

Student´s Perception Questionnaire (List of 40 items considered)

I. Project theme

Q1: The theme of the project was adequate to understand my future professional activity.

Q2: I think the theme of this year's project was interesting and motivating.

Q3: The fact that the project is open (with several solutions) was a stimulating challenge.

Q4: For the learning of the courses of this semester, I consider that the proposed project was adequate.

Q5: The articulation between the courses of the semester was well achieved with the project.

Q6: I am proud of the project my group has built.

II. Learning and skills development

Q8: The project allowed me to better understand the relevance of the contents of the courses.

Q9: Through the project, it was possible to see the application of the contents in real situations.

Q10: I feel that my participation in the PBL helped to develop my autonomy.

Q11: During the semester, I improved my communication skills (oral and written).

Q12: Providing feedback to a report from another group was important and allowed to develop my critical thinking.

Q13: The construction of the prototypes stimulated my capacity for initiative and creativity.

III. Teamwork

Q16: Teamwork has helped to increase my motivation for learning.

Q17: I prefer to work in groups than individually.

Q18: During the semester, I played an active role in the group.

Q19: The existence of roles in the group (president, secretary, time manager) was fundamental to understand better those roles.

Q20: During the project, my group held formal meetings and produced meeting minutes.

Q21: I consider that the interpersonal skills that I have developed are important for my future professional activity.

Q22: I shared the results of my tasks and knowledge with the rest of the group.

Q23: I was able to solve the conflicts in the group and face them positively.

IV. Teachers role

Q31: Teachers were available to support students.

Q32: Teachers provided the technical support needed to complete the project.

Q33: The performance of the teachers corresponded to my expectations.

V. Assessment model

Q38: I have read and understood the assessment criteria in the Student Guide.

Q39: The number of milestones during the project should be lower.

Q40: Teacher feedback on reports and presentations was clear.

Q41: Peer evaluation is an appropriate tool for evaluating teamwork.

Q42: The results of the peer evaluation reflect the commitment of each element.

Q44: The final individual test on the project helped me prepare for the final presentation.

Q45: The project grade should be the same for all members of the group.

Q46: I think that the weight of the individual test should be lower in the final individual assessment of the student.

Q47: In general, I am satisfied with the results obtained at the project.

VI. PBL as teaching/learning methodology

Q48: The PBL facilitated my integration and socialization at the university.

Q49: I believe that the PBL contributes to reduce academic abandonment and failure.

Q50: The PBL has a positive impact on the relationship established with teachers and the Department.

Q51: Overall, I think the PBL was well organized.

Q52: The information available in the Student Guide was clear, useful and sufficient.

Q53: Blackboard was an adequate tool for communication with teachers and for document delivery.



Q54: The project coordinator regularly reported on the activities of the PBL.

Q55: PBL requires excessive effort when compared to any other course of the semester.

Alves, A. C., Moreira, F., Leao, C. P., & Fernandes, S. (2020). Ten Years of Positive Feedback on Project-Based Learning From First-Year Engineering Students' Perspective. *ASME International Mechanical Engineering Congress and Exposition, Proceedings (IMECE)*, 9. <https://doi.org/10.1115/IMECE2020-23212>