At present, most Biochemistry teaching in Rio Grande do Sul and Santa Catarina has its origin in the Department of Biochemistry of the Federal University of Rio Grande do Sul. In the 70’s, all the teachers of the Department wrote a book together: “Fundamental Biochemistry”. This book was always used in the classes by groups of students of different careers supervised by the respective teacher. At the same time, this methodology was not used by pharmaceutical teachers, but they recommended the Department’s book to their students. Along the next years, Biochemistry teaching was adapted according to the professional course and to the teacher’s personal characteristics. Today, there are two extremes strategies again: one traditional for the most basic biochemistry student’s formation (including theoretical, laboratorial, seminars and informatics classes) and the other, experimental-clinical, for physician’s formation (including seminars of molecular approach to the most prevalent diseases, mainly, those leading to failure of organs/systems and the interaction with patients from HCPA by the interpretation of their biochemical data). On the other hand, the Post Graduation Program, at first, emphasized biochemistry teaching in a traditional form, but gradually changed the emphasis to investigation, and most classes changed to scientific paper reports. To stimulate the teaching formation, two activities were offered to post-graduation students: Biochemistry Teaching Methodology and Teaching Practice in Biochemistry. These activities promote opportunity for the students to think about different teaching strategies and to plan, execute and evaluate a new project of Biochemistry teaching for graduate students. Most of these post graduates are now teaching Biochemistry in several institutions in Rio Grande do Sul and Santa Catarina. However, for many reasons, most of them teach in the traditional manner. Keywords: Teaching strategy, Biochemistry teaching,