

MENDIVE



REVISTA DE EDUCACIÓN

Translated from the original in Spanish

Detection of students with high intellectual abilities in the Ecuadorian school context

Detección de estudiantes con altas capacidades intelectuales en el contexto escolar ecuatoriano

Detecção de alunos com altas habilidades intelectuais no contexto escolar equatoriano

Johanna Patricia Bustamante¹



<https://orcid.org/0000-0002-5816-8856>

¹ Central University of Ecuador



jpbustamante80@gmail.com

Received: April 26th, 2021.

Approved: October 12th, 2021.

ABSTRACT

Intelligence is conceived as a cognitive process that allows the human being to provide solutions to problems of daily life, as well as to develop conceptual, practical and social skills. In this sense, the present research aimed to establish the knowledge on the part of the teachers of the subject of Mathematics for the identification and detection of students with characteristics of

Intellectual Endowment or Geniality in the Educational Institutions of the province of Pichincha. The research was carried out with a quantitative approach, which allowed the collection and analysis of data. In addition to the bibliographic review and with the purpose of collecting information on the Intellectual Endowment variable, two instruments were designed, validated and applied to 1,135 teachers of mathematics subject, distributed in 214 publics, private, municipal and fiscal institutions. It is concluded that there are difficulties for the identification of students with intellectual endowment or genius. On the other hand, a large part of the investigated population has basic knowledge about the characteristics of people with intellectual endowments, which allows them to detect these students within their classrooms. In all indicators, the population is heterogeneous in its level of responses. Meanwhile, it is essential to generate spaces for reflection from the academy and the Ministry of Education on the importance of teaching and training new and old teachers in pedagogical work on intellectual endowment or genius to achieve a fair and just society with respect to the diversity.

Keywords: Intellectual Endowment; Genius; identification; detection.

RESUMEN

La inteligencia es concebida como un proceso cognitivo que permite al ser humano dar soluciones a los problemas de la vida diaria, así como desarrollar habilidades conceptuales, prácticas y sociales. En ese sentido, la presente investigación tuvo como objetivo establecer el conocimiento por parte de los/las docentes de la asignatura de Matemática para la identificación y detección de estudiantes con características de Dotación Intelectual o Genialidad en las Instituciones Educativas de la provincia de Pichincha. La investigación se realizó con enfoque cuantitativo, lo que permitió la

recolección y el análisis de datos. Además de la revisión bibliográfica y con la finalidad de recolectar información sobre la variable Dotación Intelectual, se aplicaron dos instrumentos a 1135 docentes de la asignatura de Matemática, distribuidos en 214 instituciones públicas, privadas, municipales y fisco misionales. Se concluye que existen dificultades para la identificación de estudiantes con Dotación Intelectual o Genialidad. Por otro lado, gran parte de la población investigada posee el conocimiento básico sobre las características de las personas con dotación intelectual, lo cual les permite detectar a estos estudiantes dentro de sus aulas. En todos los indicadores, la población se muestra heterogénea en su nivel de respuestas. En tanto, es imprescindible generar espacios de reflexión desde la academia y el Ministerio de Educación sobre la importancia de enseñar y capacitar a los y las docentes noveles y antiguos en el quehacer pedagógico sobre la Dotación Intelectual o Genialidad para lograr una sociedad equitativa y justa con respecto a la diversidad.

Palabras clave: Dotación Intelectual; Genialidad; identificación; detección.

RESUMO

A inteligência é concebida como um processo cognitivo que permite ao ser humano apresentar soluções para os problemas da vida cotidiana, bem como desenvolver competências conceituais, práticas e sociais. Nesse sentido, a presente pesquisa teve como objetivo estabelecer o conhecimento por parte dos professores da disciplina de Matemática para a identificação e detecção de alunos com características de Dotação Intelectual ou Genialidade nas Instituições de Ensino da província de Pichincha. A pesquisa foi realizada com abordagem quantitativa, o que permitiu a coleta e análise dos dados. Além da revisão bibliográfica e com o objetivo de coletar informações sobre a variável Dotação Intelectual, foram aplicados dois instrumentos a 1.135 professores da

disciplina de Matemática, distribuídos em 214 instituições públicas, privadas, municipais e estaduais do tesouro. Conclui-se que há dificuldades em identificar alunos com Dotação Intelectual ou Gênio. Por outro lado, grande parte da população investigada possui conhecimentos básicos sobre as características das pessoas com dotes intelectuais, o que lhes permite detectar esses alunos em suas salas de aula. Em todos os indicadores, a população é heterogênea no nível de respostas. Nesse ínterim, é fundamental gerar espaços de reflexão da academia e do Ministério da Educação sobre a importância do ensino e da formação de novos e antigos professores no trabalho pedagógico de Dotação Intelectual ou Genialidade para uma sociedade justa e justa com respeito à diversidade.

