

# Teachers and industrial education (from the last quarter of the 19th century to the mid- -20th century)

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## ABSTRACT:

By the second half of the 19th century, technical education was faced with the urgent need to implement a set of conditions capable of guaranteeing the training of qualified professionals whose skills would contribute to the economic development of the country. Initially, the difficulties in finding teachers were overcome only with great difficulty. All kinds of expedients were mobilized in the attempt to supply teachers with the required qualifications — lack of selectivity, incentives, foreign recruitment.

Early in the 20th century, the *Associação dos Professores das Escolas Industriais e Comerciais* — APEIC [Association of Industrial and Business School Teachers] was created, and became a key mediator in technical education, acting on various fronts and wielding considerable influence among government and the ruling classes. The bulletin published by the APEIC became a forum for discussion on recruitment, educational methods, technical education and associativism. The appearance of the bulletin marked the beginning of a greater preoccupation with the recruitment process, and with initial and ongoing training. Symptomatic of this increased awareness was the creation (by decrees 5 029 of 1 December 1918 and 6 414 of 23 February 1920) of a design school, the *Escola Normal para o Ensino de Desenho*.

Under the dictatorship, some efforts were made to improve training and the status of technical education (under legislation passed in 1926, 1930, 1931 and, above all, 1948), but these never succeeded in placing technical education on a par with lyceum education.

## KEYWORDS:

Teaching profession, Teacher training, Technical education, Associação de Professores das Escolas Industriais e Comerciais [Association of Industrial and Business School Teachers].

## INTRODUCTION

Industrial and commercial education in our official establishments does not correspond, despite the successive reforms it has undergone, to the requirements of the country. I am mainly referring to elementary education in our industrial and commercial schools, which has not followed stable and uniform criteria and has therefore yet to shape a definitive regime of use to the national economy.

Founded merely on the initiative and action of the government, with the intention either of developing industry or facilitating commercial relations, our schools have remained in a more or less abstract sphere, cut off from the respective sources of growth, because they have failed to find, as would have been necessary, in the elements of national life the utilitarian criterion which would relate them closely and logically with the needs and legitimate aspirations of our industry.

(...) In Portugal we do not bother training teachers: we do not found normal education. Teachers of different backgrounds and diverse schools of thought have come from other countries, but they did not establish the normal school from which future Portuguese teachers might come. These [foreign] teachers have been placed in empty industrial schools, where they profess the education they have brought from their own countries, in a complete and almost general arbitrariness and lack of connection, considered from an educational and utilitarian perspective (...) (Report of Decree of 24 November 1898).

In the 19th century, political imperatives prevailed over economic or educational initiatives. With the problem of the inception of liberalism awaiting solution and with the rougher edges of the extremist currents yet to be rounded off, it was impossible to adopt a serious orientation in the field of education. With the relative political stability that came after 1851, education was now viewed in a different light — not just because ideological enlightenment was fundamental in terms of political choice, but also because the country urgently needed properly qualified producers. Shortening delays in the diverse sectors of the economy meant training labour capable of associating quality with quantity. Economic progress was now closely linked with technical, industrial, commercial and agricultural education.

Between the statement of the objectives and principles and the actual creation of a national network of schools there elapsed over a quarter of a century (1851 to 1884) and, in addition to the financial questions related with investment in the schooling stock, one major difficulty was the recruitment of teachers for highly-specialized posts.

This paper proposes to examine industrial education and its agents in the latter half of the 19th century.

## TEACHERS AND THE REFORMS OF 1852, 1864 AND 1869

Training required not only instructors who were competent in the professional content of curricula,

but also — given the limited entry qualifications of students, teachers capable of acting beyond a strictly technical remit. In mobilizing this dual competence, they had also to cope with the limitations of an educational system which was still in its infancy.

For the legislators of 1852, “(...) teaching personnel is comprised of Teachers and Technical Instructors” (Decree of 30 December 1852), contracted to each of the industrial institutes of Lisbon and Porto. By 1864, categorization of teaching staff was more hierarchized in accordance with content and function:

(...) 1st— and 2<sup>nd</sup>-level education shall be given in each of the industrial institutes by 1st class or ordinary teachers, and by 2nd class or auxiliary teachers.

1st class teachers shall be employed in the administration of the courses designated by the regulations.

The 2nd class teachers shall help those of the 1st class, administering, where the latter are legitimately impeded from doing so, the courses for which they are responsible; and shall administer the more elementary courses, also discharging any other school service assigned to them (...) (Decree of 20 December 1864).

