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Towards Sustainability in University Education. Improving University Graduates Chances of Employability by Participation in a High Achievement Academic Program

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Received: 17 December 2019; Accepted: 15 January 2020; Published: 17 January 2020



Abstract: This piece of research focusses on the sustainable development goal (SDG) number four of the 2030 Agenda for Sustainable Development: quality education. The main objective of this research was to determine whether introducing a High Achievement Academic Program (ARA Groups) at a Spanish public university could enhance its graduates' employability. According to the existing scientific literature, some variables related to the students' accomplishments during college are good predictors of future employability: academic performance, participation in international exchanges, and participation in traineeships. In the empirical part of this research, our objective was to compare, using descriptive and bivariate statistical analysis, the behavior of the students of the ARA Groups and the regular ones, regarding a set of variables related to the above-mentioned predictors of employability. The outcomes allow us to conclude that ARA students performed academically better and that they participated more in international exchanges. Participation in business internships did not present significant differences, although ARA students scored higher in the employers' assessment of the internship. Our results suggest that graduates of this program will be more sought-after by companies, and therefore it contributes positively to one of the key objectives of quality higher education, which is employability, and hence to sustainable development.

Keywords: Sustainable Development Goals (SDGs); quality education; sustainability; employability; business internships; international exchanges; academic achievement

1. Introduction

Sustainable development is defined as the development that covers current needs, while not compromising the capacity of future generations [1,2]. The Agenda for Sustainable Development encompasses 17 sustainable development goals, which focus on reducing poverty and inequality, improving education and health, and diminishing climate change [3]. This piece of research works mainly in Sustainable Development Goal (SDG) number four, namely, quality education (SDG4).

Education may well reduce any inequalities in society by promoting soft skills, as well as fostering healthy lifestyles, participatory practices and norms [4]. Higher education plays a key role as a means to achieving Goal 4 on education: inclusive, equitable and quality education for all [5]. Quality education may be the key lever of sustainable development, including the developing and the developed world [6].

Sustainable Development Goal 4 (SDG4) is to ensure inclusive and equitable quality education and promoting lifelong learning opportunities for all. An important reason to include higher education as an objective of Goal 4 is that there are many students who, having finished high school, do not enroll

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in university, and this fact promotes inclusive and quality education for all and enhances lifelong learning, and has associated targets to be achieved by 2030 [7].

SDG4 comprises seven targets that deal with quality and equality for different phases of education. The SDG framework has a specific goal on education and makes explicit reference to higher education, although this is only to "ensure equal access for all women and men to affordable and quality technical, vocational, and tertiary education, including university" (Target 4.3 of SDG4). Target 4.4 aims to enhance skills for youths and adults linked to work [8].

Moreover, quality education is a goal in itself, but it is essential to avoid considering the 17 SDGs as fragmented "work packages" [9]. Many of the goals correlate with each other, especially quality education. Research on the profits of education has demonstrated that those with higher skill levels are more likely to be healthier, have better jobs, be more involved in their communities and engage in more active citizenship [10–12]. In this context, we develop this work.

A Spanish public university, Universitat Politècnica de València (UPV), implemented in the 2010–11 academic year, a program of academic excellence aiming at higher performance, the so-called "Grupos de Alto Rendimiento Académico" or High Academic Achieving Groups (from now on, ARA Groups). Five different undergraduate degree programs were included in this program: Aeronautical Engineering, Biotechnology, Computer Engineering, Business Administration and Management, and Electronic and Industrial Engineering. This program accepts only a small number of students in the courses and a good number of the courses offered use English as a medium of instruction. The university carefully selects the participating students according to the scores they achieved in the exam for admittance into the university, and they need to prove a B2 minimum level of English language knowledge as well. The professors are very experienced in teaching, and in researching as well, and they need to prove enough English language competence. They also receive special training and incentives.

The overall unemployment rate in Spain was 14.2% in the third quartermaster of 2019, according to the OECD statistics. In 2018, the unemployment rate of people holding a university degree was 8.4% in comparison with those holding an upper secondary degree, which was 13.8% or those who had a degree below upper secondary level, 20.5%. With a rate of 19.9%, Spain holds the third highest rate, amongst OECD countries, of young people (ages from 15 to 29) who do not work, train or study (NEET). This ratio has increased by 4% since 2007. However, highly educated young graduates are not exceptions and do find difficult conditions as well; their possibility of obtaining a low-wage job is about 44%, 20 percentage points superior than ten years ago.

Having in mind the context of high unemployment and infra-employment of young graduates in Europe, and more particularly in Spain, we argue that these ARA Groups could be a mechanism to improve the employability of university graduates.

Employability defines an individual's ability to obtain and keep employment [13]. It has been defined by Little [14] as a set of accomplishments, understandings, and personal attributes that make individuals more likely to achieve employment and be successful in the profession they choose. Employability skills refer to features that may make an individual attractive to possible employers [15]. There has been considerable concern in employability enhancement in the past few years, a topic that has become significant in the context of the adverse employment circumstances presently affecting many Western economies [16].

