

A TEACHER AS SCIENTIST: CABÓS POPULARIZING PSYCHOLOGICAL TESTING IN CATALONIA

**Vanessa MORENO LOZANO, Annette MÜLBERGER,
Andrea GRAUS FERRER, Mónica BALLTONDRE PLA**

Centre d'Història de la Ciència (CEHIC), Universitat Autònoma de Barcelona, SPAIN

vanessa.moreno@campus.uab.cat

annette.mulberger@uab.cat

andrea.graus@gmail.com

monica.balltondre@uab.cat

Abstract

The present paper deals with the intelligence testing applied and promoted by a Catalan teacher called Llorenç Cabós in the 1920s. This teacher of a graded school of Barcelona decided to learn by doing, organizing a series of paper and pencil testings in the classroom. Our research evidences the supportive policy of the local government for such an initiative and how a local daily newspaper referred to the event as a kind of scientific spectacle.

The thesis we defend is that there was no need in Catalan schools to classify students but a clear interest to professionalize teacher's career and to promote certain schools. Testing meant to Cabós to run an experiment. Tests were easy to get and to be used to obtain numeric results. Whatever these numbers meant, Cabós interpreted them as a direct contribution to science.

Introduction

In Spain some pedagogic reform initiatives appeared in several places, especially in the areas in and around the cities of Madrid and Barcelona. As we will see, in Catalonia the specific local and political context left space and even empowered new proposals in the field of pedagogy with a clear interest in psychological issues (see also Cerezo, 2001 and Moreu, 2000). This tendency became more evident in the 1920s, a decade in which new topics like "intelligence" were raised. Our main interest lies in knowing how psychological testing methods were perceived, used and spread in the local Catalan context. Therefore, the paper will focus on the initiative of using psychological measurement in pedagogy pursued in the 1920s by the pedagogue Llorenç Cabós.

We will approach our topic by tracing, in the first place, the political and social context. The twentieth century started in Catalonia displaying strong social conflicts. The first general strike organized in 1902 in Barcelona is a good example for the workers growing reaction towards the new capitalist power of Catalan industry. The tragic week in 1909 and the crisis of

1917 evidenced an extended discomfort, certain instability of the middle classes, and growing strength of the workers movement.

In such a setting, marked by social changes and tensions, we find several groups that viewed school as a medium to enhance their political interests and social values (Cuesta, 1994). One group can be characterized as the conservative, Madrid-oriented Catholic sector, enhancing traditional schooling organized by religious congregations. A second group was the liberal and republican bourgeoisie looking for an inter-confessional school system. These reforms were often strongly influenced by and connected to the *Institución Libre de Enseñanza* of Madrid. In their attempt to reform the educational system they took over the spirit of modern pedagogy based on the child's needs. Some of them defended the right of the child to receive education in their mother tongue, which meant the introduction of Catalan as official school language. A third group of schools underlined the necessity of laic instruction to ensure confessional liberty. Also from the anarchist workers similar initiatives for a school reform were launched, exemplified by Ferrer's "Escola Nova" (Cuesta, 1994).

In this paper we will focus on an impulse for mental testing that came from a Catalan teacher called Llorenç Cabós i Badia, linked to the third, rationalist, group of Ferrer i Guardia. The former worked in one of the public graded schools in Barcelona. The reason why we deal with his work here is twofold: first, he became one of the main popularizers of psychological testing in Barcelona and, second, he was the first to adapt intelligence tests to the Catalan linguistic context.

He was no lonely forerunner but one of the historical actors within a social and institutional network that opened space and even enforced projects dealing with the introduction of psychological testing in the classroom of Catalan schools. At a time of renaissance of Catalan industry and culture, the regional Government (Mancomunitat) was actively trying to improve primary education. In this regard the policy and political intervention developed around 1920 by the regional government and the Barcelona city hall was clearly supportive.

A pedagogue introduces himself into the world of testing

In the Catalan newspaper *La Vanguardia* of the 19th of March 1922 as well as in the pedagogical journal in Madrid "*Revista de Pedagogía*" (1922, I, 4, p. 160) we find an anonymous note informing about the visit of teacher-students to Cabós' school to see a trail in infantile intellectual measurement applied to one case. It was a "public demonstration" only for a group of students trained to become teachers. The newspaper commented that the mental testing presentation was made with great exhibit of skills ("*con gran maestría*") by Cabós, using the Binet-Simon test. The newspaper *La Vanguardia* wrote that in the end "*the visitors remained extremely satisfied with such a practical lesson*" (LV, 19th of March 1922; p. 11).