The reforms of 1869 afforded a little more flexibility in the allocation of teaching staff, requiring only that “(...) each chair shall be occupied by a teacher of life tenure (...)” (Decree of 30 December 1869), although this is potentially a misleading term since “(...) the first appointment to the posts occupied by the aforementioned teachers shall be temporary and probatory, and shall last two years (...)”. To guarantee the normal operation of the system, it was planned that “(...) where any teacher is prevented from doing so, or where the educational circumstances so require, the government, at the proposal of the school council, shall appoint a person suitably qualified for the exercise of the teaching for which he is charged (...)”.

The government was systematically present in all educational legislation of the latter half of the 19th century, a phenomenon closely linked with the growing state control over education during this period. The government was responsible for the inaugural appointment to the chairs of industrial education, via its sponsorship of entrance competitions

based on qualifications and its regulation of the public entrance examinations, which were sometimes a prerequisite for first appointments:

(...) The government shall make the first appointment to the chairs of industrial education (...) (Decree of 30 December 1852).

(...) Teachers employed in industrial education, either in institutes or schools, shall be appointed by the government on the basis of their qualifications (...) (Decree of 20 December 1864).

(...) The selection of candidates for appointment to teaching posts shall be by public entrance examinations (...) (Decree of 30 December 1869).

This interventionism was also visible in those situations — which were frequent during this early period — where not enough teaching resources existed on an internal level to fill the vacant teaching positions:

(...) The government shall, if it considers it essential, temporarily appoint foreign teachers and instructors for providing normal industrial education (...) (Decree of 30 December 1852).

Where people with the necessary qualifications for theoretical and practical education cannot be found, the government is authorized to seek individuals with the necessary qualifications in foreign countries (...) (Decree of 30 December 1869).

The government sought to give credibility to the industrial education system and to ensure a significant rate of recruitment. Despite its efforts, however, its detachment in regard to training was significant: on the one hand, an education in industry was still restricted to the institutes of Lisbon and Porto; and on the other, the message on the need for training had not yet got through to its intended recipients. Some curious expedients were devised in an attempt to get round this problem, as the 1869 legislation shows:

(...) In addition to their school duties the teachers of the 4th and 5th courses [“Elementary principles

of chemistry and physics” and “Design of models and machines”] from both institutes shall be obliged, during the two holiday months, to conduct industrial missions around the country, giving public lectures on the materials included in their respective courses in the industrial centres indicated to them by their school council (...) (Decree of 30 December 1869).

Thus teachers were expected to train and mobilize potential students of industry in these industrial missions. The success of education at this level depended greatly on their actions. And yet in contradiction to the importance of this mission were the persistent temporality of teachers’ appointments and the absence of an effective government policy on the extension of the school network.

## TEACHERS AND THE REFORMS OF THE LATE 19TH AND EARLY 20TH CENTURIES

Prior to the reforms of the turn of the century, and in the 1860s especially, governments had entrusted school instruction to *ordinary* teachers, who were occasionally assisted by an *auxiliary* in practical classes. Since the planned schools never came into being, we are unable to analyse how well this structure operated.

The legislation which led to the creation of the schools of industry and industrial design in the 1880s included special provisions on the entrance conditions, appointments and salaries of teachers. The content of this legislation exemplified some of the ruling concerns of this period: the need to secure competent teachers of any provenance, national or foreign; government intervention in teacher recruitment; the placing of the prerogatives of these teachers on a level footing with those of the teachers of the lyceums; the growing participation of teachers in the management of the educational system; and the need to provide teacher training for this field of education.

In the decree which creates the industrial school of Covilhã, there is a clear preoccupation with ensuring the permanence of the teaching corpus:

(...) Each of the disciplines created (...) shall be governed by a teacher of life tenure, appointed by the

government, following a selection procedure. These teachers shall receive a salary of 500 reis each per annum, and shall have status equivalent in category, prerogatives and benefits to lyceum teachers.

The first appointment shall be made by the government, without a selection procedure, from individuals possessing the qualifications and abilities essential for the proper performance of their respective positions, and the government may contract these individuals in other countries if it is unable to find them in the country (...) (Decree of 03 January 1884).

This wide-reaching recruitment framework, possible only due to the embryonic nature of the system, was later constricted as the availability of candidates and the growing credibility of their posts allowed tighter conditions in selection procedures:

(...) The appointment to teaching posts in schools of industry and industrial design shall be made by public entrance examinations and qualification-based selection (...).

