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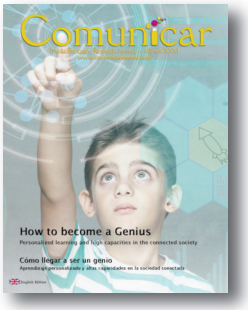

An enrichment program for students with high intellectual ability: Positive effects on school adaptation

Programa de enriquecimiento para alumnado con alta capacidad: Efectos positivos para el currículum

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ABSTRACT

This article notes the low rate of highly talented or gifted students formally identified in Spain compared to international benchmarks. These students are not properly identified, so a lack of specific educational responses for these highly talented students is also expected. Trying to counteract this trend, this article presents an enrichment program imparted to a group of students with high intellectual abilities during the academic year 2017/18 over three weekly sessions during school hours, where emerging technologies were an important key in how it was delivered. The experimental design included an experimental group of high ability students and two control groups, one consisting of students with high abilities who did not receive specific educational responses and another consisting of a group of regular schoolchildren in terms of abilities. The results showed that the implementation of specific educational responses improved children's levels of adaptation and in some cases, their school performance. These data are discussed in an attempt to recommend enrichment programs integrated into the classroom as an appropriate educational response to gifted or high ability students. Attention to diversity of all students in the classroom is possible, for example by resorting to ICT, increasing the educational inclusion of students with high intellectual capacity.

RESUMEN

Este trabajo apunta la reducida tasa de alumnado con características de superdotación o altas capacidades identificados formalmente en España tomando los referenciales internacionales. Este alumnado no es debidamente identificado, entonces también se anticipa la falta de respuestas educativas específicas para estos escolares con altas capacidades. Intentando contrariar esta tendencia, este artículo presenta un programa de enriquecimiento aplicado a un grupo de alumnos y alumnas con altas capacidades intelectuales durante el curso académico de 2017/18 a lo largo de tres sesiones semanales en horario escolar y donde las tecnologías emergentes tienen una importancia clave en el desarrollo del mismo. En el plano experimental, se tomó un grupo experimental de escolares con altas capacidades y dos grupos de control, uno conformado por alumnado con altas capacidades que no reciben respuestas educativas específicas y otro constituido por un grupo de escolares regulares en términos de capacidades. Los resultados muestran que la implementación de respuestas educativas específicas mejora los niveles de adaptación infantil y, en algunos casos, su rendimiento escolar. Se discuten estos datos en una tentativa de recomendación de programas de enriquecimiento integrados en las clases como respuesta educativa apropiada a los escolares con superdotación o altas capacidades. La atención a la diversidad de todo el alumnado en las aulas es posible, por ejemplo, recurriendo a las TIC, favoreciendo la inclusión educativa del alumnado con altas capacidades.

KEYWORDS | PALABRAS CLAVE

High ability, giftedness, educational equity, educational intervention, enrichment program, emerging technologies, adaptation, primary education.

Altas capacidades, superdotación, equidad educativa, intervención educativa, programa de enriquecimiento, tecnologías emergentes, adaptación, educación primaria.

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1. Introduction

Organic Law 8/2013, of the 9th of December, for the improvement of educational quality (LOMCE) in Spain includes the following types of students within the term Students With Specific Educational Support Needs (ACNEAE): Students with Special Educational Needs (ACNEE, including students with auditory, motor, intellectual or visual disabilities; general developmental disorders; and Serious behavioural or personality disorders); Students with specific learning difficulties; Students with Attention Deficit Hyperactivity Disorder (ADHD); Students with high intellectual abilities; Students joining the educational system late; and Students with needs due to personal conditions or school history (MECD, 2013). Pupils with high intellectual capacities form part of the SSESN, and they made up 4.23% of this group in school year 2016/17, the latest year with detailed data available for non-university teaching on the web site of the Ministry of Education and Professional Development. In contrast, gifted pupils make up 0.33% of the general, non-university school population (Ministerio de Educación y Formación Profesional, 2019). Various studies have indicated the percentage of highly able students at around 3% of the school population (Almeida & Oliveira, 2010; Castro, 2004; López, Beltrán, López, & Chicharro, 2000). This proportion in non-university education represents 27,133 pupils with high intellectual capacities in the various Autonomous Communities, 15,030 boys and 12,103 girls (Table 1).

