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Finally, there is equivalence between EGnoVL in the Execution phase with CG and there is no equivalence between EGVL (that used the virtual layer) with CG. The difference in grades (as can be seen in Table 21) is greater for the EGVL. It is the most significant difference of all obtained in the rest of phases.

Table 21. Grades of the phase Execution

Group/ Execution	Mean	Deviation	n
EGVL	6.4	1.03	30
EGnoVL	1.77	2.34	40
CG	1.37	1.64	67

Table 22. Equivalence between EGVL and EGnoVL with respect to CG for the phase Execution

EG / Execution	Equivalence CG (p-value)
EGVL	2.22e-15
EGnoVL	0.5038

## 5. DISCUSSION

The results of this research, obtained from two groups with proved equivalence between the proposed objectives in the introduction. The work was carried out in the teams (section 4.3), after a process of cooperation, reflection and creation of knowledge and use it to improve the own, but they prefer to reflect on the impact of cooperation between teams on the grades obtained during the phase Execution.

The main purpose of the virtual layer in the proposed model is to enhance the active participation prolongs out of the classroom. It is possible to confirm that the teams have shared knowledge and resources in the virtual layer in four or five phases. This process is preceded by reflection and making decisions. The characteristics of active methodologies [4][13], cooperation [9], reflection and reflection on the impact of cooperation between teams on the grades obtained during the phase Execution [1], [2].

But the objective of the inclusion of the virtual layer is to know on what they have done (feedback) to test of teams, the teams have not given feedback to other teams.

Feedback is necessary for learning in active methodologies. There are authors who have studied the demand in the virtual layer, the feedback must be continuous because the teams produce constantly content and they need to receive feedback.

On the other hand, in previous studies with passive methodologies, for students to use the virtual layer to perform cooperative learning, it was necessary for teachers to follow a strategy to create the habit among the students. This strategy was carried out in the classroom [26], but it is possible that also in this study a strategy is needed to create the habit of actively using the virtual layer.

## 6. CONCLUSIONS

This research allows to prove that the proposed model enhance the main characteristics of active methodologies by the inclusion of a virtual layer to the methodology of an academic subject (active or not). It allows the work teams to enhance the characteristics of active methodologies (cooperative creation of knowledge after reflection and making decisions). In this case, the model is formed by a version of the model FlipTeaching (i.e., MFT), a cooperative methodology to follow the acquisition of the teamwork competency (i.e., CTMTC) and a social network for the virtual layer.

The teams are willing to share knowledge, but not to follow active learning among the teams. The virtual layer of the proposed model allows meeting the demand of students for continuous feedback to the progressive creation of knowledge in the work teams. But it also allows teachers to observe the real and continuous learning situation of teams in order to improve the feedback provided. The study shows that it is necessary to include feedback on the characteristics of active learning: content creation, cooperation and decision making.

The use of the virtual layer (with feedback) directly impacts on teams' grades. On the other hand, the method CTMTC, used in this research, has been shown as a very good tool to follow and evaluate the learning progress of the teams and of each of their members. Thus, suppose that this cooperative method will allow checking the impact of the virtual layer on the individual grades.

The most perceived difficulty of the knowledge to create with the difference in the impact of learning. The least complex phase (normative) does not present differences in the learning impact between EG and CG and the highest differences between both groups occur in the most complex phase (execution, for example).

Several lines of study are opened after this work: the relationship between active methodology and the perception of difficulty for the knowledge which is acquired, the impact of this proposed model in the academic performance of the individuals (once the impact on the teams' performance has been proved), the frequency of use of feedback in active methodologies and whether working with an active methodology is enough for acquiring active learning habits.

This research work is transferable to any subject that promotes active participation among students, and that allows, on the one hand, to manage, transfer and use the knowledge resources that each student creates as a result of the active methodology. The greatest effort to achieve the objectives of the project is based on creating an active and cooperative habit among the students, so the effort should be focused on the strategy to create that habit.

On the other hand, for those subjects where teamwork is used as a part of the active methodology, the proposed method allows to create a channel of communication between the teams to share the new resources generated by their members. In both situations, the system guarantees that teachers and students obtain feedback from the creation of knowledge by students.

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