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**12TH INTERNATIONAL CONFERENCE OF
EDUCATION,
RESEARCH AND
INNOVATION**



CONFERENCE PROCEEDINGS

**SEVILLE (SPAIN)
11-13 NOVEMBER 2019**



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CONFERENCE SESSIONS

ORAL SESSIONS, 11th November 2019

Interactive Learning Environments
Flipped Learning
Game-based Learning and Gamification (1)
University-Industry Cooperation (1)
21st Century Skills
Student Support and Motivation (1)
Special Education (1)
3D Design Learning
Problem Based Learning (1)
An International View on the Transformative Value of Prison Based Educational Programs

Robots for Learning
Flipped Learning in STEM
Game-based Learning and Gamification (2)
Blended Learning (1)
Technology Enhanced Learning
Teacher Training in STEM
Inclusive Education Challenges (1)
Architecture Educational Experiences
Problem Based Learning (2)
Primary and Secondary Education

Virtual and Augmented Reality (1)
Critical Thinking
Teacher is Present! – Guidance and Feedback in Online Language Learning
Problem and Challenge Based Learning
Assessment of Student Learning
Professional Development of Teachers (1)
Inclusive Education Challenges (2)
Engineering Education
ICT for Language Learning
Early and Primary Education

Virtual and Augmented Reality (2)
Pedagogical Innovations
Game-based Learning and Gamification (3)
Active Learning Experiences
Peer Assessment Experiences
Professional Development of Teachers (2)
Universal Design for Learning
Teaching Programming and Coding Skills
Foreign Language Learning (1)
Student Support and Motivation (2)

POSTER SESSIONS, 11th November 2019

New Trends and Experiences in Education

Technology in Education and Research

ORAL SESSIONS, 12th November 2019

Design Thinking and Creativity
Links between Education and Research
Education for Sustainability
Accreditation and Quality in Education
e-Learning Experiences (1)
Digital Literacy and ICT Skills (1)
ICT Skills among Teachers (1)
Game-based Learning in Primary and Secondary
Foreign Language Learning (2)
Health Sciences Education (1)

Learning Analytics
Internships and Workplace Learning
Service Learning
New Challenges for the Higher Education Area
Online Assessment
Challenges of Digitalization in Education
ICT Skills among Teachers (2)
Cultural Literacy and Intercultural Understanding
Foreign Languages for Special Purposes
Health Sciences Education (2)

Learning Management Systems
Bridges between Education and Employment
Tutoring and Mentoring
University-Industry Cooperation (2)
Digital Literacy and ICT Skills (2)
Adult Education
ICT Skills among Teachers (3)
Multicultural Education Challenges
Pre-service Teacher Experiences
Computer Science Education

Videos for Learning
Business Education
Student Support and Wellbeing (1)
Language Learning Challenges and Innovations (1)
Students and Teaching Staff Exchange Programmes
Lifelong Learning and Continuing Education
Teacher Training Experiences
Special Education (2)
Professional Development of Language Teachers
STEM Education (1)

m-Learning: Mobile Applications and Technologies
Blended Learning (2)
Student Support and Wellbeing (2)
Leadership and Educational Management
e-Learning Experiences (2)
Distance Education
Gender and Equality in Education
Educating At-Risk Students
Language Learning Challenges and Innovations (2)
STEM Education (2)