Palavras-chave: Dotação intelectual; Gênio; EU IRIA; detecção.

INTRODUCTION

Human intelligence has been part of the collective uncertainty since ancient times, being that, for many, it contains a strong genetic load that allows individuals to inherit abilities from their ancestors. On the other hand, for other authors its development is the product of the subject's interaction with the environment that surrounds him. In what they all agree, is that intelligence allows human beings to solve problems, through the development of conceptual, practical and social skills.

In this logic, an Ardilla (2011) point out that intelligence is the "ability to solve problems, to reason, to adapt to the environment" (p.98). That is, intelligence is not only an abstract term that describes a property of brain functioning, but is also the set of a series of skills and abilities that allow understanding, planning, decision-making,

and resolution of problems to be reached and even learning.

In the same sense, Fernández (2020), referring to Gardner's theory of multiple intelligences, highlights that intelligence is not a unitary dimension, but rather a set of capacities, talents or cognitive abilities which he calls intelligences; each of these intelligences constitute its own system and said intelligences interact with each other (p. 508). In this sense, individual differences are generated from the biological, psychological, affective, social and cultural aspect, influencing the individual to demonstrate common characteristics with other people, but also, characteristics different from others; this makes us unique and valuable beings within the context where we operate. This is where it is evident that some people have better intellectual abilities than others, standing out for their level of reasoning, problem solving and interaction with their environment.

Along the same lines, worldwide studies have been carried out based on the subjects that demonstrate characteristics of Intellectual Endowment or Geniality, reaching in some countries to organize the Educational System based on their intellectual needs and thereby enhance their skills, abilities and skills, in order to contribute to the development of these nations. Despite these advances, in countries like Ecuador the rights of these people have been violated; being that, not enough importance has been given from the Universities in terms of the training of professionals with expertise for the identification, detection, diagnosis and intervention. On the other hand, the Ministry of Education-MinEduc, as the governing body of the National Education System, has not bothered to train the staff of the Student Counseling Departments and the teaching staff, since they are responsible for guaranteeing admission, permanence, learning and school completion, basing their actions on a dignified treatment, respect and tolerance towards diversity.

A successful first step for the Ecuadorian state has been to reformulate the Constitution, the Organic Law of Intercultural Education, and the Regulations to the Law and issue agreements that make it possible to give an ideological and cultural change, in order for society to recognize diversity and act for its benefit.

Thus, for 2012 in Ecuador the Intellectual Endowment or Geniality is considered within the regulations, but only in 2016 the MinEduc considers the student with Superior Endowment, high cognitive abilities or Intellectual Endowment as part of a defined group of students with Special Educational Needs (SEN) not associated with disability. Thus, the Sub secretary of Specialized and Inclusive Education, made official at the national level the instructions for the evaluation and promotion of students with special educational needs, which was created with the objective of providing technical guidelines to teachers, considering criteria of adaptability, so that students with SEN can perform evaluations with equal opportunities within the teaching-learning process. In this sense, for students with Intellectual Endowment or Genius, curricular adaptations grade 1 and 2 would be considered, where the evaluations will respond to a deeper level of thought. It is assumed that it is important to detect in the first years of schooling, in order to maximize its potentialities in the educational context, carrying out actions such as compacting the curriculum and promoting curricular enrichment by approaching the contents from a higher level of abstraction and complexity of according to its requirements.

Along the same lines, in 2016 the agreement 0-80-A was issued, regulations to regulate the processes of detection, assessment, educational attention, learning evaluation and promotion of students with higher endowments in the national educational system, in which Educational Institutions are required to require and use accessibility, learning and communication resources; in

addition, determine procedures for adequate attention, which guarantees the entry, permanence, evaluation and completion of the Educational System according to its potentialities. This agreement defines the students with high cognitive abilities or Intellectual Endowment and explains the need for specialized attention according to the characteristics of the Intellectual Endowment, as stated by certain authors who have studied this topic.

It is important to note that for the MinEduc this group of students must be enrolled in ordinary education or in exceptional education centers according to the recommendations given by the Unit for Attention to Inclusion (UDAI); The difficulty encountered is that in Ecuador there are no establishments for exceptional education, which contradicts what has been said by this governmental instance.

