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## The Effect Of Campus Praktikum On The Choice Of University Studies

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# THE EFFECT OF CAMPUS PRAKTIKUM ON THE CHOICE OF UNIVERSITY STUDIES

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## ABSTRACT

In some Spanish universities in recent years, there has been a decrease in the number of students, mainly due to the drop in the birth rate and the increase in the number of universities throughout the country. In addition, the number of (unknown) bachelor's degrees that can be studied at university has also increased.

For these reasons, since 2010, an activity called Campus Praktikum has been carried out at the Universitat Politècnica de València to bring the university studies taught at this centre closer to secondary school students. The aim is to show the studies taught at the UPV (mainly engineering studies), to find out about the professions linked to these studies and to be able to have testimonials from university students who are currently studying. During one week, secondary school students take part in

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workshops related to university studies, which give them an in-depth understanding of the content of their studies and university life.

The main objective is to increase the number of students in general and, above all, to increase the number of women who choose the UPV for their university studies.

The paper describes what the activities of the Campus Praktikum consist of and compares the opinions obtained through surveys of students who enjoyed the activity right after finishing the campus and the information obtained from the student's registration at the university.

With all this information conclusion will be drawn, analysing the actual effect of this type of activity on the student's choice of university studies.

## 1 INTRODUCTION

Over time, the number of universities in Spain has increased significantly. When the Universitat Politècnica de València (UPV) was established in 1968, there were only 18 universities in Spain. By 1990, that number had grown to 40, and as of the 2020-21 academic year, there are now 84 universities in Spain, with 50 of them being public and 34 private (Ministerio de Universidades, 2022), (Rodríguez, 2017).

This rapid growth in the number of universities has led to diverse academic programs and study locations, creating a competitive environment for universities. To attract the best students, universities must take action to publicize their programs and campuses. To address this challenge, the UPV launched the Praktikum Campus in June 2010, initially as a pilot experience at the Higher Technical School of Industrial Engineering. The program has since expanded to include all schools, faculties, and campuses of the UPV.



*Fig. 1. Image and poster of Campus Praktikum 2023*

The Praktikum Campus is designed for high-performing students in their first year of the Baccalaureate or Higher Degree Format Cycle (in Spain, young people finish compulsory education at the age of 16. Subsequently, students who wish to pursue university studies take the baccalaureate, which consists of two preparatory courses for university entrance). Participants can attend workshops and activities organized by UPV teachers and researchers and experience campus life first-hand.

The Campus Praktikum aims to promote different degrees offered by the UPV, attracting students and making the university their choice for higher education. The paper describes the selection process, workshop assignments, and preferences based on gender.

Additionally, it explores the different activities during the week-long Praktikum Campus and the feedback gathered from participants.

At the time of writing, registration for the Campus Praktikum 2023 is open (Figure 1).

## **2 METHODOLOGY**

### **2.1 Which students can participate**

The methodology section of this paper outlines the various aspects considered in developing Campus Praktikum 2022. The Praktikum Campus programme has grown from a single school and project in 2010 to 33 projects in 2022 across 11 schools and two faculties. The projects that will be part of the Praktikum Campus will be published on the UPV website<sup>2</sup> in May, and the opening of registration for first-year baccalaureate or vocational training cycle students will be publicised. Secondary education institutes and training cycles are also contacted via email, explaining the Campus and encouraging centres to invite the best students.

To partake in the program, both the student and their high school must take note of the following recommendations and requirements:

Student Requirements ; To be admitted, the student must:

- Be in their first year of a baccalaureate or vocational training cycle during the 2021-2022 school year.
- Have completed all areas and subjects during the school year.
- Provide an academic certificate from their high school that displays their average for the first and second terms.
- Participate actively in various activities at the Campus Praktikum 2022 UPV. (It is anticipated that this will require approximately 25 hours spent at UPV.)
- Complete the evaluation and satisfaction surveys after the program.

Recommendations for the student's school include:

- Each high school should disseminate information about Praktikum, taking into account the minimum average grade required for admission to the Campus in previous editions.
- Please keep in mind that for the Praktikum 2022 program, three students from the same Center will be chosen. However, any number of candidates may apply as appropriate.

Students who wish to join campus activities should indicate which projects they would like to participate in, ranked in order of preference, and provide a certificate of their grades from the first and second evaluations. Selection for the program will be determined by both grades and project preferences.

### **2.2 Description of Campus Praktikum activities**

Throughout the week of the Praktikum Campus celebration in 2022, high school students were present at one of the UPV campuses (Vera, Gandía, and Alcoy) from 9:15 am to 5:00 pm, engaging in various morning and afternoon activities as detailed in figure 2's schedule.

The aim was not only to introduce students to the degrees offered at UPV but also to expose them to the broader university experience. In total, 33 projects were available during this year's call, linked to 40 degrees across the three UPV campuses, as seen in figure 3's list of projects.