According to previous research, there are some predictors of enhanced employability in students when they graduate, particularly related to their performance during their years at college and to some of the extracurricular activities completed by them. These predictors include: (a) a higher academic performance [17–34], (b) the participation in an international exchange program [35–39] and (c) the participation in business internships [40–49].

The aim of this research was to determine if launching the High Academic Achievement Program in five bachelor degree programs of the Universitat Politècnica de València (Spain) could improve its graduates' employability. Our objective was to compare the behavior of students of this new

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program and the regular ones, concerning a set of particular assets such as academic performance, participation in international exchange programs, and participation in business internships, as these seem to be strongly related to enhanced employability in students upon graduation, according to the existing literature.

We organized this paper as follows: firstly, the theoretical scientific background is introduced, including the above-mentioned predictors of employability of university graduates, particularly: (a) academic performance; (b) participation in international exchange programs, and (c) participation in business internships, as these are the three main vertebral axes in which we base our later empirical research. Next, we explain the methodology. Following this, we present the research hypothesis. After this, we present the data collection and the results of the statistical tests. The subsequent discussion section puts together the main findings and contributions from the research. Finally, in the conclusion section, directions for further work in the area are proposed and final thoughts on the value of the investigation are put forth.

2. Theoretical Framework

2.1. Academic Performance as Predictor of Employability

It is usually accepted that students that achieved higher scores in their academic activities have superior knowledge and thus accomplish more successfully in a work setting [23]. Some studies have demonstrated that better grades in college are likely to result in a better performance in the labor sphere [33], linked to the recognition by numerous companies that educational accomplishments are key forecasters of work performance because capabilities to complete work, such as intellect, motivation, etc., are also exhibited in grades [17,20]. Gokuladas [24] showed in an empirical study that the academic variable GPA (grade point average) has a significant effect in enhancing the employability of engineering graduates. When hiring new graduates from a university for engineering positions, managers in technological companies frequently give substantial importance to the candidates' educational background [33].

Some big companies consider average marks a key factor in the screening of job candidates in their selection process [30]. Higher education institutions and corporations have commonly used grades, in particular the average mark, to compare job candidates [27] and scan for their acceptance in universities [18]. The average mark is considered an academic testimonial in relation to the labor market and, more specifically, in terms of the first selection decisions for entry-level job applicants [19,32,34]. The use of average marks in screening is possibly higher at a starting phase than later [50], when other sources of information are weighted. Furthermore, résumés of candidates with top marks get superior valuations than those with low marks [25,34], which increases the probability of the candidates of being called for an interview [34].

The research to date has examined the influence of academic performance in employability and future job performance, yielding mixed results. Some researchers have diminished the relevance of academic performance in forecasting employability achievements [51–53]. The majority of authors agree that graduates with higher grades have more chances of career rewards in terms of employment and salary, at least at the moment of graduation, according to their results [31,50,54], and found that academic records impact positively not only the starting salary but also the salary earned by industry professionals. These results show that the level of academic results at university generates an ongoing long-term effect in the labor market.

The measurement of academic performance can be used to save money and time to assess aspirants' mental ability and motivation, being habitually used as a substitution for those competencies [26]. GPA is considered a substitution of cognitive ability, which is seen as a predictor of the shift to the labor market, as well as a predictor of the quality of job achievement [28]. Predominantly, cognitive ability at university does not differ from cognitive ability at the place of work and it correlates positively to the assessment of employees' potential and creativity at work [28,29]. Additionally, business managers

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have been emphasizing the significance of academic grades as prognosticators of work performance, since better marks are an indicator of communication and mathematical abilities [19] and are also an indication of intelligence, motivation and other skills required for a work position [17,30]. Moreover, academic performance at college relates positively to performance at the place of work [22] and to supervisors' assessment of employees' work performance [30].

These results show that, altogether, academic performance is a good prognosticator of future employability and an adequate measure to predict job performance [12]. Regardless of the common use of academic results in the selection practice, this variable has been combined with others to assess the detailed features of the applicants [26,30,55]. One researcher [55] underlined the importance of academic records combined with other skills in the selection of business professionals. Therefore, it is clear from previous research that academic performance is generally valued for entry-level jobs, usually through the average mark, though it is not the only selection criterion.

2.2. Participation in International Exchange Programs as Predictor of Employability

The relationship between participation in exchanges and employability has been extensively evidenced [35,39]. An empirical study [39] proved a robust relationship between having participated in an international exchange or experience, and enhanced employability. This is explained by the higher number of opportunities for establishing networks, the probability of learning from the experience, foreign language learning, and the development of abilities associated with intercultural skills. Having had an international experience is considered as a good indicator of the intercultural competences of a person [38] and especially those more directly related to the language knowledge [36].

Another study [56] identified the influence of the mobility of undergraduate students on the future international labor mobility. Students who studied under the Erasmus framework abroad were more likely to work abroad, later on, by about 6%, for which their international mobility is boosted and, hence, their employability.