Cabós was a teacher at a graded school located at the "Paseo San Juan" (n° 43) in Barcelona, interested in psychological testing methods. In 1920 he published the results of a seemingly auto-didactical application of the Yerkes, Bridges and Hardwick test to 100 schoolboys (with ages between 7 and 14 years) (Cabós, 1920). The American scale was a modified version of the Binet-Simon edited in 1915 under the title "*A point scale for measuring mental ability*" by Warwick & York (Baltimore). At that time, several psychological testing systems were sold on the Spanish market¹. Cabós informed that he had other scales available but that he started applying this one for no other reason than for "having it at hand".

In his report it is clear that the local authorities supported him on this behalf. He thanked the school director and the Cultural Committee of the Barcelona city hall (Comissió de Cultura de l'*Ajuntament de Barcelona*). This Committee, created in 1917 under the direction of Manuel Ainaud i Sànchez, was efficient in ameliorating the public school service in the city by carrying out an ambitious plan that included the establishment of several new well-equipped public schools (called "Grups Escolars"). The report published by this committee in 1916 shows clearly the intention of the city hall to support pedagogy, understood as modern science of the child. Already in 1911 Eugeni d'Ors, a member of the committee, had recommended Catalan teachers to apply this new technique in order to register and classify retarded schoolchildren. Now that Cabós was willing to work on a trail run, the Committee supplied the school with a substitute teacher for the course 1920-21 permitting Cabós to dedicate his time to the testing. The policy of the city hall of that time clearly enforced pedagogy as research project and training program for teachers and enhanced local applications and adaptations of intelligence tests.

Before exposing the results in detail Cabós announced his positive impression that "*The Barcelonian child is calculating, ingenious, lively and mischievous*", he stated satisfied (Cabós, 1920, p. 41). After examining 100 children of different ages he could show with the help of tables and graphs, the intellectual superiority of the local infantile population. Here we reproduce one of the tables where he compares his scores with the lower scores obtained by Yerkes-Bridges (Cabós, 1920, p. 44):

¹ The Yerkes et al. scale cost 2 dollars at that time; for a list of different tests (see Herraiz, 1995).

			Yerkes-Bridges	Nosotros
5	años, puntos...	...	22	31
6	»	»	29	35
7	»	»	34	41
8	»	»	39	50
9	»	»	52	55
10	»	»	59	61
11	»	»	64	69
12	»	»	64	73
13	»	»	74	74
14	»	»	78	78,5

In 33% of the children he diagnosed a slight backwardness, while 62 % were advanced with regard to their age. Only in 5% of the cases the mental age was the same than the chronological age. These results are surprising because previous attempts to apply intelligence tests had evidenced a lower performance of Spanish children (Comissió d’Instrucció Pública i Belles Arts, 1916).

Cabós’ contribution (1920) ended with three conclusive statements. First, he could inform that the application of the metric scale of intelligence is really easy. This statement surely invited other teachers to follow his example. Secondly, in his opinion the application of psychological tests should be made compulsory for graduate schools, where there is enough personnel to take care of this service and therefore not to be applied in unitary schools. This meant that only certain privileged, bigger schools should or could organize massive psychological testing. Although the school service of the city was still deficient in the 1920s Barcelona was proud of some modern (private) “model” schools like the “Escola del Mar” or the “Escola Horaciana”. Thirdly, Cabós insisted in the importance of keeping a register of the achieved results for each student.

Expressions like the following: “acts say more than words” (Cabós, 1920, p. 44) show his preference for quantitative information and the value he gives to numbers *per se*. This becomes evident in his report where he dedicated more space to expose numeral results than to interpret them. In his opinion: “the view of these numbers invites the reader to numerous thoughts which should be made by himself” (Cabós, 1920, p. 43).

The attraction of testing: popularizing psychological testing with the help of public demonstrations

Noticing general interest in his testing and his success of his public demonstration, Cabós promised to complete the demonstration very soon. This time he would apply the Terman test (1916), a popular intelligence test which was a revised version of Binet-Simon’s. The most important difference was “mental age” being replaced by “intelligence quotient”.