Table 1. High intellectual abilities in Spain according to gender in the school year 2016/2017

Autonomous Communities School year 2016/2017	Students with high intellectual capabilities	%	Men		Women	
			n	%	n	%
Andalusia	11,582	0.72	5,942	51.30	5,640	48.70
Aragon	182	0.08	126	69.23	56	30.77
Asturias	804	0.59	484	60.20	320	39,80
Balearic Islands	831	0.46	473	56.92	358	43.08
Canary Islands	2,122	0.61	1,205	56.79	917	43.21
Cantabria	128	0.14	77	60.16	51	39.84
Castile and Leon	638	0.18	440	68.97	198	31.03
Castilla-La Mancha	411	0.11	267	64.96	144	35.04
Catalonia	417	0.03	235	56.35	182	43.65
Valencian Community	1,063	0.12	654	61.52	409	38.48
Extremadura	266	0.15	178	66.92	88	33.08
Galicia	1,590	0.40	991	62.33	599	37.67
Community of Madrid	2,190	0.19	1,426	65.11	764	34.89
Region of Murcia	3,698	1.27	1,760	47.59	1.938	52.41
Foral Community of Navarra	399	0.36	236	59.15	163	40.85
Basque Country	536	0.14	353	65.86	183	34.14
Rioja	274	0.50	182	66.42	92	33.58
Ceuta	2	0.01	1	50.00	1	50.00
Melilla	0	0.00	0	0.00	0	0
Spain	27,133	0.33	15,030	55.39	12,103	44.61

Department of Education and Vocational Training (2019).

Figure 1 shows the distribution of pupils with high cognitive skills along the different non-university educational stages: Early education (EE), Primary Education (PE), Compulsory Secondary Education (CSE), Baccalaureate (BAC): non-compulsory further education normally between 16 and 18 years of age), Basic Vocational Training (BVT), Intermediate Vocational Training (IVT), and Higher Vocational Training (HVT).

As Figure 1 shows, most students with high cognitive skills, 13,934 are found in primary education, followed by compulsory secondary education with 9,536 students. It is surprising to note the existence of 10 gifted students in basic vocational training as this type of schooling is aimed at trying to keep students in the educational system and to ensure they acquire basic skills in order to be able to enter the labour market. In other words, it is directed towards students with serious risks of leaving the education system early without any qualifications.

This Table and Figure give us part of the reasoning behind our study; the low prevalence of cases detected (0.33% in Spain as a whole), the small proportion of highly intellectually able students in comparison with the total SSESN (4.2% of the total), and the predominance of boys over girls in the national figures (55.4% versus 44.6%). In addition, primary education is the educational stage in which diagnostic processes are preferentially given, translating to rich periods of learning and development.

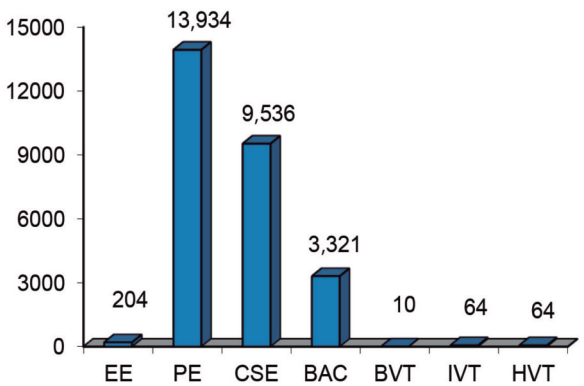
Along with that data, another reason for this article is the need to offer highly able students inclusive and multidimensional educational responses, including students with high intellectual abilities (Almeida & Oliveira, 2010; Callahan, 1998; Gagné, 2008; Gobierno de la Región de Murcia, 2018; Muñoz & Espiñeira, 2010; Prieto & Ferrando, 2016; Renzulli & Gaesser, 2015; Sastre, 2014; Tourón, 2010). It is essential to individualise their teaching and learning, requiring 'teaching, family and social support in order to draw out their abilities and thus