POSTER SESSIONS, 12th November 2019

Pedagogical Innovations

Challenges in Education

VIRTUAL SESSIONS

21st Century Skills
Academic Research Projects
Accreditation and Quality in Education
Active and Experiential Learning
Adult Education
Advanced Classroom Applications and Technologies
Assessment of Student Learning
Barriers to Learning
Blended Learning and Flipped Classroom
Collaborative and Problem-based Learning
Community Engagement and Youth participation
Creativity and Design Thinking
Critical Thinking and Problem Solving
Curriculum Design
E-content Management and Development
e-Learning Experiences
Early Childhood Education
Educating Individuals with Intellectual Disabilities
Educating Individuals with Sensory and Motor Disabilities
Educating the Educators
Education for Sustainability
Education Practice Trends and Issues
Education, Research and Globalization
Educational/Serious Games and Software
Employability Issues and Trends
Erasmus+ Programme Experiences
Flipped Learning
Game-based Learning and Gamification
Gender and Equality in Education
ICT and Digital Skills
ICT Skills Development
In-service Teacher Training
Inclusive Learning, Cultural Diversity and Special Education
Informal Learning
International Projects
Language Learning Innovations
Leadership and Educational Management
Learning and Teaching Innovations
Learning Management Systems (LMS)
Life-long learning
Links between Education and Research
m-Learning: Mobile Applications and Technologies
Massive Open Online Courses (MOOC)
Multicultural Inclusion and Indigenous Perspectives
New challenges for the Higher Education Area
Open Universities and Distance Education
Pedagogical Innovations
Post-graduate Education
Pre-service Teacher Experiences
Primary and Secondary Education
Professional Development of Teachers
Refugees, Migrants and Minorities Inclusion
Research Methodologies
Research on Technology in Education
STEM Education Experiences
Student Support and Motivation
Students and Teaching Staff Exchange Programmes
Technology in Teaching and Learning
Tutoring and Mentoring
Undergraduate Education
Universal Design for Learning
University-Industry Cooperation
Videos for Learning and Educational Multimedia
Virtual and Augmented Reality
Virtual Learning Environments (VLE)
Vocational Training
Web 2.0 and Social Networking

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ICERI2019 Author Index

Click on a letter below to jump to the authors with last names beginning with that letter.

A B C D E F G H I J K L M N O P Q R S T U V W X Y Z

A

Aa Ab Ac Ad Af Ag Ah Ai Aj Ak Al Am An Ap Ar As At Au Av Aw Az

Click to jump to the authors with last names beginning with the letter group.

- Aalto, E.**
- BRIDGING THE GAP BETWEEN WORKING LIFE AND EDUCATION ([../abstracts/590.htm](#))
- Abbaspour, A.**
- MISSING VOICES: AN ANALYSIS OF NON-ACADEMIC ISSUES AFFECTING THE EXPERIENCES OF MUSLIM INTERNATIONAL STUDENTS ([../abstracts/2078.htm](#))
- Abdo-Sánchez, E.**
- GAMIFICATION MODELS AND TOOLS ACCORDING TO PROFILES: AN EXPERIENCE IN ENGINEERING DEGREES ([../abstracts/1838.htm](#))
- Abdul-Karim, K.**
- INCLUSIVE EDUCATION: LEARNERS WITH DISABILITIES AND SPECIAL EDUCATION NEEDS IN GHANA ([../abstracts/2387.htm](#))
- Abdul Aziz, A.R.**
- THE STUDENT LEADERSHIP PRACTICES INVENTORY: TRANSLATION AND VALIDATION OF QUESTIONNAIRE FROM ENGLISH INTO MALAY ([../abstracts/1267.htm](#))
- Abdul Razak, M.**
- THE STUDENT LEADERSHIP PRACTICES INVENTORY: TRANSLATION AND VALIDATION OF QUESTIONNAIRE FROM ENGLISH INTO MALAY ([../abstracts/1267.htm](#))
- Abdul Razak, N.A.**
- TOWARDS GREATER EMPHASIS ON VOCATIONAL AND E-LEARNING ORIENTATION OF THE UNIVERSITY EDUCATION: VEL HE 4.0 ([../abstracts/2907.htm](#))
- Abecla, B.**
- INNOVATIVE TEACHING METHODS IMPROVES THE ATTITUDE OF UNIVERSITY STUDENTS TO LEGAL OCCUPATIONAL MEDICINE AND INCREASES THEIR SATISFACTION WITH THE TEACHING-LEARNING PROCESS ([../abstracts/298.htm](#))
- Abelha, M.**
- IN-SERVICE TEACHER TRAINING AND PROFESSIONAL CONTEXTS: HOW TO RESPOND TO TRAINING NEEDS? ([../abstracts/1218.htm](#))
- Abelson, H.**
- A DEEP LEARNING PRACTICUM: CONCEPTS AND PRACTICES FOR TEACHING ACTIONABLE MACHINE LEARNING AT THE TERTIARY EDUCATION LEVEL ([../abstracts/137.htm](#))
- Abenza Cano, L.**
- EMOTIONAL EDUCATION AS A CROSS CURRICULAR SUBJECT IN SECONDARY SCHOOL: DIDACTIC APPROACHES BASED IN CONFLUENT EDUCATION AND ENHANCED BY GAMIFICATION AND TECHNOLOGY ([../abstracts/713.htm](#))
- Abiatari, I.**
- STRENGTHS AND WEAKNESSES OF MODERN TECHNOLOGIES IN MEDICAL EDUCATION ([../abstracts/1670.htm](#))
- Abio, G.**
- ASSESSING ACTIVE LEARNING METHODOLOGIES IN HIGHER EDUCATION FROM A COST-BENEFIT PERSPECTIVE ([../abstracts/682.htm](#))
- Abke, J.**
- SECURE SOFTWARE ENGINEERING IN ACADEMIC EDUCATION: STUDENTS' PRECONCEPTIONS OF IT SECURITY ([../abstracts/1624.htm](#))
- Abrami, P.**
- PREDICTING ENJOYMENT OF MUSIC LEARNING ACROSS THE LIFESPAN: THE PRIMACY OF INTRINSIC MOTIVATION ([../abstracts/2473.htm](#))