From the previous scientific literature, it can be affirmed that employers do take into account previous international experiences. The participation in international exchange programs is an effective way of attaining a set of skills that are very attractive to employers, in a context of internationalization and globalization, such as intercultural abilities, including the knowledge of foreign languages. Therefore, it is the responsibility of higher education institutions to enable their graduates to incorporate these competences through an international exchange or internship in a different country [37,38], since the growing internationalization and globalization has intensified the necessity of graduates to have the capability of working in culturally different environments.

2.3. Participation in Business Internships as Predictor of Employability

A systematic review about the impact of business internships on their stakeholders [57] emphasized that internships play a crucial role in increasing the preparation and career attainment in entry-level labor market [40–49]. In addition, undergraduates with internship experience reported higher salaries [44,48,58,59], higher levels of job satisfaction [43,46,48], and obtained their first job more rapidly than non-interns [43,44,48,50,59].

One of the most remarkable empirical studies [46] reported significant superior levels of extrinsic success in interns than in non-interns, including starting salaries averaging around 10% higher, having received job offers around ten weeks sooner, higher levels of job satisfaction, and faster promotion rates.

Another study [40] concluded that the completion of an internship proved to be, by correlation analysis, the utmost remarkable variable affecting the capacity to attain a career-oriented job upon graduation; it evidenced the difference from 17% of non-interns having a job upon graduation to 58% in the case of those having completed an internship.

It should be highlighted that there is a high rate of job securing through an internship, as many authors have affirmed [43–45,47–49,58–60]. More concretely, empirical research found that almost 40% of internships resulted in fulltime opportunities after graduation [59].

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As seen in the examined literature, the authors generally stated that practical field experience made students more employable but, most importantly, these positive perceptions were confirmed by quantifiable employability, as the majority of empirical papers reported that students having completed an internship had better employment rates upon graduation.

3. Research Hypotheses

To meet the aims of this study, our main research question is whether the High Academic Achievement Group could be used as a tool to enhance the employability of university graduates in a public university.

Therefore, based on the presented theoretical framework and aiming at clarifying our main research question, we propose the following research hypotheses:

In the first place, earlier research found strong connections between higher academic performance and improved employability [17–34]. Consequently, the first sub-hypothesis determines if there were any significant differences in the academic accomplishment between the students of the ARA Groups and the regular students:

Hypothesis 1 (H1). There is a relationship between the affiliation to the ARA Group and the academic performance of the students.

Secondly, previous empirical research found that participation in an international program is positively related to graduate employability [35–39]. Thus, the second sub-hypothesis determines if there were any significant differences in the participation in international exchange programs between the students of the ARA Groups and the regular students:

Hypothesis 2 (H2). There is a relationship between the affiliation to the ARA Group and the participation of students in international exchange programs.

Moreover, we are interested in finding out if students behaved differently concerning the completion of business internships, as earlier research demonstrated a positive relation between traineeships and employment upon graduation [40–49]. Therefore, we propose the following additional research hypothesis, which aims at clarifying if there were any significant differences in the participation in business internships between the students of the ARA Groups and the regular students:

Hypothesis 3 (H3). There is a relationship between the affiliation to the ARA Group and the participation of students in business internships.

Lastly, it is essential to identify how students and employers distinguish the business internship completed, because it provides an insight on how the labor market will receive these students when they graduate. The perception of the employer about the performance of students during the business internship experience is directly related to its willingness to re-hire the student after its completion, and therefore to employability [45]. In fact, previous researchers have highlighted that employers think that business internships should aid companies in full-time hiring [61,62]. In addition, several studies proved that companies use the internship experience to assess the student's work and to cultivate possible long term workers, saving on recruitment costs [42–44,58,59,63,64], and to employ a "known quantity" who requires less work training to become productive in the organization [42,59]. Students' perceptions about the internship experience are also relevant to students' employability, as highlighted in a qualitative study [47]—students' positive feelings and perceptions were supported by quantifiable heightening in employability. Actually, in seven out of nine traineeships in the private sector, there were reported job openings upon graduation by the host companies. This leads to the last research hypothesis:

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Hypothesis 4 (H4). There is a relation between the affiliation to the ARA Group and the evaluation of the business internship on the side of the student and the employer.

4. Materials and Methods

First, we will put forth a description of the ARA Groups at the Universitat Politècnica de València (Spain). The ARA Groups have several features that make them different from the regular groups. First, they accept a smaller number of students in the class—50 students in the theoretical lessons and 25 in the practical lessons. As the ARA Groups structure the classes in smaller groups, students receive more personalized teaching and mentoring. For each degree offering the ARA Group, there is only one ARA Group and at least two additional regular groups.

The majority of the courses of the ARA Groups use English as a medium of instruction (an average of 80% of the courses of the program are taught in English) in contrast with the courses offered in the regular programs, which are taught in Spanish or Valencian, the regional language.