The debate between these two documents issued by the MinEduc is based on the fact that the Assessment Instrument explains that in high cognitive capacities, only grade 1 and 2 curricular adaptations should be applied, the opposite of agreement 0-80, where it is presented to the curricular adaptation grade 3, along with the previous ones as responses to the SEN of these students. In the same sense, the techniques and instruments that should be used, both in the Student Counseling Department (DECE) to detect and in the UDAI to diagnose and suggest the most appropriate strategies within educational practice , are left aside .

Explicitly, it is important to specify that within the Ecuadorian Educational System, many of the boys, girls and adolescents with characteristics of Intellectual Endowment or Geniality are not detected and/or diagnosed, living their schooling without any adaptation that takes into account their abilities, learning interests, styles, and rhythms; and with all this, it is erroneously thought that they do not need a special differentiation,

since it is taken for granted that, having capacities above the average, their peculiarity guarantees the obtaining of success.

Thus, for Agudo (2017), cited by Barrera-Algarín *et al.* (2021), boys and girls with an Intellectual Endowment present the following characteristics, which should be considered by teachers:

Early and fluent command of oral language, wide vocabulary; early reading ability and interest; understanding of abstract and complex concepts for their chronological age; establishes relationships and differences in knowledge; questioning of reality, creative ability, ability to generate new ideas from information that is known; observation and listening skills; great memory capacity; uses with ease and innovation materials present in the environment, original expression in their written and oral expressions, etc .; ease in solving complex problems, addressing their solution from different versions; boredom in mechanical, repetitive tasks; preference for inquiry or experimentation; quickly complete the task assigned; they are comfortable with older people, they have confidence in their self, they are perfectionist and constant; ability to sympathize with other people, they have many hobbies (p. 211).

This forces teachers to know the curricular competencies, family-educational context, learning styles and rhythms of students with

these characteristics, in order to achieve a learning environment that provides the necessary opportunities for academic and personal training. .

In this regard, the studies carried out by the international scientific community on Intellectual Endowment or Geniality show, on the one hand, how difficult it is to reach a consensus on a global conceptualization, due to the personal characteristics available to students with high cognitive abilities. On the other hand, that over the years the concept has progressed in accordance with the models of intelligence, cognitive functioning and with respect to the evaluation instruments that have been produced.

Along these lines, the need to define students with Intellectual Endowment or Geniality allows the characterization described by Higuera-Rodríguez and Fernández-Gálvez (2017) to be considered:

Subjects capable of high achievement are those with demonstrated achievement and/or potential capacity (ability) in any of the following areas: general intellectual capacity; specific academic aptitude; creative and productive thinking; visual arts and performances; psychomotor ability; and leadership ability (p. 151).

Considering these antecedents, it could be indicated that an approach to the concept of Intellectual Endowment or Geniality is that the student has the disposition of a high level of resources in cognitive capacities and intellectual aptitudes such as logical reasoning, perceptual management, memory management, reasoning verbal, mathematical reasoning, spatial aptitude and high creativity; in addition to other characteristics in terms of motivation for

work, which are manifested early in relation to their peers.

Along the same lines, Luque and Luque (2017) state that intellectual endowment:

It refers to a way of designating those boys and girls, who share certain characteristics, related to good cognitive development, high level of performance in academic skills, creative thinking, imagination, spatial skills, ..., characteristics with which, as a whole, it is accepted that, the boy or girl with high intellectual capacities, is a person in whom there is an integration of talent, of their own personal characteristics and in a development context. (p.213)

Already in the school environment, children and adolescents with Intellectual Endowment or Geniality show differences with their peers, due to the precocious characteristics that they present at a very early age, in the intellectual, academic and social area. In this context, Albes *et al.* (2019) refer that considering students with Intellectual Endowment in a global way is incense, since they must consider "their intellectual, social, emotional, creative capacities, motivation, learning styles and social context. Without forgetting that this population is very heterogeneous and that it does not have to show high performance in all dimensions" (p.43). Therefore, school factors are extremely important in the comprehensive development of students with Intellectual Endowment or Geniality, because by offering a timely detection, it will make it possible to provide a quality education, adjusting to the specific characteristics of this population, taking into account it counts all the dimensions of the human being.

Likewise, this group of students presents an adequate level of independence, motivating complex tasks and the use of unusual resources; In addition, they present an excellent level of divergent thinking, which

implies enhanced creativity for the elaboration of tools or only to solve the difficulties that they present on a daily basis. In the same sense, their level of abstract reasoning is visibly strengthened at an early age in relation to boys and girls of their age, which allows them to learn effectively and interact with older people.

Now, all these characteristics are not only the product of genetic coincidence; as explained by Sánchez (2014) "Intelligence would be the result of the interaction between biological predispositions and the opportunities to learn, all of them existing in the culture of the individual" (p. 58), which would enable the human being to stimulate and enhance their intellectual capacity, and much more if it is a person with characteristics of intellectual endowment.