- Collado Sevilla, A.** • SOCIOLOGY OF GENDER MEETS PHARMACY, UNIVERSITY MEETS HIGH SCHOOL: INTERDISCIPLINARITY THROUGH SERVICE LEARNING (../abstracts/267.htm)
- Collins, B.** • EARLY STAGE REFLECTIONS ON INNOVATING WITH AN EXPERIENTIAL PROJECT-BASED INTERDISCIPLINARY CURRICULUM (EPIC) FOR UNDERGRADUATES (../abstracts/1805.htm)
- Collins, T.** • ENABLING INCLUSIVE GROUP WORK (../abstracts/675.htm)
- Collura, S.** • INCLUSION AT THE TIME OF SCHOOL-WORK ALTERNANCE: NEW CHALLENGES AND PERSPECTIVES FOR CONNECTION BETWEEN SCHOOL, FORMATION AND WORLD OF JOB (../abstracts/1664.htm)
- Collyer de Aguiar, B.** • THE UNDERGRADUATES AND THE UNDERSTANDINGS ABOUT TEACHING PRACTICES THROUGH THE DEVELOPMENT OF DIGITAL AUTHORIAL EDUCATIONAL MATERIALS (../abstracts/325.htm)
- Coló-Andrade, R.** • APPLICATION OF A TEACHING-LEARNING SEQUENCE ON THE THINNING OF THE OZONE LAYER TO A GROUP OF UPPER-MIDDLE-LEVEL MEXICAN STUDENTS (../abstracts/2813.htm)
- Coltell, O.** • THE "STUDY AND RESEARCH" PROGRAM OF THE JAUME I UNIVERSITY: DESCRIPTION OF THE PROGRAM AND EXPERIENCES IN STUDENT MENTORING (../abstracts/2787.htm)
• THE IMPORTANCE OF INTRODUCING ELECTRONIC ADMINISTRATION IN THE TRAINING OF PUBLIC ADMINISTRATORS: EXPERIENCES IN THE DEGREE OF PUBLIC MANAGEMENT AND ADMINISTRATION OF THE UNIVERSITY JAUME I (../abstracts/2784.htm)
- Coma, T.** • INVOLVING STUDENTS IN THE GENERATION OF AUTOMATIC ASSESSMENT TESTS (../abstracts/1687.htm)
- Comparetto, E.M.** • FROM COPY TO REDRAW: EXPERIENCES TO LEARN HOW TO DRAW FOR ARCHITECTURE (../abstracts/1161.htm)
- Conci, A.** • TESLA - EXPLORING INNOVATIVE IMMERSIVE TECHNIQUES AND VIRTUAL REALITY TO IMPROVE HIGHER EDUCATION IN PALESTINE (../abstracts/1227.htm)
- Conejo-García, A.** • TUTORIAL, PROFESSIONAL, PERSONAL AND ACADEMIC ORIENTATION OF UNIVERSITY STUDENTS "TUTORGRADOS 2.0" (../abstracts/1247.htm)
- Connaway, L.** • DIGITAL ENGAGEMENT OF STUDENTS AND TEACHERS IN AN ONLINE UNIVERSITY (../abstracts/1708.htm)
- Consoli, A.** • CYBERSECURITY TRAINING FOR SME: FILLING THE GAP OR CORPORATE STRATEGY? (../abstracts/2554.htm)
- Contreras, C.** • DESIGNING PRACTICAL PBL LESSONS FOR FEMALE REPRODUCTIVE SYSTEM PHYSIOPATHOLOGY TEACHING (../abstracts/1194.htm)
- Contreras de Villar, A.** • METHODOLOGICAL IMPROVEMENTS IN THE FINAL PROJECT OF CIVIL ENGINEERING DEGREE (../abstracts/629.htm)
• VIRTUAL RESOURCES FOR THE IMPROVEMENT OF TEACHING IN THE COURSE OF PORT AND COASTAL ENGINEERING (DEGREE IN CIVIL ENGINEERING) (../abstracts/1045.htm)
- Contreras de Villar, F.** • METHODOLOGICAL IMPROVEMENTS IN THE FINAL PROJECT OF CIVIL ENGINEERING DEGREE (../abstracts/629.htm)
• VIRTUAL RESOURCES FOR THE IMPROVEMENT OF TEACHING IN THE COURSE OF PORT AND COASTAL ENGINEERING (DEGREE IN CIVIL ENGINEERING) (../abstracts/1045.htm)
- Cooper-Smith, L.** • USING PHENOMENOGRAPHY TO ANALYSE THE PERCEPTIONS INSTRUCTORS HAVE ABOUT GROUP WORK (../abstracts/731.htm)
- Copuš, L.** • HOW FAR DO THE EDUCATION INSTITUTIONS REALIZE THAT THEIR STUDENTS FOLLOW DIFFERENT ROLE MODELS? THE COMPARISON OF STUDENTS' HEROES ON DIFFERENT EDUCATIONAL LEVELS (../abstracts/1058.htm)
- Corbella, M.** • CONTINUOUS ASSESSMENT IN STUDY: OPINION OF THE TEACHERS OF THE CHEMISTRY BACHELOR'S DEGREE OF THE UNIVERSITY OF BARCELONA (../abstracts/1572.htm)
• CONTINUOUS ASSESSMENT METHOD FROM CHEMISTRY STUDENTS' POINT OF VIEW (../abstracts/1573.htm)
• CONTINUOUS ASSESSMENT METHODOLOGY: SIMPLY AN EVALUATION TOOL? (../abstracts/1594.htm)