Students of the ARA Groups are carefully selected, according to the scores they previously achieved in the exam for admittance into the university. Thus, students with higher entering grades have priority to participate in this program. They also need to prove a minimum knowledge of English language equivalent to a B2 level of the Common European Framework of Reference for Languages.

The professors of the ARA Groups need to have the level C1 of English language. They need to have had several years of teaching experience and relevant research activity as well. They follow additional training activities, especially related to English language improvement.

As for the empirical part of our research, we used a quantitative approach, including the whole cohort of the 3543 students of the Universitat Politècnica de València (Spain) enrolled in the 5 degree programs that are offered the High Academic Achieving program (ARA Groups), during the period from 2010 to 2014. A total of 560 of these students belonged to the ARA Groups.

Table 1 shows the number of students enrolled in these 5 degree programs and the number of students registered in each group.

UPV Bachelor Degree	Total Students	ARA Group Students	Non-ARA Group Students
Aerospatiale Engineering	456	144	312
Biotechnology	419	135	284
Business Administration and Management	541	107	434
Computer Engineering	1477	90	1387
Electronic Engineering	650	84	566
TOTAL	3543	560	2983

Table 1. Students' sample.

Source: Own elaboration.

We scrutinized a group of variables and classified them in five categories in order to contrast the four research hypotheses: (1) academic performance; (2) experience in international programs; (3) traineeships; (4) satisfaction of companies and students after the internship (measured by a questionnaire).

We obtained all the data through the official sources of the university, from the International Programs Office, and the Employment Service.

Table 2 includes all the variables studied within each of the above-mentioned categories.

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Table 2. Variables studied in each category.

Category	Studied Variables		
	Credits approved per year		
	Average grade		
	Final Year Project grade		
Academic performance	Graduation in 4 years		
	Complementary:		
	Access to university score		
	Gender		
	Months of exchange		
	Average grade during exchange		
International exchange programs	Credits approved		
	Credits approved/per semester		
	% of students in international exchange programs/total students of the group		
Business internships	% of students in business internships/total students of the group		
Students' satisfaction questionnaire (business internships)	Evaluate your contribution to the company: Technical point of view Evaluate your contribution to the company: Human point of view Evaluate your dedication in the company to activities of: Personal initiative Evaluate your dedication in the company to activities of: supervised work Evaluate your integration into the company: Technical point of view Evaluate your integration into the company: Human point of view Satisfaction with the business internship Satisfaction with the office of business internships Did you carry out your final year project during the internship?		
Employer' satisfaction questionnaire (business internships)	Assessment of the student's work of the during his/her internship		

Source: Own elaboration.

We performed statistical analysis using descriptive and bivariate methods. Within the bivariate analysis, we incorporated those statistical contrasts necessary to identify and calculate the relation between the performance of the different variables and the participation in the ARA Groups. We used parametric and nonparametric statistical methods convenient to each variable's type, in order to carry out these contrasts.

We used a Kolmogorov–Smirnov test to detect if they were distributed in a normal way. The acceptance of normality of the continuous variables would allow the application of parametrical type tests, whereas the non-acceptance of normality would determine the use of non-parametrical type tests.

As for samples of independent and continuous type, adjusted to a normal distribution, we carried out Student's t test to compare the equality of means.

In the case of two independent samples, we used the Mann–Whitney test to assess if the distribution of a parameter, at least ordinal, was the same in two of them.

We used the Pearson Chi² test of association in the case of two categorical variables, when the frequency was expected to be greater than 5. We used Fisher's exact test, otherwise, and only for variables of the dichotomous kind.

In the bivariate analysis, a general level of significance at 95% (α = 0.05) was applied. Therefore, any value lower than 0.05 indicates a statistically significant relationship. By contrast, any value higher than 0.05 indicates the absence of such a relationship. The p value is, supposing that there are not any differences among the groups, the probability that the obtained results could be a random result, then there would be more evidence against the null hypothesis (inexistence of differences). In some cases, a level of significance of 90% was used (α = 0.1)

5. Results

5.1. Academic Achieving

The sample comprised all 3543 students enrolled in the five degree programs offering ARA Groups (560 students participating in the ARA Groups and the other 2983 students not included in the ARA Groups).

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Table 3 shows the outcomes of the statistical analysis of the variables related to the academic performance in both groups. The descriptive statistic results yield that, academically, ARA students performed better in some of the studied variables: they had higher average records (7.207 vs. 6.762) and they entered into the university with higher scores (11.267 vs. 9.286). By contrast, they had lower scores in the Final Year Project (8.933 vs. 9.109) and approved fewer credits per year (67.970 vs. 71.160).

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Table 3.	variables related	to Academic Performance	e – Describtive Statistics.

Variable	Group	N	Mean	Standard Deviation	Max.	Median	Min.
Credits	Non-ARA	2983	71.160	41.543	243.000	61.500	0.000
approved/year –	ARA	560	67.970	18.980	240.000	71.750	0.000
Average grade _	Non-ARA	2980	6.762	1.087	9.900	6.700	0.000
	ARA	560	7.207	0.975	9.800	7.100	0.000
Access to university	Non-ARA	2532	9.286	2.162	14.000	9.000	5.000
score	ARA	546	11.267	1.661	13.854	11.751	5.000
Final Year Project Mark	Non-ARA	384	9.109	0.996	10.000	9.500	5.000
	ARA	27	8.933	0.912	10.000	9.000	7.000

Source: Own elaboration.