develop educational processes which are adapted to their needs, interests and motivations' (García, 2018: 133). The LOMCE considers that 'all students have talent, but the nature of this talent is different for different people. Consequently, the education system must have the necessary mechanisms to recognise and stimulate this talent. The recognition of this diversity of student abilities and expectations is the first step towards the development of an educational structure which addresses different trajectories' (MECD, 2013: 97858).

Because of that, planning modified educational responses for these students is vital, as is avoiding limitations when implementing it. These limitations sometimes come from the use of 'age' as grouping criteria for pupils, from the distribution of specific resources to schools with lower capacity students and students with learning difficulties. They may come from a lack of connection between diagnosis and educational intervention, from the scarcity of educational psychology resources currently in schools or poor teacher training about high intellectual abilities. They may also come from the use of general and specific methodologies, specific counselling with families, awareness on the part of educational authorities, or attitudes of rejection and prejudice towards this group (Jiménez, 2010; Jiménez & Baeza, 2012; Renzulli & Gaesser, 2015; Tourón, 2008; Veas & al., 2018). At times, there is also a gap in the foundation of current educational practice with these students, they are considered more of an extra rather than an extension, which is why it is essential to expand or to compact the study plans (García, 2018). At the same time, especially when identification rates are very low, it would be important to pay more attention to high ability students who do not achieve high levels of academic performance, which is what teachers value most. Some research has noted underachievement of gifted students as well as the difficulties teachers can have identifying giftedness when students also present some difficulties at a cognitive, emotional or behavioural level, or when they belong to disadvantaged social groups (Borland & Wright, 2000; Ecker-Lyster & Niileksela, 2017; Freeman, 1995; Peters, Grager-Loidl, & Supplee, 2000).

These aspects justify the development of educational responses for students with high intellectual abilities and in particular, enrichment programmes during school time. At the same time these programs must have an impact on students' personal and academic situations. In the words of San (2016), we find little research analysing the true benefits of these educational programs and they are centred on extracurricular enrichment programs (Sastre & al., 2015).

Figure 1. Students with high cognitive skills by educational stage (Department of Education and Vocational Training, 2019)



2. Materials y methods

2.1. Participants

The participants were students in the 2nd to the 6th years of primary education (PE), aged between 7 and 12 years old. They were divided into three subgroups: the Experimental Group (EG), made up of 9 highly intellectually able students in a single school in the province of Albacete who had been diagnosed by school counselling services; Control Group 1 (CG1), made up of 27 students, three students for each member of the experimental group from the same class, therefore classmates of the highly able students; and Control Group 2 (CG2), made up of 9 highly intellectually able students from different schools in the autonomous community of Castilla-La Mancha who had been diagnosed by school counselling services. The students in both control groups were selected using criteria such as being at the same educational level, sex, and similar school performance at the beginning of the year. Between them, they only differed in IQ scores, sex (due to sample availability issues), and in repeating a school year, as we were unable to find a student for control group 2 with high abilities, who had repeated a school year and who was in the 4th year of primary education. Students in both control groups did not participate in the enrichment program.

This research was conducted at a Spanish school in the province of Albacete (in Castilla-La Mancha). It is a public school in an urban environment with 622 students including the 9 students diagnosed as highly intellectually able. In the school 1.45% of the students have high intellectual abilities, which is higher than the mean of 0.11% for

Castilla-La Mancha and 0.33% for Spain (Ministerio de Educación y Formación Profesional, 2019). Seven of the 9 identified cases of high intellectual abilities were boys (77.8%).