In this sense, the Renzulli, in its model of the three rings, aims to describe the primordial qualities required by the potential that an individual has ,to carry out original creations. Its name comes from the conceptual framework of the theory composed of three features: high academic performance or intellectual capacity, commitment or involvement in the task, and high creative and productive capacity, obtaining direct involvement in the different areas of human performance. Later, as stated by Barraca and Artola (2004), Renzulli himself incorporates "environmental, personality and value factors into his theory, which will be articulated in a new model called the crow's foot" (p.4).

It is important to consider that all Intellectual Endowment must be productive in practice; that is, even if you have a high IQ and little commitment to the task or no creativity characteristics, you will not be considered a gifted student. Renzulli himself establishes a difference between the endowment linked to academic performance and the endowment linked to creative productivity, in which according to Tourón "he emphasizes the use and application of

information and thought processes in an inductive way, integrated and oriented to solving real problems" (p.13).

These characteristics cannot be presented in the same way with the students of Intellectual Endowment or Geniality, but will depend on the circumstances of the family and school environment. That is, each individual is different in their way of responding to the environment, in their style and pace of learning, so the educational response must be in accordance with the specific educational needs of the students.

In this sense, Tourón and Reyero (2000) state that "The training and information available to teachers on the subject of high abilities is, on many occasions, very scarce, which makes their identification and development of educational measures difficult. Suitable" (p.58). In the case of teachers, it is essential that they show flexibility when it comes to being advised by psychologists, since they are the ones who stay with the students most of the time in the classroom; As Fernández (2019) explains, objectives should be set to "Offer the child a tolerant environment that allows them to express their differences and be aware of them" (p.23). Therefore, it is necessary for teachers to assume the responsibility of promoting certain strategies and the use of techniques for their detection and school care.

Thus, Tourón and Reyero (2000) explain that the level of challenge or difficulty for students with Intellectual Endowment involves two possible consequences: "One that the students adjust to a level of work that involves minimal effort, with which they will be working well below their possibilities, or that due to boredom they display a whole set of maladaptive behavior patterns regarding school and learning (p.4).

In the globalized world in which we find ourselves, talking about inclusion or

attention to diversity is, without a doubt, one of the most current and worrying issues, especially for countries like Ecuador; since most of the professionals inserted in the Educational System present difficulties in what it means to include this diversity, which is more than being a problem as a consequence of being different. If you fight to include people with disabilities and offer them an education suitable to their abilities, whether intellectual, motor, social or sensory. Why are people who are cognitively more capable than others left out? Why do people continue to be standardized and grouped by age, or even by ethnicity and culture? We are talking about inclusion, but we continue to practice exclusion, segregation and integration in response to our diversity.

In this sense, the present research had as general objective to establish the knowledge on the part of the teachers of the subject of Mathematics for the identification and detection of students with characteristics of Intellectual Endowment or Geniality in the Educational Institutions of the province of Pichincha.

MATERIALS AND METHODS

The present investigation was framed in the post positivist paradigm, the same one that assumes critical realism-reality. This logic was based on the quantitative approach, which allowed to emphasize in the elaboration, validation and application of two questionnaires to answer the research objective: to establish the knowledge on the part of the teachers of the Mathematics subject for the identification and detection of students with characteristics of Intellectual Endowment in Educational Institutions of the province of Pichincha. It should be noted that the questionnaire for the detection of students with Intellectual Endowment was applied to teachers of the subject of

Mathematics, as a knowledge test, emphasizing the cognitive style, motivation; interest and involvement in the task; creativity and divergent thinking; learning; social and emotional development. In this sense, it was proposed to work with a descriptive level, which made it possible to write the essential characteristics of the population of teachers of the subject of Mathematics who agreed to participate in the research, a total of 1135 professionals, distributed in the 214 Educational Institutions of support fiscal, fis-commission, private and municipal of the province of Pichincha. It is necessary to specify that the subject of Mathematics was considered due to its level of abstraction and complexity as it is an exact science.

Of the 1,135 professionals surveyed, 224 professionals, corresponding to 19.7%, work at the Elementary Level; 164 professionals, representing 14.5%, work at the Medium Level; 281 professionals, corresponding to 24.8%, work at Higher Level and 466 professionals, representing 41.0%, work at Baccalaureate. It is evident that a large majority of the professionals investigated in the subject of Mathematics perform their academic functions at the Baccalaureate Level.

