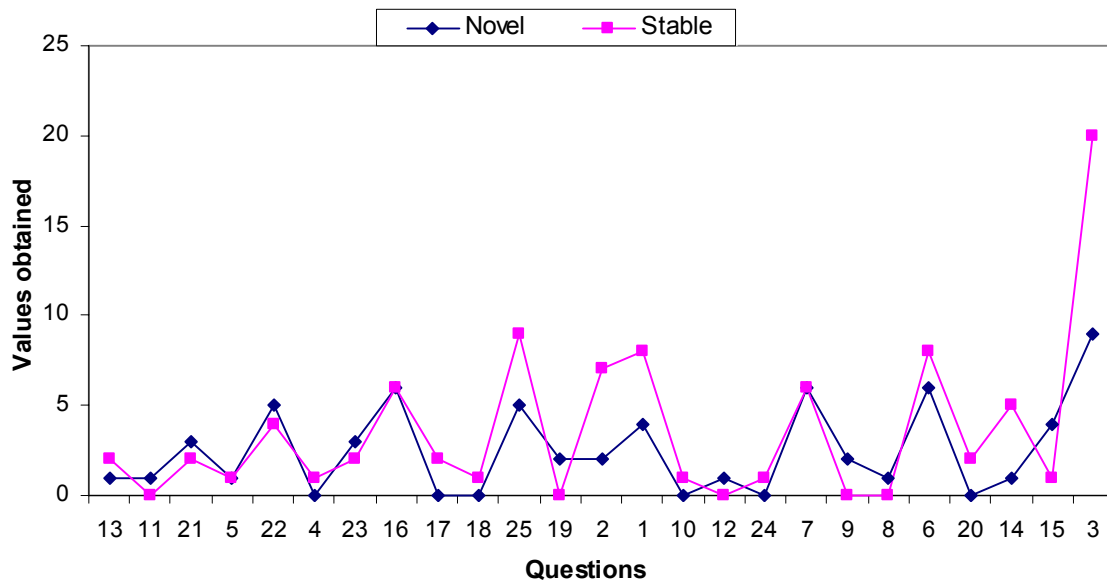


Figure 4. Values from stable lecturers versus novel lecturers

5 Discussion and Conclusions

The grade of use of the workgroup techniques, the perception of the lecturer of being ready for setting up workgroup techniques and what university lecturers need to encourage the workgroup technique with the students, don't seem to be affected too much by the stability of the lecturers or their age in the university.

Both type of lecturers use some of these workgroup techniques sometimes. It is also backed up by several authors [14, 15], although most of the lecturers use traditional lectures mixed with problem-based learning or case study activities.

To adapt the teaching methodology and to promote the workgroup methodology, lecturers need to be motivated and some of their necessities must be covered. Some of these necessities are the need of training in working groups, and diminish their insecurity in their capacity and their knowledge about these techniques (how to use these techniques with their students, how to prepare their materials, evaluation guides, efficient evaluations, examples and recommendations to motivate the students). All of them are interested on having small groups as T. Kalliath and M. Laiken stated in [18].

One of their major interests is the appreciation by the institution of the effort and time consumed to adapt the teaching to those new methodologies [13,

22]. Some of them are not confident with the improvement of the results of the students when these methodologies are used [22, 32]. There were more worries in the novel lecturers' workshop.

The comparison of their answers shows that there are not too many differences between them. Only 6 answers have a notable difference, but they don't imply a basic difference between them.

We have shown the answers given by both stable and novel lecturers. The answer with most marks has been answer 3 (I don't know workgroup techniques to apply in my classroom), so there is a lack of information about workgroup techniques. On the other hand, both types of lecturers are worried about the ways to evaluate the students quickly while using workgroup techniques. They are also worried about how to prepare the materials and how to motivate their students.

We think that this research could be useful for the university managers and for the lecturers training responsible, because it states that lecturers affront several problems in the university system that have been manifested in other works. Moreover, it seems that it is not needed different training systems for stable lecturers than for novel lecturers, because, despite of the year they have been working at the university as lecturers, both have nearly same lacks and interests about working group methodologies.

Maybe it is better to form training courses according to the topic of the lecturers' subjects or according to the number of students that they have in their classes (group size). This way will help them sharing experiences and examples that could be useful for their partners because of their similar topic.

We also consider that our investigation has several limitations. On one hand, the number of lecturers is not enough to be a representation of the whole universities because all lecturers came from the same university and the number of lecturers of both types is not too large. But, the goal of our research was doing a qualitative exploration of the university situation that could allow us to identify the most relevant variables. On the other hand, in the study, there have been a great variety of subjects, so the answers have not been caused by a difficult or an easy subject or degree course.

By this way, we could start new quantitative researches with the objective of demonstrating if the keys we have concluded are confirmed for many lecturers. Nevertheless, we have taken some measurements from similar activities from other Spanish universities obtaining similar results to the ones presented in this paper. On the other hand, the

participants were chosen because they were registered in an educational training workshop, so all of them was interested in working group methodologies.

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