Table 4 shows the gender data and if the student graduated in the four expected years.

Table 4. Gender and graduation.

				Grou	p		
		Total		Non-ARA		ARA	
		Count	%	Count	%	Count	%
	Total	3543	100	2983	100	560	100
Gender	Male	2711	76.5	2324	77.9	387	69.1
	Female	832	23.5	659	22.1	173	30.9
	Total	3543	100	2983	100	560	100
Graduation in 4 years	N.A.	3043	85.9	2525	84.6	518	92.5
	No	458	12.9	425	14.2	33	5.9
	Yes	42	1.2	33	1.1	9	1.6

Source: Own elaboration.

The proportion of women is about 9% higher in the ARA Groups than in the regular groups. The proportion of students who completed studies in four years is three times greater among the students of the ARA Groups.

In order to know if the observed differences are statistically significant, next we performed a bivariate statistical study. Before undertaking the statistical contrasts, it was necessary to determine if we needed to use parametric or non-parametric tests. We would use parametric tests in the case that data in both groups adjusted to a normal distribution. Otherwise, we would use non-parametric tests. After applying the Kolmogorov–Smirnov test, where a *p*-value higher than 0.05 indicates normality in the distribution, we concluded that none of the parameters adjusted to a normal distribution in any of the groups. Therefore, we used non-parametric tests, as well as *p*-values lower than 0.05 of the Shapiro–Wilk indicated, in at least one of the two groups for each parameter.

In Table 5, we present the results of the bivariate analysis. *p*-Values lower than 0.05 evidence statistical significance for a confidence level of 95%. The results show that two variables related to academic performance presented statistically significant differences in favor of the ARA students—they had higher average grades and the mark with which they entered in the university was higher.

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By contrast, they approved fewer credits per year. In addition, the ARA Groups had more women and a larger proportion of students who graduated in four years.

Bivariate Analysis p-Value Variable Credits approved/year Mann-Whitney 0.000 Average grade Mann-Whitney 0.000 Final Year Project Mark Chi² 0.158 Graduation in 4 years Chi² 0.000 Access to university score Mann-Whitney 0.000 Chi² 0.000 Gender

Table 5. Academic Performance—Bivariate Analysis.

Source: Own elaboration.

The data provided in Table 5 yield a number of credits approved per year (p=0.000 (Mann–Whitney)) significantly lower and average grades (p=0.000 (Mann–Whitney)) significantly higher among ARA students. They also graduated in four years more than their counterparts of the non-ARA Groups (p=0.000 (Chi²)). Three out of the four main variables related to academic achievement performed differently between the two groups of students. These results lead us to partially accept Hypothesis 1, as we found that there is a relationship between the affiliation to the ARA Group and the academic achievement of the students. While the results are varied, generally, ARA students had an improved academic performance.

5.2. International Exchange Programs

As for Hypothesis 2, we needed to examine the results of the statistical analysis, both descriptive and bivariate, of the variables related to international exchange programs.

Our sample comprised records of the 290 international exchange programs completed within the period (187 completed by students of the non-ARA Groups, 102 completed by students of the ARA Groups, and 1 unknown), corresponding to 285 different students (since 5 of them repeated the experience).

Table 6 includes all the descriptive statistical data for each of the variables related to international exchange programs that we studied.

Variable	Group	Valid N	Mean	Standard Deviation	Max	Median	Min
Months of exchange	Non-ARA	187	7.30	1.99	10.00	9.00	5.00
Months of exchange	ARA	102	7.92	1.79	10.00	9.00	5.00
Avorago grado	Non-ARA	132	8.02	1.19	10.00	8.00	5.54
Average grade	ARA	48	7.91	1.17	9.90	7.90	5.70
Approved credits	Non-ARA	132	37.36	16.98	61.50	36.00	4.50
Approved credits	ARA	48	42.69	13.33	63.00	39.00	19.50
Approved credits per	Non-ARA	131	22.01	9.61	60.00	21.75	4.50
semester	ARA	48	24.34	6.08	39.00	24.75	9.57

Table 6. International exchange programs.

Source: Own elaboration.

The mean value of the months spent on an exchange was greater among the students of the ARA Groups (7.92 vs. 7.30), as well as the credits approved on an exchange (42.69 vs. 37.36), and the credits approved on an exchange per semester (24.34 vs. 22.01). The average grades achieved during the exchange, by contrast, were superior among the students who did not participate in the ARA Groups (8.02 vs. 7.91).

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Table 7 shows the incidence of the participation in international exchange programs by students of the two different groups. The results yield that the incidence is higher in the students of the ARA Groups (18.2%), than in those of the regular groups (5.3%).