It should be noted that, of the 1,135 professionals surveyed, 987, corresponding to 87.0%, are teachers by profession; 93, representing 8.2%, have a university degree in engineering; four professionals, corresponding to 0.4%, have the title of architects and 51, representing 4.5%, have other professionals not related to teaching. All this allows us to identify that the vast majority of professionals who teach classes in the subject of Mathematics are pedagogues with a university degree.

In addition, the chronological age reaches an average of 41 years. Regarding the years of graduation from the University, they present an average of 14.71 years; Regarding the years of work experience within the

educational system, they reach an average of 14.56 years, which may mean that, when presenting a mature age and with a wealth of expertise in the teaching field, their level of knowledge and application within their work daily is adequate and efficient.

According to the objectives of the research, descriptive techniques of data analysis, comparison of mean differences, correlation techniques such as Spearman's correlation coefficient were used. In this sense, prior to the application of the instruments, a pilot test was established in 10% of the population that agreed to participate. With this information, the internal correlation coefficient was calculated, which was established both at a general level and in each of the components, using the SPSS computer tool. In this way, the questionnaire obtained a total reliability of the test of 0.768, which is equivalent to a moderate level of reliability. In each of the indicators it was found that the identification of students with Intellectual Endowment presents an alpha of $\alpha = .658$ which corresponds to questionable. For the detection of students with intellectual endowments, the index was $\alpha = .804$, equivalent to good reliability.

RESULTS

The data obtained were analyzed following an ex post facto design; for this, and in accordance with the objectives of the research, descriptive and inferential statistics were used for data analysis.

The results that are exposed next were carried out according to the objectives of the investigation in:

Table 1- Descriptive statistics of questionnaire 1 applied to teachers

	Min.	Max.	Half	Standard deviation
Identification of gifted students	4	8	5.1	1.2
Detection of gifted students	3	20	13.1	3.2

Of the teachers investigated, it is observed that, in the indicator of Identification of students with intellectual endowment, it reaches an average of 5.1, which means that the identification by the mathematics teachers is not adequate. Regarding the Detection of students with intellectual endowment, it reaches an average of 13.1, which represents that a good part of the investigated population has the knowledge to detect students with Intellectual Endowment or Genius. Considering that identification is related to the level of theoretical knowledge about the characteristics of people with high cognitive abilities in all areas of their life; meanwhile, the detection is aimed at knowing if teachers have been able to find students with high cognitive abilities in the classroom. In all indicators, the population is heterogeneous in its level of responses. Therefore, it is essential to generate spaces for reflection from the academy and the MinEduc on the importance of teaching and training new and old teachers in pedagogical work, on Intellectual Endowment or Geniality to achieve a fair and just society with the cognitive, emotional and social needs, interests, motivations of the students, as part of the social diversity in which we operate.

Table 2- Students identified in their classrooms with a diagnosis of Intellectual Endowment or Geniality

		Freq.	%	Valid %	Accum. %
Valid	NO	672	59.2	59.2	59.2
	YES	463	40.8	40.8	100.0
	Total	1135	100.0	100.0	

As can be seen in table 2, of 1135 teachers investigated on whether they have identified students in their classrooms with a diagnosis of Intellectual Endowment or Geniality, 672 teachers, corresponding to 59.2% mention that they have not identified; while 463 teachers, representing 40.8%, indicate that they have identified and have students with a diagnosis of Intellectual Endowment in their classrooms. It is evident that there is a low percentage of identification, which may be due to the fact that, according to the scientific literature, only 2% of the population may present traits of intellectual endowment.

Table 3- Find out if your Educational Institution has identified cases with a diagnosis of Intellectual Endowment or Geniality

		Freq.	%	Valid %	Accum. %
Valid	NO	875	77.1	77.1	77.1
	YES	260	22.9	22.9	100.0
	Total	1135	100.0	100.0	

Table 3 shows that 1135 teachers questioned about whether they know if their Educational Institution has identified cases with a diagnosis of Intellectual Endowment or Intellectual Endowment, 875 teachers, corresponding to 77.1% mention that they have NOT been identified; while 260 teachers, representing 22.9%, indicate that they have identified other cases have been identified in the educational establishment where they work. There is a low percentage of identification within Educational Institutions; this may mean that there is ignorance about traits or characteristics of Intellectual Endowment on the part of

teachers, due to shortcomings within the initial teacher training and little training within their years of teaching experience.