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 Full paper

THE "STUDY AND RESEARCH" PROGRAM OF THE JAUME I UNIVERSITY: DESCRIPTION OF THE PROGRAM AND EXPERIENCES IN STUDENT MENTORING

O. Coltell, I. Usó

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Abstract

The "Study and research at the UJI" program, is an initiative of the Jaume I University (UJI) which offers to students the possibility of obtaining research and academic training out of regular studies, and allows them to develop their capacity for reflection and analysis through the achievement of academic and personal competences. The training is based on a motivating topic that is relevant to the degree they are enrolled. The initiative kicked-off the 2008/2009 academic year and it is still active and growing.

The Program is coordinated and managed by the UJI Educational Support Unit (UJI-ESU) through Imma Usó (author of this work). The Program is aimed primarily at first-year students with excellent performance in high school and in the university access exam (in the Spanish scale, 9.5 out of 14.0 points of average grade). Also to the finalists of the Spanish high school academic Olympics. And finally, to students in second, third or fourth years who have not been beneficiaries of this Program, who have a good academic record and who are personally interested. In the first two cases, the UJI-ESU contacts the students and offers them the initiative and a list of research groups to choose from. In the third case, it is the student himself who searches for the research group that interests him/her, contacts his/her principal investigator (PI) and requests his assignment, which is valued by the UJI-ESU staff. The first two groups have the opportunity to start basic research tasks, such as starting in the scientific method and participating in a research project. The third group can address more specialized and complex tasks such as the design and development of a mini-project inside a research project. All this under the supervision of the mentor and with his/her support and that of the whole research group.