2.2. Variables

The variables in this study were: 1) school year, from the 2nd to the 6th year of primary education, bearing in mind whether the student had repeated a school year; 2) student sex; 3) School performance; the Spanish system evaluates using a scale from 1 to 10. Scores of 1 to 4 are considered fails, a score of 5 is a pass, 5 & 6 are good, 7 & 8 are very good, and 9 & 10 are outstanding, initial evaluations were done at the beginning of the school year and at the end of the school year in June at the same time as students' final evaluations; and 4) Intelligence Quotient (IQ), established by administering one of the Weschler Intelligence Scales for Children (WISC-IV or WISC-V).

According to these variables the sample characteristics of each group was as follows: (i) Experimental Group (EG): 1 student in the 2nd year of primary education, 1 in the 3rd year, 3 in the 4th year, 1 in the 5th year and 3 in the 6th year; 7 boys and 2 girls; 1 student with a passing grade, 1 good, 3 very good and 4 outstanding; 1 out of the nine had repeated a school year; IQs ranged between 130 and 144. (ii) Control Group 1 (CG1): 3 students in the 2nd year, 3 in 3rd year, 9 in 4th year, 3 in 5th year and 9 in 6th year; 16 boys and 11 girls; 3 with passing grades, 3 good, 9 very good and 12 outstanding; 3 of the 27 had repeated a school year; IQs ranged between 84 and 125. These variables were selected proportional to the characteristics of the experimental group, with 3 students in the control group for every student in the experimental group. (iii) Control Group 2 (CG2): 1 student in 2nd year, 1 in 3rd year, 3 in 4th year, 1 in 5th year and 3 in 6th year; 7 boys and 2 girls; 1 student with a passing grade, 1 good, 3 very good and 4 outstanding; none of the students had repeated a school year; IQs ranged from 130 to 138. The characteristics were similar to the experimental group except that none of the students in CG2 had repeated a school year.

Our study examined child adaptation; 'the mix of factors that combine in the ability of an individual to integrate and function in their surroundings, taking into account the different characteristics of those surroundings and changing conditions that may occur requiring them to readjust to new circumstances' (García, 2018: 139). Some research has noted difficulties associated with, for example, speed in learning leading to dead time and demotivation, a rich, broad vocabulary that may trigger rejection by teachers or peers, boredom due to repetition and routine, high expectations for themselves and others, a taste for learning independently and alone, low tolerance for frustration, lack of acceptance when they take on a leadership role, preferring to interact with adults, disconcerting or persistent questions, concern about social topics that are not appropriate for their chronological age, excessive motor restlessness, asynchronous development, and a strong sense of justice (García, 2018; Jiménez, 2010; Sainz & al., 2015).

2.3. Instruments

Class record: this collects information related to the school year, sex, school performance, repetition of school years, and IQ scores.

TAMAI: Multifactorial Self-evaluation test of child adaptation: This test evaluates the following dimensions: general maladaptation, personal maladaptation, school maladaptation, social maladaptation, family dissatisfaction, dissatisfaction with siblings, parental educational qualifications, educational discrepancies, pro-image and contradictions (Hernández-Guanir, 2015). In this study we used General Maladaptation (GM) which looks at an individual's lack of adaptation both with themselves and with their surroundings. In the TAMAI this is produced from the total of the three other types of maladaptation, personal, school and social. Personal Maladaptation (PM) is defined as the level of maladjustment that an individual has with themselves as well as with their general surroundings, including individual difficulties accepting reality as it is; School Maladaptation (SM) looks at dissatisfaction and inappropriate or disruptive behaviour at school, and is related to personal and social maladaptation; and Social Maladaptation (SoM) which includes the level of difficulty and problems in social interactions due to reduced social relationships, lack of social control, not considering others or established norms, and attitudes of suspicion and social distrust. As these dimensions evaluate maladaptation, low scores mean better adaptation and high scores mean more maladaptation. It is worth noting the reliability of the results, with indices above .85 for Cronbach's alpha and the split-half method, along with appropriate indices of factorial validity (Hernández-Guanir, 2015).