To compete for a teaching post (...) the following requirements must be met:

[The candidate must] 1 be a Portuguese citizen, natural or naturalized; 2 be in good health, with the vitality necessary for working in a school (...); 3 be of good moral and civil stature (...); 4 meet the requirements of the law on recruitment; 5 possess qualifications in the disciplines equal to or analogous with those of the chair to which s/he is candidate (...) (Decree of 23 February 1888).

When the 1888 legislation formulated regulations of a more global character for industrial education as a whole, it not only retained prerogatives identical to those enjoyed by teachers in lyceums but went into greater detail with regard to the responsibilities of teachers:

(...) in each school of industrial design there shall be a teacher of equivalent rank and honour to those of the teachers of central lyceums.

(...) It is the responsibility of teachers:

1 To administer their respective courses and direct practical education in the applications of design (...); 2 To direct the associated establishments they are entrusted with (...); 3 To conduct examinations (...); 4

To sit on the school committees to which they are appointed (...); 5 To inform (...) the district inspector and make all suitable proposals for the improvement of education (...) (Decree of 23 February 1888).

What stands out from this mandate is the government's preoccupation with securing greater teacher participation in the management of their schools. The new focus on teacher intervention is set out in detail in the legislative framework which created the industrial schools:

(...) Each school shall have a director freely selected by the government from its teachers. (...).

The responsibilities of the director are to:

1 Obey the laws and ensure that others obey them (...); 2 direct the school and the establishments annexed thereto; direct theoretical and practical instruction, the administration and the policing of the school and of the establishments annexed thereto; ensure that teachers and other employees strictly comply with their duties; act to ensure the conservation of material and the organization of the respective inventory; 3 correspond with the district inspector on all matters; 4 convene the school council and preside over it; 5 take the appropriate measures, in matters not specifically addressed by the laws and regulations, with regard to everything connected with the running of the school (...); 6 supervise the collection of income and the proper application of funds (...)" (Decree of 23 February 1888).

(...) The school will have a council comprising the director, who shall be its president, and the teachers working on a permanent basis.

The responsibilities of the school council are to:

1 Formulate and discuss the projects and programmes of the various courses (...); 2 propose conditions for the admission, frequency and examination of students (...); 3 propose (...) students to whom prizes should be awarded; 4 pronounce decisions on all matters brought before it by the director, by the inspector or by the directorate for trade and industry; 5 discharge (...) the functions of supervision and administration invested in it from above; 6 apply penalties (...); 7 propose to the inspector everything it considers to be for the good of education (...) (Decree of 23 February 1888).

However, although this legislation determined a greater participation by teachers both on the teaching level and in the definition of general educational policy, for most teachers it brought no economic benefit (although directors were awarded an annual gratification of 100 réis). Most teachers received either a annual salary of 500 réis as stipulated in the 1884 legislation (Decree of 3 January 1884) or a salary between 400 and 600 réis, as defined in 1886.

These pay packages should also be considered in the light of certain aspects which in the view of the author deserve special attention. Post-1884, the orientation was not only to ensure teacher training which obviated the need to recruit abroad, but also to provide incentives for dedication to teaching in the form of prizes for teachers who "give the best demonstrations of aptitude and zeal":

(...) The two schools of design created within the museums of Lisbon and Porto, and in which instruction in all branches of industrial design is given, shall become (...) normal schools of industrial design (...). These two schools shall train the teachers who in the future shall teach industrial design all over the kingdom (...) (Decree of 6 May 1884).

(...) The government shall endow two annual prizes of 100 réis, one in the north region and the other in the south, for teachers who give the best demonstrations of aptitude and zeal in the teaching of design. Furthermore, the government shall endow (...) a five-yearly prize of 500 réis for the best design compendium created by the teachers of the schools involved (...) (Decree of 30 December 1886).

These prizes were retained in the 1888 legislation, with the proviso that they would be "(...) awarded by the government at the reasoned proposal of the inspector" (Decree of 23 February 1888).

Although recruitment was still difficult in view of the embryonic character of the system, the legislation of the 1880s gave new dignity to teachers of industrial education not only by their growing intervention but also by the recognition accorded their commitment, dedication and competence.

## TEACHERS AND THE REFORMS OF 1891, 1893 AND 1901

The need to ensure the credibility of the system necessarily involved a careful process of dignification of the teaching career, on the level both of recruitment and in equivalence with other levels of teaching, namely lyceum teaching, which remained the standard of reference. Despite this, it has to be pointed out that innovations relative to the legislation of 1880 were fewer, for attempts had already been made to ensure the competence of educational agents. However, there are aspects relating to qualifications, appointments, recruitment, salary and even the novelty of the internship which we must examine before proceeding to an analysis of the evolution of the condition of teachers and instructors in industrial teaching.