The workshops, primarily in labs, encouraged hands-on learning, with UPV faculty and staff providing activity proposals (Figure 4). At 2.00 pm, students took lunch breaks and could ask questions and receive information from current UPV students.

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<sup>2</sup> <https://www.upv.es/contenidos/praktikum/>

<b>Monday 20th June</b>	<b>Tuesday 21st June</b>
8:30 a 9:30 Pick up of credentials (Auditorium) 9:30-10:00 Presentation of Campus Praktikum 10:30-13:45 Workshops in the Faculties and Schools 14:00-15:30 Lunch and break 15:45-17:00 Sports, Factory Design, and visit UPV	9:15 Arrival at meeting point. 9:30-13:45 Workshops in the Faculties and Schools 14:00-15:30 Lunch and break 15:45-17:00 Sports, Factory Design, and visit UPV
<b>Wednesday 22nd June</b>	<b>Thursday 23rd June</b>
9:15 Arrival at meeting point. 9:30-13:45 Workshops in the Faculties and Schools 14:00-15:30 Lunch and break 15:45-17:00 Sports, Factory Design, and visit UPV	9:15 Arrival at meeting point. 9:30-12:30 Workshops in the Faculties and Schools 13:00 Closing of Praktikum 2022 13:30 Aperitif and Goodbye

*Fig. 2. Example of a schedule of a student participating in the Praktikum campus 2022*

In the afternoons, there were three different types of activities, including a Geocaching activity designed to explore the entire UPV campus, a series of sports activities (Figure 5) highlighting the UPV's sports and activities offerings, and a Factory Design<sup>3</sup> program showcase (Figure 6) in which students from various UPV faculties come together on shared projects.

1. Biotechnology: addressing big needs with small tools
2. Science and technologies for better and safe food
3. Agri-food engineering: from the field to the table
4. Technologies that transform the natural environment
5. Learning to fly
6. Robot design and programming
7. Microelectronics at your service
8. Objects: devising, visualising and manufacturing
9. Engineering high-performance vehicles
10. Living spaces: architecture and design
11. Arquiteknic 2.0 building ingenuity
12. Geopraktikum: your map of the world
13. Informatics for the society of the future
14. Big data: applications to artificial intelligence, cybersecurity and knowledge discovery
15. Robotics and computational thinking
16. Walk with us
17. Tekno-industrialise
18. Energy engineering
19. Chemical engineering
20. Communicating worlds: nanoscience and materiality at the school of telecoms
21. Know how to achieve entrepreneurial success
22. Art and design: practical experiences
23. Art surgery
24. New challenges in tourism
25. Sustainability and the environment
26. The audiovisual world: technology and communication
27. Interactivity and telecommunication
28. Development of materials for electrochemical applications
29. Chemical engineering as an answer to water problems: design of a direct osmosis process
30. Chemical engineering in the elimination of persistent contaminants: design of an adsorption column
31. Technologies transforming the natural environment
32. Recycling and re-use of waste
33. Introduction to chromatography as a method of analysis

*Fig. 3. List of projects that can be carried out during the Praktikum Campus.*



*Fig. 4. Students participating in workshops.*

<sup>3</sup> <https://generacionespontanea.upv.es/>



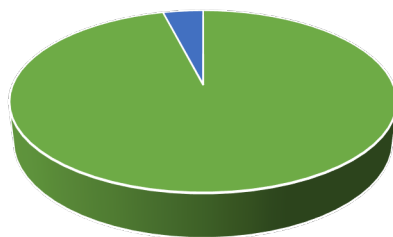
Fig. 5. Activities organised by the sports area.



Fig. 6. Factory Desing UPV Teams.

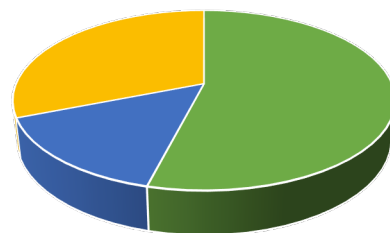
### 3 RESULTS

The Praktikum Campus 2022 was a successful event that fully satisfied all participants, and students were delighted upon completion. To better gauge the extent of satisfaction and identify areas for improvement in the program, 203 students completed an eight-question survey. The questionnaire included inquiries about the campus organization, such as the dates and duration of the event, and questions specifically regarding projects, such as the level of satisfaction (Figure 7) and whether participation influenced their university studies choice (Figure 8).



■ Yes ■ No

Fig. 7. Are you satisfied with the project you have been involved in?



■ Yes ■ No ■ I don't know

Fig. 8. Do you think your participation in Campus Praktikum will influence your choice of stuides?

Furthermore, a Likert-scale question was posed to get feedback on each student's project (Figure 9). Conversely, the level of participation in the workshops has been



inconsistent when viewed through a gender lens. In the highly sought-after 1 Biotechnology workshop, all selected students were female, and the minimum average grade required to participate was 9.5 out of 10. However, in computer science-related workshops 13 and 14, over 90% of selected students identified as male.