One of the principles of the Program is that participation is flexible and the academic obligations of the student must be respected, who is also obliged to maintain his level of excellence in his/her academic record. On the other hand, there are also academic benefits and in the use of UJI educational resources and facilities, both for mentors and students.

The objective of this work is to describe the Program details and general results and the personal experience as principal investigator-mentor of one of authors (O. Coltell), who participated in the first, 2008/2009, and in the last 2018/2019 academic years, mentoring students of first and third groups, with very different results.

Keywords: Student mentoring, Research mentoring, student research orientation.

THE "STUDY AND RESEARCH" PROGRAM OF THE JAUME I UNIVERSITY: DESCRIPTION OF THE PROGRAM AND EXPERIENCES IN STUDENT MENTORING

O. Coltell, I. Usó

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The "Study and research at the UJI" program, is an initiative of the Jaume I University (UJI) (since the 2008/2009 academic year) which offers to students the possibility of obtaining research and academic training out of regular studies, and allows them to develop their capacity for reflection and analysis through the achievement of academic and personal competences. It is coordinated and managed by the UJI Educational Support Unit (UJI-ESU, director Imma Usó – co-author of this work). The Program is offered primarily at first-year students with excellent performance in high school and in the university access exam. Also to the finalists of the Spanish high school academic Olympics. Finally, to students in second, third or fourth years who have not been beneficiaries of this Program, who have a good academic record and who are personally interested. The objective of this work is to describe the Program details and general results.

Keywords: Student mentoring, Research mentoring, student research orientation.

1 INTRODUCTION

The "Study and research at the UJI" program, is an initiative of the Jaume I University (UJI) (Castellon, Spain) which offers to students the possibility of obtaining research and academic training out of regular studies, and allows them to develop their capacity for reflection and analysis through the achievement of academic and personal competences. The training is based on a motivating topic that is relevant to the degree they are enrolled. The initiative kicked-off the 2008/2009 academic year and it is still active and growing [1].

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The objective of this work is to describe the Program details and general results.

2 METHODOLOGY

This work is descriptive and retrospective, so the data generated throughout the entire trajectory of the program have been reviewed and adjusted to the general information questions posed below:

- 1 Number of students who participated in the program for each course.
- 2 Number of groups that have hosted participants.
- 3 Degrees and courses of those who have participated in the program.
- 4 Number of groups per areas / centers of the UJI.
- 5 Number of students who have completed the program per year.
- 6 Number of groups that have hosted more than one participant in the history of the program.

After answering the general questions, we have tried to answer certain specific questions detailed below:

- 1 Causes of termination of the program without completing it and / or giving up.
- 2 Period in which the program leaves were ordered categorized: Beginning (Set-Dec), Middle (January-April) and Final (May-July) of the year.
- 3 Number of participants that have (successfully) completed the degree and number, among them, that have been devoted to research or number of participants that have been integrated into the UJI groups.

3 RESULTS

The “Study and research at the UJI” program began as a pilot project in the academic year of 2007/2008, but it was inCentres, departments and institutes the academic year of 2008/2009 when it was launched as an ordinary initiative. First, we show the results corresponding to the answers to the general questions. Then, the results corresponding to the answers of the specific questions.

3.1 General questions

Regarding questions 1 and 2, Table 1 shows the distribution of students who participated in the program for each course and research teams. Fig. 1 shows the trend of the rate Number of students hosted by every research team. From the beginning, Fig 1 shows that the trend is positive, with a singular peak in 2013/2014, and that the Program consolidation was achieved when the rate curve crossed the rate mean line, in 2015/2016.

Table 1. Distribution of students who participated in the program for each course.