Table 7. Incidence of international exchange programs.

	N	%
% of students of the ARA Groups who did an international exchange program	102	18.2
% of students of the non-ARA Groups who did an international exchange program	187	5.3

Source: Own elaboration.

In order to find out if the differences observed in the values of the exchange programs variables were statistically significant, we performed the necessary bivariate statistical contrasts.

Before beginning the bivariate statistical tests, it was necessary to determine if we needed to use parametric or nonparametric tests, depending on the adjustment or not of the variables to a normal distribution, in the ARA and in the non-ARA Groups. After application of the Kolmogorov–Smirnov test, where a p-value higher than 0.05 indicates normality in the distribution, we concluded that none of the parameters were normally distributed in any group (ARA and non-ARA). Therefore, we used non-parametric tests, as indicated by the p-values lower than 0.05 of the Shapiro–Wilks test, on at least one of the two groups, for each parameter.

Table 8 shows the outcomes of the non-parametric tests of the exchange programs data. These results yield a number of months spent under an exchange significantly greater in the ARA students (p = 0.011 (Mann-Whitney)) for a significance level of 95% ($\alpha = 0.05$), about 8% superior. The credit load approved during the exchange was also significantly higher in these students (p = 0.065 (Mann-Whitney)), and the number of credits approved per semester (p = 0.089 (Mann-Whitney)), for a significance level of 90% ($\alpha = 0.1$). Average marks obtained during the exchange did not present significant differences (p = 0.572 (Mann-Whitney)).

Table 8. International exchange programs—Bivariate analysis.

Variable	Test	<i>p</i> -Value
Months of exchange	Mann-Whitney	0.011
Average grade	Mann-Whitney	0.572
Approved credits	Mann-Whitney	0.065
Approved credits per semester	Mann-Whitney	0.089

Source: Own elaboration.

Concerning the percentage of students who participated in international exchange programs over the total number of students, the p-value of the Chi² test is lower than 0.05 (0.000). This indicates that they are significantly different, for a level of significance of 95% (α = 0.05)—in the ARA Groups, the incidence of exchanges abroad is almost four times more than in the regular groups.

Four out of five of the variables studied concerning the participation in exchange programs presented statistically significant differences between the two different groups of students. This allows us to partially accept Hypothesis 2; there is a relationship between the affiliation to the ARA Group and the participation in exchange programs; in particular, most variables relative to international programs were higher among the students of the ARA Groups.

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5.3. Business Internships

Table 9 shows the incidence of the participation in business internships of the two different groups. The findings yield that the incidence is higher among the students of the ARA Groups (32.14%), than in the regular groups (30.62%).

Table 9. Incidence of business internships.

	N	%
% of students of the ARA Groups who did a business internship	180	32.14
% of students of the non-ARA Groups who did a business internships	1085	30.62

Source: Own elaboration.

In order to find out if the differences observed in the values of the variables related to traineeships were statistically significant, we performed the necessary bivariate statistical contrasts.

Concerning the proportion of students who did a traineeship, the p-value of the Chi² test is higher than 0.1 (0.469), which indicates that they are even. The proportion of students doing business internships is the same in both groups.

Based on our results, we cannot support Hypothesis 3, which proposes that there are differences between the ARA and non-ARA students in reference to the percentage of business internships done by students.

5.4. Satisfaction Questionnaire (Business Internships)

5.4.1. Students' Evaluation

We had a sample of 553 questionnaires answered by the students (98 ARA and 455 non-ARA).

The Employment Service, which manages the business internships, requests all students to complete a satisfaction questionnaire, which is not mandatory in the case of extra-curricular business internships. Nevertheless, we had a good number of students' questionnaires answered. A total of 54% of the ARA Group students and 51% of the non-ARA Group students who did an internship returned their completed questionnaire. In this questionnaire, students were requested to evaluate different aspects of their internship (all the questions are presented in Table 10), using a Likert scale from 1 to 5.

Table 10. Business Internships satisfaction—Students' questionnaire—Bivariate Analysis.

Variable	Bivariate Analysis	<i>p</i> -Value
Evaluate your contribution to the company: Technical point of view.	Chi ²	0.000
Evaluate your contribution to the company: Human point of view.	Chi ²	0.367
Evaluate your dedication in the company to activities of personal initiative.	Chi ²	0.899
Evaluate your dedication in the company to activities of supervised work.	Chi ²	0.000
Evaluate your integration in the company: Technical point of view	Chi ²	0.042
Evaluate your integration in the company: Human point of view	Chi ²	0.380
Satisfaction with the business internship	Chi ²	0.005
Satisfaction with the Office of Business Internships	Chi ²	0.069
Did you carry out your final year project during the internship?	Chi ²	0.184

Source: Own elaboration.

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Table 10 displays the outcomes of the bivariate analysis carried out on the answers received from the students to the satisfaction questionnaire completed after the internship.