Table 4- Has knowledge of whether the Ministry of Education, as the governing body of education, has been concerned with the identification of students with Intellectual Endowment or intellectual endowment

		Freq.	%	Valid %	Accum. %
Valid	NO	924	81.4	81.4	81.4
	YES	211	18.6	18.6	100.0
	Total	1135	100.0	100.0	

Regarding table 4, it appears that 1135 teachers investigated on whether the MinEduc as the governing body of education, has been concerned about the identification of students with Intellectual Endowment or Geniality, 924 teachers, corresponding to 81.4% mention that the governing body of education in Ecuador has NOT been concerned about this population; while 211 teachers, representing 18.6%, indicate that in effect the Ministry of Education has been concerned with the identification of these students. It is evident that the great majority of the population perceives little commitment in the identification of students with Intellectual Endowment, on the part of the MinEduc. This may be due to the fact that as a society it has not been necessary or important to think about public policies in favor of this population, being a relatively low number in relation to intellectual disability. There is even the conception that people with high cognitive abilities can face academic, social and other challenges individually, without the need for support or curricular adaptations.

Table 5- Know the legal rules to identify and meet the students with intellectual or Geniality Endowment

		Freq.	%	Valid %	Accum. %
Valid	NO	803	70.7	70.7	70.7
	YES	332	29.3	29.3	100.0
	Total	1135	100.0	100.0	

Of 1135 teachers investigated on whether they know the legal regulations to identify and attend to students with Intellectual Endowment or Geniality, according to table 5, 803 teachers, corresponding to 70.7% mention not knowing about the regulations; while 332 teachers, representing 29.3%, indicate that they DO know the legal regulations. It is evident that the vast majority of the population is unaware of the existence of a regulation and ministerial agreements issued since 2012 and the last one in 2016, where the two degrees of curricular adaptation used by teachers in response to this special educational need are determined. . This may influence that teachers do not feel the need to be trained in knowing the features of intellectual endowment, on the other hand, of the didactic strategies that allow adequate attention to this student population.

Table 6- Correlation between dimensions

		ID	DETECTION
Identification of intellectual endowment	Spearman correlation	1,000	.050
	Sig. (Bilateral)		.090
	N	1135	1135
Intellectual endowment detection	Spearman correlation	.050	1,000
	Sig. (Bilateral)	.090	
	N	1135	1135

According to the reference in table 6, there is no significant correlation between the Identification of students with Intellectual Endowment and the Detection of Intellectual Endowment indicator; Spearman's correlation ($\rho = 0.050$) corresponds to a

weak level, as the Identification of students with Intellectual Endowment increases, the Detection of Intellectual Endowment does not increase.

DISCUSSION OF RESULTS

The present study yielded expected results regarding the identification of students with Intellectual Endowment or Geniality in the Educational System, since it was confirmed that most of the teachers of the subject of Mathematics who participated in the research have not identified this group of students in their classrooms or institutions, which may be due to the fact that, according to the scientific literature, only 2% of the population may present traits of intellectual endowment. As Sánchez (2014) explains "(...) certain teachers come to venture opinions such as that they are students with attention deficit and / or hyperactivity, anxious, unmotivated with a tendency to isolation... The truth is that around 2% of the population has high intellectual capacities and, obviously, the lack of support and encouragement towards these children supposes a failure of the educational system" (p.84).

In addition, the literature explains that 35% of people with Intellectual Endowment traits do not obtain adequate academic performance and do not reach the University. In this sense, in Ecuador an official survey has not been carried out to know the percentage of the population with a diagnosis of Geniality or Intellectual Endowment, since the attempts made by the MinEduc have not been successful; first, because it is not seen as relevant in relation to knowing the number of people with intellectual disabilities, second because it is known that the few diagnosed cases have not been identified in the country and third because there is not a number of expert professionals to its detection and diagnosis.

As for whether the MinEduc as the governing body of education has been concerned with the identification of students with Intellectual Endowment or Geniality, the vast majority of the population appreciates an insufficient commitment on the part of this governmental body. This, in comparison with other neighboring countries where their Ministries of Education have generated concrete actions for detection and timely intervention for several years, as is the case of Colombia. According to Villarraga, Maz and Torralbo (2004) cite the General Law of Education 115-1994, where the responsibility of the state with this population is specifically made manifest, thus, in Art. 49 it is established that "The National Government will facilitate in educational establishments the organization of programs for the early detection of students with exceptional abilities or talents and the necessary curricular adjustments that allow their comprehensive training" (p.94). In other words, strategies were implemented for the early detection of boys and girls with exceptional talents and abilities, promoting curricular flexibility and ensuring the integration of the student into their educational community.

Likewise, in Peru, as indicated by Gutiérrez (2004):

The efforts made by the Special Education Unit of the Ministry of Education to sensitize the Peruvian community about the importance of caring for talented and gifted children and young people have made it possible for the new Education Law 28044 (...) to establish the next: Promotion of specialized educational programs for the most talented students, in order to achieve the development of their potentialities (Art. 18, subsection F) (p. 144).

