

The Post-Graduate Level, CAPES, and High School Science Teaching in Brazil

Act number 11.502 of June 11, 2007, by altering the structural organization of CAPES (The Brazilian Federal Agency for Support and Evaluation of Graduate Education), and by attributing to this agency the scope to subsidize the Ministry of Education in formulating policy and developing support activities for the formation of high school teachers, has turned on some light at the end of the tunnel.

In Brazil, 70% of all high school science teachers have no specific degree in the area they are teaching. In Chemistry and Physics, this percentage is even greater. The lack of teachers and their poor backgrounds as well as the total lack of science laboratories in almost all of the schools are just two among many reasons why Brazil is placed among the nations having the worst science performance, according to PISA, the International Student Ranking Program.

Are there ways to overcome this real tragedy in Brazil's high schools which threatens our development as a leading nation? Fortunately, the answer is yes and CAPES possesses the instruments to overcome this potent barrier. However, it is important to point out that specific independent actions are not within the scope of CAPES' directors and their Councils. Some of these actions are the exclusive responsibility of the universities alone, such as: the distance which exists between Faculties of Education and the basic institutions responsible for granting teaching certificates; undermining of teaching certificates by the teachers themselves as well as the directors of the basic institutes, who, instead of placing value on teaching certificates, only value the Bachelor's degree and, lately, on creating new undergraduate degrees.

What can CAPES do then to improve the formation of high school teachers and increase the number of science high school teachers? There is a lot that can be done. CAPES has the tradition of evaluating post-graduate programs and this is one of the reasons for the great success of Brazilian post-graduate programs. CAPES has the ability to create mechanisms for evaluating teaching certificates. However, the mission of raising the number of science high school teachers and placing them in the classroom is much more difficult than evaluating. It is not enough to merely

raise the number of teachers, it is necessary that the teachers carry out their roles in the classroom. This mission calls for the participation and involvement of other actors such as post-graduate coordinators and student advisors who orient the programs and the post-graduate students, the scientific societies, the secretaries of state and municipal education and, most of all, those who run the Faculties of Education. What then would be the role of each of these actors?

The curricula of the post-graduate programs should include two courses related to the formation of teachers, which would be offered during two semesters; the advisors should encourage their students to follow these teacher formation courses, dedicating themselves for at least one semester to science teaching, in their respective areas in state or municipal schools. It is up to the scientific societies to place the appropriate value on a science teaching certificate and to develop continuing formation programs for teachers; the municipal and state secretaries of education would be responsible for payments of the *pro labore*, the due return for the in-service teaching rendered by the post-graduate scholarship holders. Finally, those managing the Federal and State Faculties of Education should understand the great disease before them. As a cure, they could accept the post-graduate teaching courses, the probation semester of the post-graduate student in the classroom and the Master's or PhD thesis as pre-requisite for the Master's or the PhD degree holder in Sciences, to get the teaching certificate in their areas.

Nowadays, some public universities demand so much from a PhD in Sciences to follow an undergraduate teacher formation program that the candidate either gives up or enrolls in a private university. In one year, after having attended only Saturday classes and having spent two semesters in a classroom assisting the professor, will he be granted a teaching certificate.

None of what was suggested will make any difference if high school teachers' salaries are not on a par with their importance in the Brazilian society.

Angelo C. Pinto
Editor