<i>Academic year</i>	<i>Number Students</i>	<i>Number Research teams</i>	<i>Student/ Research team rate</i>
2008/2009	5	5	1.00
2009/2010	10	10	1.00
2010/2011	13	11	1.18
2011/2012	25	25	1.00
2012/2013	38	37	1.03
2013/2014	58	27	2.15
2014/2015	86	65	1.32
2015/2016	99	61	1.62
2016/2017	117	67	1.75
2017/2018	132	73	1.81
2018/2019	148	72	2.06
Total	731	453	1.61

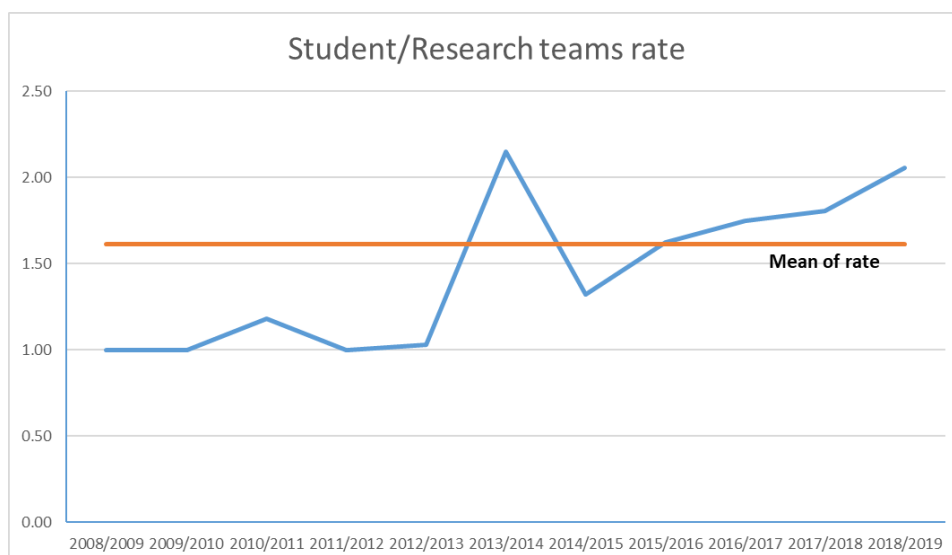


Figure 1. Trend of number of students hosted by research team.

The UJI is divided into four great Knowledge Areas and the corresponding centres (acronyms are from the Spanish name) [2]: Faculty of Humanities and Social Sciences (FCHS), Faculty of Law and Economic Sciences (FCJE), Faculty of Health Sciences (FCS), and School of Technology and Experimental Sciences (ESTCE). All together offer 32 bachelor degrees, 45 master's degrees, and 21 doctoral studies. The 32 bachelor degrees are participating in the Program, but the UJI-ESU does not have statistics of hosted students by UJI-ESU degree. Therefore, it is not possible to resolve the question 3.

Regarding questions 4 and 5, Table 2 shows, in the last academic year of 2018/2019, the number of hosted students by research teams in each centre and the number of students who completed successfully the program at the end of the year. FCJE and ESTCE centres are above the mean success rate. On the contrary, FCHS and FCS are the centres with greater resigning rate from the initially enrolled students.

Table 2. Success rate of hosted students by centre in 2018/2019.

Centre	Research teams	Hosted students ¹	Certificated students ²	Success rate ³ (%)
FCHS	17	43	20	46.5
FCJE	16	29	16	55.2
FCS	11	27	11	40.7
ESTCE	28	49	33	67.3
Total	72	148	80	54.1

¹: Students assigned to research teams at the beginning of the year (HS).

²: Students who completed the Program at the end of the year (CS).

³: Percentage of the rate CS/HS.

Regarding question 6, Table 3 shows, in the period 2008/2009 to 2018/2019, the number of research teams that hosted 1, more than 1 student, and more than the mean of hosted students by research team and centre. Table 6 also shows the capacity rates of research teams for hosting new students as a prediction for future years. Altogether, FCHS research teams have more maximum capacity of the rest. But ESTCE teams are more stable because both rates are equal.

Table 3. Host rate of research teams by centre in the period 2008/2009 to 2018/2019.

Centre	Research teams (RT)	Mean of hosted students per centre ¹	RT Hosted 1 student ²	RT Hosted > 1 students ³	RT Hosted > centre mean students ⁴	Max. Host capacity rate ⁵ (%)	Mean Host capacity rate ⁶ (%)
FCHS	17	2.5	4	13	6	76.5	35.3
FCJE	16	1.8	9	7	7	43.8	43.8
FCS	11	2.5	5	6	3	54.5	27.3
ESTCE	28	1.8	15	13	13	46.4	46.4
Total	72	2.2	33	39	29	54.2	40.3

¹: Mean of students assigned to each research teams of the centre (MHSC).