The results shown in Table 10 show that several answers of the students presented statistically significant differences; students of the ARA Groups considered that their technical contribution to the company was higher, as well as their dedication to supervised work, their technical integration, and their satisfaction with the business internship, for a level of confidence of 95%. By contrast, the results of the test show that they were significantly less satisfied with the business internships office, for a level of confidence of 90% in comparison with their counterparts.

5.4.2. Employers' Evaluation

To assess the opinion of the employers who hired the students, we counted on a sample of 403 questionnaires that companies answered after the completion of the internship (65 ARA and 338 non-ARA).

The Employment Service, which manages the business internships, requests all employers to complete a satisfaction questionnaire, after the completion of the traineeship. We had a good number of employers' questionnaires answered. Overall, 36% of employers hiring ARA Group students and 31% of employers hiring non-ARA Groups students completed their questionnaire. In this questionnaire, employers were invited to evaluate the student's attainment of work objectives during the internship, using a Likert scale from 1 to 5.

Table 11 displays the outcomes of applying the bivariate analysis to the satisfaction questionnaire answered by the employer after the completion of the business traineeship.

Table 11. Satisfaction with the Business Internships– Employers' questionnaire.

Variable	Statistical Bivariate Analysis	<i>p</i> -Value
Assessment of the student's work during his/her internship	Chi ²	0.015

Source: Own elaboration.

The employers considered that students of the ARA Groups attained the objectives of the business internship better than the non-ARA students did, as there are significant differences for a confidence level of 95%.

The results in this section evidence that some of the answers from the students to the satisfaction questionnaire done after the completion of the business internships are significantly different, and the sole question of the employers' questionnaire presents statistically significant differences, suggesting that the affiliation to the ARA Groups is important in this case. This leads us to partially accept Hypothesis 4, which stated that there is a relationship between the affiliation to the ARA group and the evaluation of the business internship by the side of the students and the employers. Namely, out of the nine analyzed questions, in the case of the student questionnaire, we found significant results in five of them. By the side of the employer, the only question had statistically significant differences. Moreover, it is a rather meaningful question, as the employer is evaluating the objectives attained during the business internship in the case of the ARA students, and therefore will be taken into account in the discussion section.

6. Discussion

The results of our quantitative research yielded that the implementation of a High Academic Achievement Group (ARA Group) in a public Spanish university, the Universitat Politècnica de València, had an overall positive influence on the students' academic performance and it also boosted their participation in international exchange programs. Concerning the completion of business internships, there were no differences in the proportion of students who did traineeships between both groups. As for the students' evaluation of the business internships through the satisfaction questionnaire,

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most items scored significantly better among students who participated in the program. Lastly, the companies' satisfaction questionnaire answered after the completion of the internships evidenced that the students' objectives attainment during the internship scored significantly higher in the ARA Group students.

On the one hand, as for comparing our results with previous research, a systematic literature review of high academic achievement programs showed the existence of only one published study [56]. Given that the variables examined in this qualitative research were not comparable to those in our quantitative research, we cannot offer a comparison of the results.

On the other hand, the results of our research allow us to confirm that the implementation of these ARA Groups will have an overall positive effect on the employability of students upon graduation, as higher grades, participation in international exchange programs, and participation in business internships are associated to better chances of being hired.

First, students enrolled at the ARA Groups achieved a higher academic performance, which allowed us to partially accept Hypothesis 1: There is a relationship between the affiliation to the ARA group and the academic performance of the students. Two variables related to academic performance presented statistically significant differences in favor of the ARA students: they had higher average grades and a larger proportion of students graduated in four years, although they approved a significantly lower number of credits per year. This result is relevant, as it has been widely evidenced by previous research [17–34] that there is a strong relationship between higher grades at university and future employability of graduates.

Second, we have confirmed that students who followed these new implemented ARA courses participated more in international programs, which allowed us to partially accept Hypothesis 2: There is a relationship between the affiliation to the ARA group and the participation of students in international exchange programs. The incidence of students who went abroad under an exchange is more than triple in the ARA Group than in the rest. Additionally, the academic performance of these students when they studied abroad was better, and the number of approved credits during the exchange period was significantly higher, as well. This result is significant because it has been extensively evidenced that there is a connection between having participated in an exchange program and future employability [35,36,38,39], as having had an international experience is considered a good indicator of the intercultural competences of a person, especially in those more directly related to the language knowledge [36].

Third, our study concluded that, although internships and exchange programs do commonly take place during the same year (the last one), the rate of students that did a traineeship is not significantly different between both groups of students. We had, therefore, to reject Hypothesis 3: There is a relationship between the affiliation to the ARA group and the participation of students in business internships. This result is paramount, as a systematic review about the impact of business internships on their stakeholders [57] concluded that internships play an essential role in enhancing the preparation and career success in entry-level job market [40–49].

Fourth and last, the results of the satisfaction questionnaire answered by the students and the employers after the completion of the business internship allow us to accept Hypothesis 4: There is a relation among the affiliation to the ARA group and the evaluation of the business internship by the side of the student and the employer. We found significant differences in the answers of students and employers, proving that students and employers assessed the business internship significantly better in the case of students affiliated to the ARA Groups.