About five weeks later, news on Cabós performances with testing appeared again in the newspaper. Now it was Cabós who went to the teacher’s school (“Escuela Normal de Maestros”) to give a public demonstration of the use of the Terman test. He applied it to measure the intelligence of a 15 years-old boy. With regard to the tasks included in the test the newspaper comments: “These vary in number and in difficulty, depending on the age (...). They are accurate and demanding, some did call the attention because of their ingenuity”. All in all, it was clear that “The experiment resulted (to be) very interesting...” (see Notas in *La Vanguardia*, 2nd of May 1922; p. 5).

In a second publication in the “Journal of Pedagogy”, Cabós (1922) analyzed more carefully the performance of his children in each task. Therefore he recognized the linguistic problems of his sample. The task of constructing a sentence using three given words, for example, resulted very difficult, being solved only by 37 % of the schoolboys. The explanation of this result comes right away: “The language tasks are more difficult for bilingual persons” (Cabós, 1922, p. 94). The majority of his school children were Catalan or Valencian. They spoke two languages: their mother language and Spanish.

Mental testing was something new to the Catalan public, although there were some schools proud of working with personal “anthropometric profiles”, introduced in selected schools like the graded primary schools “Districte VI”, directed by the physician Estrany. This school counted with a complete medical support permitting a technical control of the schoolchildren with regard to physical, psychological, and pedagogical variables (Galí, 1979). Another similar school that could count with medical and psychological support was the “Escola Horaciana”. Galí informs of a regular psychological control that was carried out in these private schools to know the intellectual age of each child.

It is important to keep in mind that Cabós did not have any formal training as scientific researcher in psychology or in psychological measurement. His audacious decision to “learn by doing” turned him into an attractive example or forerunner, a courted expert during a time in which curiosity and interest for this new scientific way of doing pedagogy was growing in the local setting. For this reason he received invitations, such as to give a course at the Barcelonan Teacher Association on “the measurement of intelligence” (see Notas in *La Vanguardia*, 8th of July 1923, p. 5) and lectures at the Teacher’s summer

school. The way in which he introduced the intelligence measurement in the first course for teachers shows that for him the application of a mental test meant to run a psychological experiment. Testing was perceived as a way to introduce scientific methods into the field of pedagogy. In order to know what he presented in the second course it is worthwhile to take a closer look at the report of the summer school.

The teacher's summer school: a place to spread mental testing

After his start into psychological testing, Cabós was pushed further into intelligence measurement by the *Federation of Catalan National Teachers (Federació de Mestres Nacionals de Catalunya)*, which was the entity that asked him to lecture on this subject in the Summer School for teachers of 1922 held in Barcelona (Cabós, 1923; Monés, 1977).

This Federation unified several local teachers associations that had emerged after 1901. Previous to the creation of a teacher's trade union, it tried to supply support to public teachers and cooperated between 1914 and 1923 with the pedagogical reform initiatives launched by the city hall and the regional government (Monés, 1977). One of these initiatives was the Summer School for teachers (*Escola d'Estiu*) held during this period as an intensive course of one month of duration during school vacations to foster pedagogical training for professionals in the field of education. The school offered an interesting forum for a debate about recent pedagogical tendencies and methods. No wonder topics like abnormality, intelligence, and psychological diagnostic methods were dealt. Surely Claparède's personal visit and participation as invited lecturer in the summer school of 1920 helped to enforce interest in these topics.

Using foreign intelligence tests, Cabós recognized the need to adapt the language test to the Catalan speaking population. In a talk he gave at that teacher's summer school (Cabós, 1923) he informed about an adaptation he had made of the Terman vocabulary test. This test consisted in asking the child to define words like friendship, laughing, and cinnamon counting the number of correct definitions.

Instead of preparing a list of the most common words used by his local population he preferred to translate the list of A.M. Aguayo's collection of Spanish words assembled in Cuba (see Aguayo, 1921) into Catalan. Thus, Cabós explained: *"Taking into account the need of work in Catalan, we have limited ourselves to translate, as exactly as possible, the Spanish Vocabulary of Dr. Aguayo, evidently as a provisional measure, willing to modify it due to the demand of the practical application which will hopefully get extended all over Catalonia"* (Cabós, 1923, p. 55).