Horizontal Enrichment Program for highly able students: this is a program carried out during school hours through three weekly sessions (two outside the class and one in the class group) throughout school year 2017/18. The activity areas are: linguistic, scientific, socio-emotional and artistic. The activities for each area are broad and

include a wide range of individual resources such as mentors and specialists in various knowledge areas, making use of school families' jobs. Materials principally include ITC and bibliographic resources with a breadth of reasoning for each of the activity areas. In terms of ITC, students use their own tablets through which they begin to use Web 2.0 tools (such as Padlet, Socrative, Edpuzzle, Kahoot! and Genially) and other programs which are valid for enrichment tasks (such as Geogebra and Pixton), but always in connection to the ordinary curriculum. The use of technological resources for teaching goals with highly able students is well supported (Besnoy, Dantzler, & Siders, 2012; Martínez, Sábada, & Serrano-Puche, 2018; Palomares, García, & Cebrián, 2017; Román, 2014; Sacristán, 2013), and demands specific teacher training in this field (Díez, 2012; González, 2016; Pereira, Fillol, & Moura, 2019; Rodríguez-García, Martínez, & Raso, 2017; Santoveña-Casal & Bernal-Bravo, 2019).

2.4. Procedures

The TAMAI was applied in September (pre-test) and June (post-test) during the 2017/18 school year to both the experimental and control groups. Between those two points in time the students in the experimental group participated in an enrichment program with three sessions a week. During the study, written authorisation was obtained from the Educational Inspection Service, the administrations in the participating schools and the families of students selected to participate. School performance was recorded at the two points in time and teachers of all three groups of students were asked to complete a record sheet on which they indicated each student's overall academic performance.

Table 2. Results for the 3 groups in student maladaptation at pre-test

Groups	Maladaptation type	Min.	Max.	M	SD
EG (n=9)	Personal	1	6	4.11	1.76
	School	2	7	3.89	1.96
	Social	1	7	4.00	2.29
	General	2	6	4.00	1.73
CG 1 (n=27)	Personal	1	6	2.96	1.34
	School	1	6	3.30	1.46
	Social	1	5	2.89	1.15
	General	1	5	3.15	1.06
CG 2: High ability (n=9)	Personal	2	6	4.22	1.30
	School	2	6	3.67	1.41
	Social	2	6	4.00	1.32
	General	2	6	4.00	1.32

3. Results

Table 2 shows the results in the maladaptation dimensions and general maladaptation for the three groups at pre-test. In addition to the mean and standard deviation, it gives the range (minimum and maximum).

The data in Table 2 shows higher pre-test means in the experimental group and control group 2 than in control group 1 in all dimensions, especially in personal, social and general maladaptation. Assessing the statistical significance of these differences (F-ANOVA), we found statistically significant differences in the PM dimension ($F(2,42)=3.86$, $p<.05$), but we did not find significance in the SoM dimension ($F(2,42)=3.09$, $p=.06$). No statistically significant differences were found in the SM dimension or in general maladaptation. In the PM dimension, following post hoc tests comparing the three groups (Bonferroni test) there were no significant values in comparisons between the groups.

Table 3 gives the results for the three groups of students for maladaptation dimensions in the post-test phase.

In Table 3 we see that the experimental group means were lower than both control groups, and lower than the mid-point of 4 on the 7-point scale used. The means of both control groups were notably higher than in the pre-test, especially in control group 2, with means of 5.11 in personal maladaptation, 4.67 in school maladaptation, 4.89 in social maladaptation, and 5.00 in general maladaptation. This suggests an increase in perceived maladaptation levels in students without any educational response modified for their strengths, interests and needs. Looking at the differences in means between the three groups (F-ANOVA), we found statistically significant differences in all of the maladaptation dimensions, as well as in general maladaptation scores. The values were: PM ($F(2,42)=10.50$. $p<.001$), SM ($F(2,42)=8.36$, $p<.001$), SoM ($F(2,42)=6.99$, $p<.001$) and General ($F(2,42)=16.17$, $p<.001$). Following the Bonferroni test for post hoc analysis we found a statistically significant difference between the experimental group and control group 2 in PM ($t=-2.44$, $p<.001$). In SM there were statistically significant differences between the experimental group and control group 1 ($t=-1.59$, $p<.05$), and control group 2 ($t=-2.56$, $p<.001$). In the SoM dimension we only found statistically significant differences between the experimental

group and control group 2 (t=–3.99, p<.001), while in the general dimension there were statistically significant differences between the experimental group and control group 1 (t=–1.57, p<.05) and control group 2 (t=–2.56, p<.001). There were also statistically significant differences between the two control groups in social maladaptation CG1<CG2 (t=–1.37, p<.05), and general maladaptation GC1<GC2 (t=–1.33, p<.01).