Introducing these pioneering and innovative ARA Groups in a public university will enable participating students to benefit from the positive effects on employability associated to higher academic performance, participation in international exchange programs and participation in business internships, as this empirical research has proved. These results are relevant in the framework of sustainability, as it not only affects SDG 4—quality education—but it also promotes decent work (SDG 8).

Another aspect that draws our attention is that the proportion of female students was significantly higher in the ARA Groups. In the case of the five degree programs included in this study, there was an

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overall percentage of female students of 23.5%, while in the ARA Groups this percentage raised to 30.9%. This aspect is paramount in the context of a technological university, where there is usually a much higher percentage of male students. This result adds a high value to this research, as this program could also be promoting gender equality (SDG 5).

Additionally, participating students in this public education institution will benefit from the traditional positive effects associated to English-taught courses, such as the improvement of intercultural skills, especially the knowledge of the English language. As English as a medium of instruction is usually more present in the private education sector than in the public education, offering such programs within the public education system it is also a way of reducing inequalities (SDG 10).

In the context of sustainability, we strongly believe this program could contribute to SDG4—quality education—which is also positively correlated with a good number of the Sustainable Development Goals (SDGs) of the United Nations Agenda 2030 for sustainable development, as seen in this discussion section.

7. Conclusions

In this empirical research, we used a quantitative approach to find out if the implementation of a High Academic Achievement Program (ARA Groups) in a Spanish technological university has had any impact on the academic performance, and on the participation in international exchange programs and business internships, and therefore could affect the employability of university students. As youth employment is nowadays an issue in European economies, particularly in Spain, the authors contemplate that such programs could act as a tool to enhance quality education (SDG4) and the employability of graduates.

This study included 3543 students enrolled in the five different degrees that offered ARA Groups in the Universitat Politècnica de València, from 2010 to 2014.

We used statistical analysis to compare the students participating in the ARA Groups with the regular students, finding that, concerning the academic performance, the expectations of this innovative action were met, as the results of this research show that the ARA Groups students achieved significantly higher average grades. A significantly higher number of students graduated in 4 years, as well. In the international exchanges sphere, we found that the number of months spent on exchanges was significantly greater and that students approved more credits during the exchange period. These students participated much more in international exchanges than their counterparts did, by about four more times. Concerning the proportion of students doing business internships, we did not find significant differences. Nevertheless, the employers evaluated the internship as better in the case of the ARA Groups students, as well as the students, in most items of the satisfaction questionnaire done after the business internship.

The results of this research are significant to authorities within the field of higher education, employment, and sustainability, and to higher education institutions, as well as for employers, students, and society, for several reasons.

Firstly, the results of our empirical quantitative research brings light to the investigation of high academic achievement programs or actions, as a systematic review conducted prior to our research concluded that there was a lack of relevant research related to this field.

Secondly, our study contributes to the research regarding student employability. Our results have demonstrated that this particular innovation in teaching leads to higher academic performance and increased participation in international exchange programs, and that those students still participate in business internships in the same proportion. As seen in the existing literature, these three variables are good predictors of employability, for which we can anticipate that students who participated in this program will have a higher demand within the job market once they graduate.

Employers value higher grades and they commonly use them as key indicators in the selection processes to screen resumes of job applicants. They consider that grades are good indicators of knowledge, intelligence and other skills, such as writing, and they seem to have a continuing beneficial effect in the professional life. Greater participation in exchanges abroad also boosts

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the employability of students. The development of the intercultural abilities achieved during an international exchange, which comprises the foreign languages improvement, is highly valued by employers. As for business internships, the scientific literature has widely evidenced that their completion enhances the employability of students upon graduation. The evidence that our employers evaluated the students' performance as higher during the traineeship of students in the ARA Groups, as manifested in the questionnaire completed after the internships, also backs this increased employability.

For all the above mentioned factors—improved academic performance, enhanced participation into international exchange programs, high participation into business internships, good evaluation by the side of the employer, and the natural English language improvement associated to the English taught courses—we strongly believe that this program will have a positive impact on the employment of the participating students.

Universities willing to have a significant profile as leaders towards sustainability could consider the implementation of such High Academic Achievement programs taught in English, with the goal of contributing to a better quality of education (SDG4), and enhancing the employment skills and mobility of their graduates.

Moreover, as discussed before, quality education (SDG4) is not only a goal in itself, as previous research evidenced, and it correlates positively with the rest of Sustainability Development Goals (SDGs) of the United Nations 2030 Agenda for Sustainable Development. In this case, quality education can act as a powerful tool, as we have evidenced in our research, for promoting decent work (SDG8), reducing inequalities (SDG10) and promoting better conditions for gender equality (SDG5).

Author Contributions: This paper was originally conceived and designed by I.M.C., G.R.G. and G.S.V. All authors contributed equally to this work. All authors have read and agreed to the published version of the manuscript.

Funding: This research received no external funding.

Conflicts of Interest: The authors declare no conflict of interest.

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