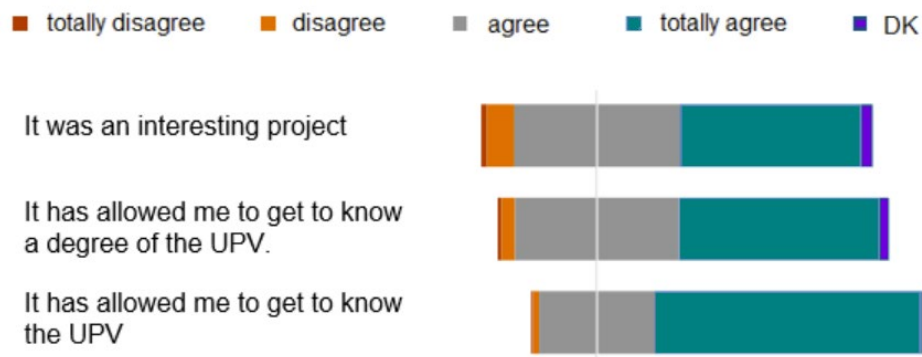


Fig. 9. Students' opinions about the project they have participated in

This gender trend is also reflected in undergraduate classrooms. Workshops 1, 10, 22, and 23 had the most female-identifying students, with percentages ranging from 100% in Workshop 1 to 65% in Workshop 10. Conversely, most students in the remaining workshops identified as male, with workshops 6, 9, and 15 being exclusively male. In addition, two open-ended questions were posed to students regarding their intended studies and their opinions of the Campus.

A study has also been launched to determine which students participate in the campus praktikum, and who subsequently choose the UPV as the university to do their degrees. Due to the suspension of activity in the 19-20 and 20-21 academic years by COVID, only the students who participated in the Campus Praktikum in the 18-19 academic year began their university studies in the 20-21 academic year could be known. The results (Figure 10) show that 55% of the students chose the UPV. Moreover, there is a great variety in the chosen studies (Figure 11).

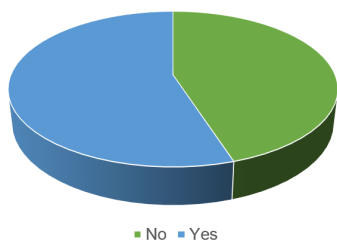


Fig. 10. Students enrolled at the UPV after the Campus Praktikum

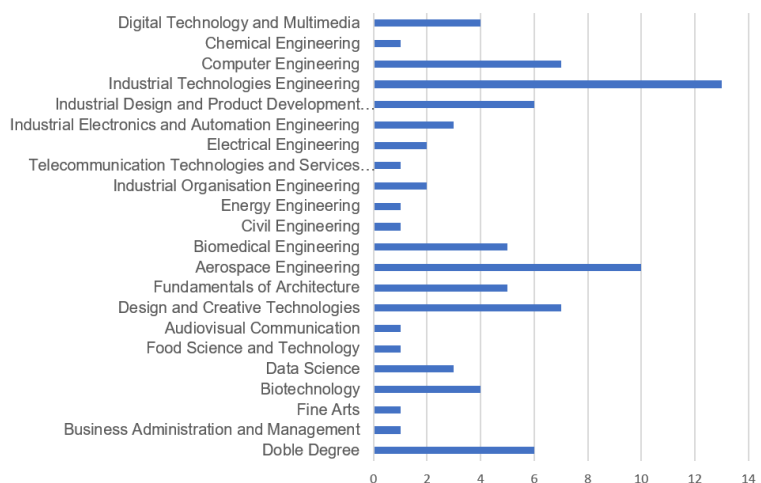


Fig. 11. Studies chosen at the UPV by Campus Praktikum participants

## 4 SUMMARY AND ACKNOWLEDGMENTS

As a summary of the work it can be said:

- Participation in the Praktikum Campus positively impacts students, and 96% express their total satisfaction with their participation.
- It should be noted that all the personnel involved in the preparation and delivery of the workshops of the projects do so voluntarily, without receiving any financial compensation.
- However, the most remarkable result is that 54% of the participants have indicated that their participation in the Praktikum Campus will influence something as crucial as selecting their university studies. Only 31% indicate that this activity does not affect this decision.
- Primary and secondary schools must continue to work to motivate girls to become interested in STEAM studies. It is essential to show models of women who have followed this type of study and not lose the talent of half of the population, which for some reason, prefers not to follow this type of study.
- It is essential to carry out this type of action to bring universities closer to their future students so that they get to know each other and help them choose the studies that will bring them closer to the professionals they will be in the future.

It is foreseen that in the coming years the activity will continue, and the results will continue to be analysed to optimise its content and ensure that as many students as possible get to know the UPV.

The authors would like to thank everyone involved in the realisation of the Praktikum Campus for their dedication to the project and, above all, the students whose enthusiasm encourages us to continue with the task.

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