Table 3. Results for the 3 groups in student maladaptation at post-test

Groups	Maladaptation type	Min.	Max.	M	SD
EG (n=9)	Personal	1	4	2.67	1.12
	School	1	4	2.11	.93
	Social	1	5	2.89	1.62
	General	1	4	2.44	1.13
CG 1 (n=27)	Personal	2	6	3.70	1.20
	School	1	6	3.70	1.38
	Social	2	5	3.52	.89
	General	2	5	3.67	.87
CG 2: High ability (n=9)	Personal	4	6	5.11	.93
	School	3	7	4.67	1.58
	Social	3	7	4.89	1.45
	General	4	6	5.00	1.00

In order to see the differences between the three groups' results comparing pre-test and post-test, Table 4 shows the differences in scores between the two time-points (positive when pre-test scores are higher; high scores mean more maladaptation).

There are statistically significant differences between the three test groups after calculating the differences between the pre-test and the post-test scores Personal (F(2,42)=26.49, p<.001); School (F(2,42)=27.22, p<.001); Social (F(2,42)=19.27, p<.001) and General (F(2,42)=44.86, p<.001). Looking at the differences between groups, with the Bonferroni test, in the four dimensions there is a consistent pattern of statistically significant values; the experimental group always scores higher than the other two groups, indicating that they improve on negative evaluations at post-test. No statistically significant differences were found between control group 1 and control group 2, the highly able children without intervention. The results for each dimension are as follows Personal: EG>CG1 (t=2.19, p<.001 and EG>CG2 (t=2.33, p<.001); School: EG>CG1 (t=2.19, p<.001) and EG>CG2 (t=2.78, p<.001), Social: EG>CG1 (t=1.74, p<.001) and EG>CG2 (t=2.00. p<.001); General: EG>CG1 (t=2.07, p<.001) and EG>CG2 (t=2.56, p<.001). These differences and significance were replicated using repeated measures ANOVA and eta partial square ranged from .48 (Social) to .68 (General).

Figure 2 gives a graphic comparison using the means from the experimental and control groups for the maladaptation dimensions at the two time-points (1: pre-test, 2: post-test).

In Figure 2 it is especially interesting to see the significant fall in mean scores for each maladaptation area in the experimental group, falling below the means of the two control groups in the post-test. The values for control group 1 stayed more or less stable over the two time-points, however the scores for control group 2 increased from one time-point to the next. Finally, it is important to note changes in students' school performance. In the experimental group, 4 students exhibited improved performance (one from passing to good, another one from good to very good and two from very good to outstanding); none of the students in this group demonstrated worse performance at the second time-point. In control group 1, 3 students performed better at post-test than pre-test (one from very good to outstanding, the other 2 from good to very good), with no students demonstrating worse performance at the second time-point. In control group 2, none of the students improved their performance between pre- and post-test, while one student went from outstanding to very good.