²: Number of research teams that hosted one student (RTHS1).

³: Number of research teams that hosted more than one student (RTHSMX).

⁴: Number of research teams that hosted more than MHSC students (RTHSMN).

⁵: Percentage of the rate RTHSMX / RT

⁶: Percentage of the rate RTHSMN / RT

As an additional result, Table 4 show results of the satisfaction survey administered to students and research team principal investigators during the period 2008/2009 to 2018/2019. This survey was designed as a Likert scale of 1 (very low satisfaction) to 5 (very high satisfaction). The Student/Research team concordance rate is very high showing that both collectives, students and PIs, were very satisfied with the Program.

Table 4. Satisfaction survey from students and research teams.

Academic year	Students	Research teams	Student/Research team concordance rate (%)
2008/2009	4.0	4.0	100.0
2009/2010	4.0	4.4	90.9
2010/2011	4.5	4.7	95.7
2011/2012	4.7	4.8	97.9
2012/2013	4.1	4.7	87.2
2013/2014	4.5	4.6	97.8
2014/2015	4.3	4.8	89.6
2015/2016	4.5	4.8	93.8
2016/2017	4.4	4.6	95.7
2017/2018	4.4	4.6	95.7
2018/2019	4.4	4.7	93.6
Mean	4.3	4.6	94.3

3.2 Specific questions

Regarding question 1, until now, program's resigns have been made by students, and the most repeated motive is: for lack of time to dedicate to undergraduate education. Students taking part in the program, get very good grades, and usually have many other extracurricular activities: some work, convergent, languages, plus study and use of the degree. The student, at the end of each year, also has the opportunity to dismiss his/her the participation contract for the following year. In other words, there are people who try a couple of courses to collaborate on the program, and, as the degree progresses, forcing them to spend time on external Practicum or Degree Thesis, they do not renew their participation in the Program.

Regarding question 2, the most program leaves happen at the Beginning (Set-Dec) of the year, and only a few at the Final (May-July) of the year.

Regarding question 3, until the year 2017/2018, there are 18 students who have continued their masters + doctorate training, both at the UJI, as well as in other universities and research institutes.

4 CONCLUSIONS

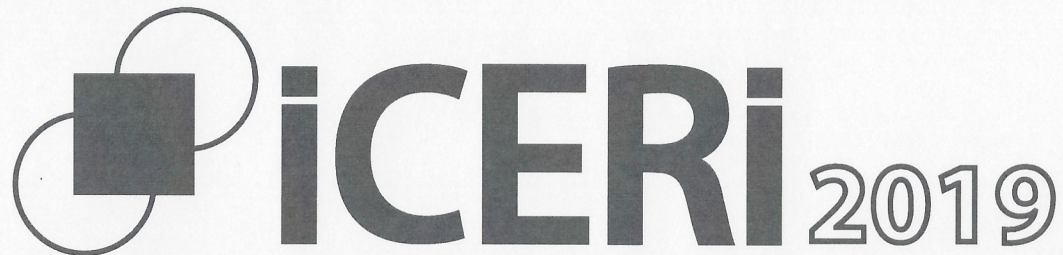
We presented a descriptive-retrospective analysis of the development of the "Study and research at the UJI" program, as an initiative of the UJI offering to bachelor students the possibility of obtaining research and academic training out of regular studies. We have collected data from the beginning, 2008/2009, until the last academic year, 2018/2019. The rate of number of students hosted by every research team has been growing along every academic year, showing that students have an increasing interest for participating in it. The satisfaction survey passed every year to students and research team principal investigators confirms that because the obtained scores in a Likert scale are greater than 4 for each year, and score values for both collectives were almost similar. Moreover, taking in account some indicators we have designed, as the maximum and mean capacity for hosting students, based on the follow up of the program, we are able to predict how many students could be hosted in future years. Finally, in the period 2008/2009 to 2017/2018, there were 18 students who had continued their masters + doctorate training, supporting the success of the initiative beyond the bachelor degree.

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OF THE PROGRAM AND EXPERIENCES IN STUDENT MENTORING**

**at the 12th International Conference of Education, Research and Innovation
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