In being appointed, the latter sought to secure their social credibility, with the novelty that they were assimilated both to teachers of school subjects and workshop instructors:

(...) The teaching staff of schools of industrial design, schools of industry, preparatory schools and elementary commercial schools, is comprised of teachers recruited by royal appointment, in possession of documentary qualifications from public exams, and equivalent in category and honours to the teachers of central lyceums.

(...) Manual instruction will be given in workshops by teachers who have passed examinations whose conditions shall be determined by the government (...) (Decree of 24 December 1901).

The minimum requirements for the government to guarantee appointment to acting instructors deserves special attention:

(...) instructors currently in employment, who on the date of the present decree find themselves in the service of schools, may be appointed on a definitive basis, when they prove:

1 — That they know how to read and write correctly, and can perform the four operations on whole numbers and fractions;

2 — That they have exercised their profession in a state or private workshop, with the category of artisan, foreman or master;

3 — That they have worked in schools for at least two years with a good record (Decree of 14 December 1897).

These conditions reveal a difficulty in recruitment made evident not only in the allowance that “more advanced students” can perform teaching work, but also in other measures designed to guarantee the quality of official education:

(...) Workshop instruction shall be entrusted to instructors working under the direction of the teachers of the respective subjects, or to the teachers of these subjects themselves; and instruction in manual work shall be under the direction of the teacher of general design, which shall also be entrusted to instructors, except in schools where such work is limited to the elementary course, for which it shall be sufficient to contract able manual labour (Decree of 14 December 1897).

In parallel to these internal solutions, and given the failure of attempts to equip schools with a national teaching corps, the possibility of making up the numbers by contracting teachers and instructors from other countries was also allowed for:

(...) The government may contract foreign teachers and instructors, for the time it sees fit, when such individuals possess the necessary qualifications (Decree of 14 December 1897).

In an attempt to obviate the perpetuation of these recruitment difficulties, the authorities began to invest in teacher training — a strategy which would only yield results in the medium and long terms — and the institutionalization of the internship, especially in schools seen to have better conditions, as a preliminary to appointment to the respective teaching posts:

(...) The first appointment to teaching posts shall be temporary and probatory, and shall last for two years (...).

For the definitive appointment of teachers of design in industrial schools and schools of industrial design, the government may order that all or part of the probatory period (...) be accomplished in one of the

following schools — Marquês de Pombal, Infante D. Henrique or Brotero (Decree of 24 December 1901).

With regard to salaries, by the close of the 19th century teachers received an annual income of 600 réis, with male instructors receiving 360 réis and their female counterparts receiving 300 réis. As for other incentives, teachers were now given a travel allowance and a prize was instituted for the best work:

(...) Inspectors and teachers who travel more than 10 km from their official residence shall receive, in addition to their transport expenses by rail or ferry boat, a subsidy of 35 réis per km covered on ordinary road.

(...) An annual prize of 300 réis is established for the best work by school teachers which is of recognized educational utility (Decree of 24 December 1901).

We should point out that regardless of the introduction of this prize, the educational materials which would have made it easier for students to learn remained almost completely non-existent. That said, the initiative was part of a wider objective of making the system efficient, credible and *productive* in the formation of full-time teachers.

By improving conditions, extending the recruitment base, making the first tentative steps towards teacher training in the schools with the best conditions and, as a last resort, recruiting teachers from other countries, the aim was to implement conditions in the industrial schools which would guarantee the effective and competent training of people who could drive the yearned-for economic development.

## TEACHERS AND TEACHER TRAINING FROM THE LATE 19TH CENTURY TO THE MID-20TH CENTURY

Under the legislation of 1884, vocational teachers were “equivalent in category, prerogatives and benefits to lyceum teachers” (Decree of 3 January 1884). Schools were predominantly attended at night, and it was natural that teachers supplemented their teaching work with other jobs and other activities. Equivalence, here, did not mean equality of salary. This duality also had the effect of lessening the urgency of teacher training,

which only acquired relevance with the increase in day teaching and as teaching became practised to the exclusion of other jobs. At the same time, there developed a policy whereby foreign technical teachers were recruited and young Portuguese entering a career in technical education were sent abroad on scholarships.