Table 4. Differences between pre-test and post-test scores for the 3 student groups

Groups	Maladaptation type	Min.	Max.	M	SD
EG (n=9)	DifPersonal	.00	3.00	1.44	1.01
	DifSchool	.00	4.00	1.78	1.30
	DifSocial	.00	3.00	1.11	1.05
	DifGeneral	.00	3.00	1.56	.88
CG 1 (n=27)	DifPersonal	-3.00	.00	-.74	.81
	DifSchool	-2.00	1.00	-.41	.75
	DifSocial	-3.00	.00	-.63	.69
	DifGeneral	-2.00	.00	-.52	.58
CG 2: High ability (n=9)	DifPersonal	-2.00	.00	-.89	.60
	DifSchool	-2.00	.00	-1.00	.71
	DifSocial	-2.00	.00	-.89	.78
	DifGeneral	-2.00	.00	-1.00	.50

4. Discussion and conclusions

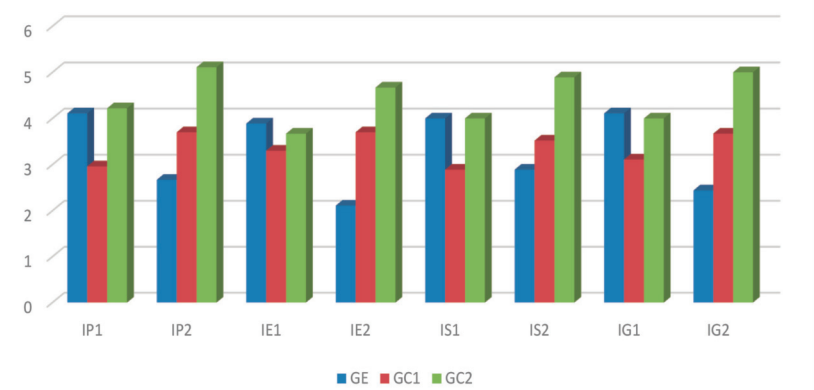
Educational processes must move away from homogeneous positions in which the same curriculum is transmitted to all students in the same conditions. The diversity in the classroom includes highly intellectually able students. This is a group of students with

visibility problems in the classroom, which is reflected in the rates of identification, 0.11% in Castilla-La Mancha and 0.33% nationally, which are very low compared to the supposed international rates which fall between 3% and 5% of students being highly intellectually able (Almeida & Oliveira, 2010; López, Beltrán, López, & Chicharro, 2000). These students 'are a natural part of human diversity and need to be educated in equitable schools with and for all, that can encourage excellence' (Jiménez & García, 2013, 22).

The educational intervention processes for these students usually happen outside school hours. Despite that, the inclusion of specific activities in school time is necessary for an integrated response that would help them make the most of their skills (Almeida & Oliveira, 2010; Hernández & Gutiérrez, 2014; Mandelman, Tan, Aljughaiman, & Grigorenko, 2010). In this study we have seen that the enrichment program for highly able students during school hours helped them improve their adaptation in general and on a personal, school and societal level, with some of the students even improving their school performance. We can conclude from our data that distinct educational attention, catering to the high intellectual abilities of some of these students, will encourage their adaptation and learning in school contexts, compared to their high-ability peers whose educational needs are not specifically addressed (García & Jiménez, 2016; Kim, 2016; Lee, Olszewski-Kubilius, & Peternel, 2010; Obergriesser & Stoeger, 2015; Renzulli, 2012; Sainz & al., 2015; Walsh & al., 2012; Wu, 2013).

Given the low rate of identification of gifted or highly able students it may be time to rethink how we identify them. Borland and Wright (2000) recommended that for students in disadvantaged groups, more use should be made of observational methodologies and portfolios of work rather than formal psychological tests. In these cases, it may be useful to work with computer and internet-based tools as some highly able students may not exhibit their capabilities in class or in their interactions with teachers, but rather in individual tasks or tasks outside the classroom (Marcos, 2014). Technology may also help students become motivated in their learning and school tasks which they often find repetitive, and it may also ease common communication difficulties with teachers (Freeman, 1995).

Figure 2. Means of the three student groups in maladaptation dimensions at both time-points



In short, work must be done on inclusion and academic success of highly able students in school (Veas & al., 2018). The data lead us to conclude that improving these students' inclusion and adaptation is possible and that diversity can and must be addressed during school hours, especially using emerging technologies as learning resources as that would provide individualised speeds, processes and content for learning (Besnoy, Dantzler, & Siders, 2012). Human potential is inherent in an individual and its realisation depends on the person's environment, bringing it out is an educational imperative.

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