Cabós not only adapted the test itself to the local language, he also prepared a booklet for the application of the Terman scale (*Quadern-registre*) in Catalan language. The text was edited by the Committee for education of the city hall and distributed for free at the teacher's summer school. The handing out of this material together with his explanations on the different tasks of the test was a clear invitation for Catalan teachers to apply intelligence tests in their respective classrooms. He ended his talk insisting in the necessity for the modern teacher to have at hand an *"accurate research instrument"* (Cabós, 1923, p. 59).

Here we reproduce the first two pages of Cabós' record-booklet for the Terman scale².



² We thank Salvador Domènech for sending us this material.

The local city hall made possible the distribution for free of a booklet with instructions, tasks and the register of results translated into Catalan by Cabós. His public demonstrations, his lectures at the summer school and other teacher's meetings, his publications in several pedagogical journals like the *Butlletí* (also distributed for free to the Catalan teachers, sponsored by the regional government), helped to spread mental testing in Catalan schools.

In our view psychological testing did not start as a result of a local need to classify children by their mental age or IQ in public schools of Barcelona. It seems to have been a way to professionalize the work of the teacher, to turn the teacher into a scientific researcher (see Mülberger's paper in this session). The competition between schools enforced a comparison. Therefore Cabós refers proudly to his modern, graded school and the intelligent Catalan children present in its classrooms. He was eager to show the intellectual superiority of his sample. In the case of the linguistic task in which his children did not perform that well, he excused them, mentioning their bilingualism. At this moment he recognized the need to translate the language task into Catalan. Whereas the pedagogical laboratory under the direction of Dwelshauvers would soon undertake a sampling of the most used Catalan words, Cabós at that time had no other repertoire at hand than a word list elaborated in La Habana.

References

- ANÓNIMO (1922). Notas. *La Vanguardia*, 19th of March 1922, p. 11.
- ANÓNIMO (1922). Noticias. *Revista de Pedagogía*, año I, nº 4, p. 160.
- ANÓNIMO (1922). Notas. *La Vanguardia*, 2nd of May 1922, p. 5.
- ANÓNIMO (1923). Notas. *La Vanguardia*. 8th of July 1923, p. 5.
- AGUAYO, A.M. (1921). El vocabulario de los niños cubanos, *La Escuela Moderna*, 31, 353, p. 111-122.
- CABÓS, L. (1920). Un curso de psicometría práctica en una escuela nacional de Barcelona, p. 39-44. *Inspección médico-escolar de Barcelona*. Barcelona: Tip. La Academia de Serra y Rusell.
- CABÓS, L. (1922). Un ensayo de medición intelectual infantil. *Revista de Pedagogía*, año I, nº 3, p. 90-94.
- CABÓS (1923). La mesura de la intel·ligència. *Escola d'Estiu, any 1923: resums de l'any 1922, lliçons i conferències, treballs dels alumnes, informació*. Barcelona: Consell de Pedagogia.
- CEREZO, M. A. (2001). *Los comienzos de la psicopedagogía en España (1882-1936)*. Madrid: Biblioteca Nueva.
- COMISSIÓ d'Instrucció Pública i Belles Arts (1916). *Informe-propuesta de la Comissió d'Instrucció Pública i Belles Arts para la fundación de los laboratorios de psicología experimental y pedagogía*, Barcelona, 23 de Junio de 1916. (document de l'Arxiu històric de la Diputació de Barcelona).
- CUESTA, P. (1994). *La escuela en la reestructuración de la sociedad española (1900-1923)*. Madrid: Siglo XXI.
- D'ORS, E. (1911). Medida convencional de la inteligencia para la determinación y clasificación de los atrasados, *Revista de Educación*, 1, 2, 106-108.
- GALÍ, A. (1979). *Obra completa. Història de les institucions i del moviment cultural de Catalunya, 1900-1936. Llibre II: Ensenyament primari. Segona part*. Barcelona: Fundació Alexandre Galí.
- HERRAIZ, M. G. (1995). *Aproximación a la educación especial española del primer tercio del siglo XX*. Tesis doctoral de la Universidad de Castilla-La Mancha.
- MONÉS, J. (1977). *El pensament escolar i la renovació pedagògica a Catalunya (1833-1938)*. Barcelona: La Magrana
- MOREU, A. (2000). *La Psicopedagogía en España, 1875-1936 : la construcción interdisciplinar de un entorno educativo*. Universitat de Barcelona: Tesis Doctoral.
- YERKES, R. M. (1915). A point scale for measuring mental ability, *Proceedings of the National Academy of Sciences of the USA*, February; 1(2): 114-117.