These actions undertaken by the state portfolio show the government's concern to strengthen and consolidate the academic competencies of students, in order to enhance the skills and capacities of students with intellectual endowment.

In the same way, other countries that have had an adequate development in terms of identification, detection and intervention can be mentioned; the opposite to Ecuador, since only in 2012 the Intellectual Endowment is considered within the regulations, and for 2016 the MinEduc considers the student with superior endowment, high cognitive abilities or genius as part of a defined group of students with Needs Special Education (SEN) not associated with disability. By 2020, an instruction manual for educational attention with superior endowment / high intellectual capacities is issued in the national system, a document that establishes measures and resources to stimulate the personal, intellectual, social and affective-emotional development of the student. This makes it possible to recognize the importance of this marginalized population, to achieve the elimination of those prejudices and misconceptions that mitigate their needs or requirements for curricular differentiation for access, permanence, learning, evaluation and successful completion of the national educational system.

On the other hand, the majority of the population investigated affirms that they are unaware of the legal regulations to identify and attend to students with Intellectual Endowment or Geniality, which is a wake-up call, both for the Universities that train professionals in education pedagogy of Mathematics and MinEduc, since the two instances are in charge of academic and continuous training, respectively. In this sense, Tourón and Reyero (2000) state that "The training and information available to teachers on the subject of high abilities is, on many occasions, very scarce, which makes their identification and development of educational measures suitable

difficult."(p.58). this lack of professional commitment regarding training and information in a continuous and systematic way, can influence so that teachers do not carry out an adequate work during the teaching process.

In the study carried out in 214 educational institutions in the province of Pichincha, with a population of 1,135 teachers of the subject of Mathematics, distributed in the levels of basic elementary, basic middle, basic superior and high school; Statistically, it was determined that there is no relationship between the identification of students with Intellectual Endowment and the detection of this population.

Considering that the detection admits that the teacher possesses the knowledge of the characteristics to observe explicit and implicit characteristics that allow reaching the diagnostic presumption of the students with intellectual endowment. The population of teachers reached an adequate percentage in terms of knowledge of differential traits between students with a normal IQ and those who belong to the group of Intellectual Endowment.

On the other hand, the identification would allow to locate the students with traits of Intellectual Endowment within a community; The teachers of the Mathematics subject reached a lower percentage than the average when identifying students with Intellectual Endowment traits in their classrooms, which may be due to the fact that only 2% of the population worldwide has high cognitive abilities. This means that, of the 698,804 students concentrated in 2,537 Educational Institutions in the province of Pichincha, approximately 13,976 boys, girls or adolescents between 5 and 18 years old would be expected to present traits of Intellectual Endowment, that is, each Educational Institution would have approximately six students distributed in the four levels. With these data and those collected from the survey, it can be indicated

that, in general, the level of identification of students with Intellectual Endowment traits is not adequate in Ecuador, since the Ministry of Education itself has not bothered to generate public policies for efficient and effective care for this population, which may be due to the fact that the population with intellectual disabilities is greater at the national level, concentrating a greater percentage in the largest provinces, both at the level of territory and population, such as Guayas and Pichincha. Therefore, this population becomes a priority for the state, leaving aside the population with intellectual endowment.

Along the same lines, the teachers showed a high level of ignorance of the legal regulations, that is to say, they are unaware that in the regulation of the Organic Law of Intercultural Education, Intellectual Endowment is briefly mentioned as a special educational need; Furthermore, there are currently agreements and instruments in which the levels of curricular adaptation that should be carried out with this population are mentioned in an ephemeral way.

In relation to the previous analogy, it is necessary to understand it from the field of education, which has been conceived in Ecuador as a process of training and transmission of knowledge by teachers towards the student population, all being classified as the same, regardless of their characteristics or educational support needs. This means that the same learning environment becomes tedious and even confusing for many children or adolescents who feel tied to an inflexible system, where the same initial training of teachers does not allow each person to strengthen or enhance their abilities, capacities and skills.