Not until 1918 (Decree 5 029 of 1 December) were consistent measures implemented for teacher training in this area of education. At first, priority was given to the various areas of design. In Lisbon, the Escola Normal for the teaching of design was opened, and provided two years’ training in the theory and practice of teaching, as well as technology and industrial arts, while at the same time students worked as trainee teachers in one of the Lisbon Schools, under the guidance of a permanent teacher. Candidates for the machine design section were required to have passed the general course of the Instituto Superior Técnico or another higher college of engineering or, if they wished to teach architectural design, had to have completed the course in architecture from a school of fine arts. For the free design section (elementary and decorative design, modelling and painting), the entrance requirement was a degree in painting or sculpture from a school of fine arts. The theoretical component of this teacher training institute was administered in the Escola Industrial Marquês de Pombal, then directed by Marques Leitão, which was where the new school also had its offices. Practical instruction took place in the Escola Afonso Domingues, where Tomás Bordalo Pinheiro taught machine design, a post he combined with another in the Instituto Superior Técnico.

In other subjects, teacher training involved a two-year probatory period, duly supervised. This requirement dated from the regulations introduced on 23 February 1888, which determined that examination-based selection be held in Lisbon and Porto, under the supervision of inspectors from both educational jurisdictions (north and south). This entrance examination was later replaced by selection based on qualifications, open to all candidates who had completed a course in an industrial or commercial college, or lyceum. After teaching the subject during the probatory period, presentation of the program, respective educational orientation

and a trainee teacher performance report, and once the teacher responsible for supervision had been heard, the school director was promptly appointed to a full-time position. This process occurred every time a position became vacant, unlike the procedure in the Escola Normal, which equipped aspiring teachers with the conditions they needed to compete for a post.

Although much criticized, this system remained in place until the inception of the New State, when with the new legislation of August and October 1926 teachers were re-categorized as permanent, assistant, provisional and contracted. The major new feature was in the category of assistant teachers or *agregados*, who were required to sit a public entrance examination open (depending on the subject) to graduates from fine arts or any higher engineering course, including agronomy and silviculture, any of the courses offered by the Institutos Superiores de Comércio, and graduates in law, sciences or arts. The senior courses in industry and commerce offered by the former industrial and commercial institutes now became equivalent to the senior courses in engineering and the courses offered by the Institutos Superiores de Comércio. The entrance examinations comprised cultural (theory and practice) and pedagogical (lessons given to students) components. The qualification awarded by the Escola Normal entitled its graduates, via qualification-based selection, to become assistant teachers. They could then be appointed to the position of permanent teacher on condition that no such permanent teachers were candidates for the same post.

It had been planned to replace the existing teacher recruitment system as soon as possible with a preparatory course for a professorship in industrial and commercial teaching, to be held in the Escolas Normais Superiores, and terminating with a state exam. Prudently, however, it was decided that where no candidates with such a qualification existed, entrance examinations would still be held.

Another aspect that deserves our attention was the introduction of teacher training via the university courses of educational science and of trainee internships in March 1931 (Decree 19 565).

But running counter to this process of increasingly stricter requirements for would-be technical teachers there was introduced, in November 1935 (Decree 26 115), a distinction that had never previously existed: technical teachers were placed, according to seniority, in group O, N and M, while lyceum teachers were put in groups K, J and H. The major error of this decision was in its division of the two degrees by a vertical line, separating two positions of identical “altitude”, instead of separating them by a horizontal line common to the different levels of each. But the injustice has been enacted, and it persisted almost until the demise of the New State.

Also deserving of mention is the Decree of 29 March 1967 (no. 47 662), which institutionalized preparatory courses for instructors by drawing on the experience gained in the refresher and recycling courses already held, although not with the desired frequency. These courses, when organized for workshop instructors, included lessons in Portuguese, mathematics, technology and teaching methods, design and workshop sessions, and teaching practice.

To summarize, central administration has always been careful to control the legal framework governing which type of teachers and instructors can work in technical education. Secondly, only much later (about half a century after the first legislation) was any attempt made to improve the quality of the training given to these teachers. Thirdly, even though training has improved there remains a sharp division between the social, economic and professional status of technical teachers and that of their lyceum colleagues. Which is one more factor in the marginalization endured by teachers in this area of education!

## SOURCES

Decree of 30<sup>th</sup> December of 1852  
Decree of 20<sup>th</sup> December of 1864  
Decree of 30<sup>th</sup> December of 1869  
Decree of 3<sup>rd</sup> January of 1884  
Decree of 30<sup>th</sup> December of 1886  
Decree of 23<sup>rd</sup> February of 1888  
Decree of 14<sup>th</sup> December of 1897

Decree of 24<sup>th</sup> November of 1898  
Decree of 24<sup>th</sup> December of 1901  
Decree of 1<sup>st</sup> December of 1918  
Decree 19 565 of March of 1931  
Decree 26 115 of November of 1935  
Decree of 29<sup>th</sup> March of 1967

Translated by Mark Ayton