BIBLIOGRAPHIC REFERENCES

- Albes, C., Aretxaga, L., Etxebarria, I., Galende, I., Santamaría, A., Uriarte, B., y Vigo, P. (2013). Orientaciones educativas. Alumnado con altas capacidades intelectuales. Vitoria-Gasteiz: Gobierno Vasco. Departamento de Educación, Política Lingüística y Cultura.p.78. Obtenido de https://www.observatoriodelainfancia.es/oia/esp/documentos_ficha.aspx?id=5981
- Agudo, N. (2017). A student with high abilities in my classrrom. Now what?. *Revista Nacional e Internacional de Educación Inclusiva*, 10(1): 265-277. Obtenido de: <http://www.revistaeducacioninclusiva.es/index.php/REI/article/view/292/287>
- Ardilla, R., (2011). Inteligencia. ¿Qué sabemos y qué nos falta por investigar? *Rev. Acad. Colomb. Cienc.* 35(134): 97-103. Recuperado de: <http://www.scielo.org.co/pdf/racefn/v35n134/v35n134a09.pdf>
- Barraca Mairal J., y Artola González, T. (2004). La identificación de alumnos con altas capacidades a través de la EDAC. *Revista de Psicología y Psicopedagogía*. 3(1), 3-18. Obtenido de: <http://repositorio.ucjc.edu/bitstream/handle/20.500.12020/100/C00028507.pdf?sequence=1>
- Barrera-Algarín, E., Sarasola-Sánchez-Serrano, J., Fernández-Reyes T. y García-González A. (2021). Déficit en la formación sobre altas capacidades de egresados en Magisterio y Pedagogía: Un hándicap para la Educación primaria en Andalucía. *Revista de Investigación Educativa*, 39(1), 229-226. Recuperado de: <https://revistas.um.es/rie/article/view/422431/298891>
- Fernández, María Teresa (2019). Actualización en Salud Mental: "Altas Capacidades Intelectuales". Sevilla: Andapap Ediciones. Recuperado de: http://www.pediatrasandalucia.org/wp-content/uploads/2019/06/LibroCadiz2019_compressed.pdf
- Fernández, María Teresa (2020). Altas capacidades Intelectuales. Madrid: Lúa Ediciones. Recuperado de: https://www.aepap.org/sites/default/files/documento/archivos-adjuntos/congreso2020/507-514_Altas%20capacidades.pdf
- Gutiérrez López, L. (2004). *La educación de niños con talento en Perú*. La educación de niños con talento en Iberoamérica, 143-152. Santiago de Chile: Editorial Trineo. Recuperado de: https://sid.usal.es/idocs/F8/FDO23188/educacion_ni%C3%B1os_talento_beroamerica.pdf
- Higuera-Rodríguez, L., & Fernández-Gálvez, J. (2017). The role of the family in the education of children with high intellectual capacities. *International Journal of Educational Research and Innovation (IJERI)*, 7, 149-163. Recuperado de: <https://www.upo.es/revistas/index.php/IJERI/article/view/2328>
- Luque Rojas, M., y Luque Parra, D. (2017). Dificultades de aprendizaje y altas capacidades intelectuales: Análisis de un caso. *Revista Nacional e Internacional de Educación Inclusiva*, 213. Recuperado de:

- <https://dialnet.unirioja.es/servlet/articulo?codigo=6049222>
- Ministerio de Educación del Ecuador (2020). Instructivo para la atención educativa a estudiantes con dotación superior/altas capacidades intelectuales en el sistema educativo nacional. Ecuador: Dirección de Educación Especializada e Inclusiva. Recuperado de: <https://educacion.gob.ec/wp-content/uploads/downloads/2020/10/Instructivo-para-atencion-educativa-dotacion-superior.pdf>
- Sánchez, A. (2014). *Altas capacidades intelectuales: sobredotación y talentos Detección, evaluación, diagnóstico e intervención educativa familiar*. Alcalá España. Editorial Formación Alcalá - 2da. Ed.
- Tourón J. y Reyero M. (2000). La identificación de alumnos con alta capacidad: un reto pendiente para el sistema educativo. Madrid: Sociedad española de Pedagogía. Recuperado de: <https://dadun.unav.edu/bitstream/10171/19974/1/La%20identificaci%C3%B3n%20de%20alumnos%20de%20alta%20capacidad.pdf>
- Tourón, J. (2004). *De la Superdotación al talento: Evolución de un paradigma*. Pedagogía Diferencial, Diversidad y Equidad. Madrid: Pearson Educación. 369-400. Recuperado de: <https://dadun.unav.edu/bitstream/10171/19959/1/De%20la%20superdotacion%20al%20talento.pdf>
- Villarraga M., Maz Alexander y Torralbo M. (2004). *La educación de niños con talento en Colombia*. La educación de niños con talento en Iberoamérica, 93-103. Santiago de Chile: Editorial Trineo. Recuperado de: https://sid.usal.es/idocs/F8/FDO23188/educacion_ni%C3%B1os_talento_iberamerica.pdf

Conflict of interest:

Author declares not to have any conflicts of interest.

Authors' Contribution:

The author has participated in the writing of the work and analysis of the documents.



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