

# ENTRANCE EXAMINATIONS FOR THE UNIVERSITY

ERNESTO GIESBRECHT

*Instituto de Química, Universidade de São Paulo, Brazil*

## ABSTRACT

Special references are presented for the situation in Brazil, where a fast-growing number of candidates have to compete for the relatively small quotas at the University, giving rise to a highly competitive situation. As a consequence, a number of unofficial, private schools, geared to training for the taking of the entrance examinations, have proliferated, thus adding to the complexity of the situation. Some considerations are given about the objectives of secondary education specially by providing the student with a basic, humanistic and scientific, background. Admission to the University should be based on an evaluation of the candidate's broad knowledge and not on his knowledge of a limited number of subjects.

---

## BRAZILIAN PRACTICE

Although I am addressing myself to the topic 'Entrance Examinations for the University', I wish first to consider the implications of that subject in Brazil, where the situation may be difficult for some of the foreign participants to understand. The mandatory entrance examination, called the 'vestibular', for the university is taken after the end of secondary school. The examination, which takes place at the beginning of the year, in January except in exceptional cases, is a national event with far-reaching repercussions. Every year the 'vestibular' examination acquires an importance greater than before because of the growing number of students who graduate from the secondary schools. Consequently the secondary schools continue to maintain a programme which is essentially and eminently preparatory. Now, I do not mean to say that the secondary schools do not have the responsibility to prepare individuals for entrance into the university, but I do believe that such is not the essential objective of those schools. Rather, secondary education is an intermediate phase in which the individual should acquire a base of fundamental knowledge. The primary application of that knowledge is to make the individual into a useful member of society capable of functioning professionally at the high level which is so necessary for the development of science and technology. Preparation for university entrance must be secondary.

The 'vestibular' examination is given an especially exaggerated importance in the last three years, called 'colégio' in Brazil, of secondary school. Many Brazilian high schools, especially in the last two years of the course, transform their classes into training sessions solely to prepare their students for university entrance examinations. Occasionally students take their last year of 'colégio' concurrently with enrolment in a private, university preparatory school. Frequently they enrol in inferior, 'easy' high schools only to obtain the diploma

while, at the same time, studying in the private school which prepares them for the 'vestibular'. Happily, I can affirm that such is not always the case. There do exist excellent 'colégios' and secondary schools whose students are as well, or better prepared for university entrance than those of the preparatory schools.

I would like to define what we mean by 'cursinho'. This is the unofficial institution which is attended concurrently with the last year of secondary school or intermediately between the last year of secondary school and the university freshman year. The 'cursinho's' success and growing influence result from the increasing number of university applicants in relation to the limited capacity of the universities. That the universities have, for their part, contributed to the highly competitive situation by attempting to select the best qualified and most capable students, is inevitable. The 'cursinhos' are, in general, substantial institutions, rich, with firm financial backing. Their teachers are very well paid, highly competent and have at their disposal the most modern teaching aids. In fact, the 'cursinhos' successfully attract the best teachers, leaving the larger number of their less well qualified colleagues to teach independently or in the public schools. Organized essentially as business enterprises, these institutions have no pedagogical limitations. The 'cursinho' tends to teach the student specifically how to pass examinations rather than to provide him with fundamental knowledge.

### THE AIM OF EDUCATION

I believe that the phenomenon which I have described occurs partly because of a lack of understanding, not only of the objectives of secondary education but also of the objectives of the university. In my opinion, education is a continuous process of learning which does not take place in rigidly defined steps. The concepts of primary, secondary, university, post-graduate education and so on, are ideas which have not been and probably cannot be well-defined. There is a growing tendency to abolish the arbitrary divisions between the various stages creating integrated programmes with increasing levels of complexity. Passage from one level to another should be gradual, especially since the student is continuously growing in maturity, making it extremely difficult to establish rigid standards for promotion. I recall that much of what is taught today in secondary schools was taught a few years ago in the university and that some present-day subjects in primary school were formerly high-school material.

I would like to take the opportunity to compare educational development in science with the general problem of illiteracy which I believe has an aspect especially related to science. We live in an epoch in which the whole world has seen man step to the surface of the moon; man photographs and approaches other planets; he gathers minute information from the farthest reaches of the universe. This activity is visible to a growing number of people of all ages and social strata. Our means of communication are increasingly efficient, rapid and accessible. In our daily routine we use instruments which are very complex technologically but whose principles of operation we often understand very poorly. Children, possessing a very acute sense of observation begin very early to wonder how things work and to form ideas, often incorrect. I believe, making a parallel with the problem of illiteracy, that this kind of scientific illiteracy must be eliminated at the earliest possible stage in the educational process. The

## ENTRANCE EXAMINATIONS FOR THE UNIVERSITY

solution is an introduction to scientific fact in an objective, comprehensive manner which will eliminate future distortions in the mind of the student.

What is secondary education? Is it really an intermediate step? I believe so. Perhaps the name 'intermediate level' would be the best. But intermediate in what sense? Considering only the biological aspect we could delineate 'intermediate' as lying between the end of infancy and the beginning of adolescence. But how can the end of infancy and the beginning of adolescence be distinguished? Perhaps the best way to define the intermediate level is to define its objective. I believe that at this level we should furnish the adolescent with a current basic culture, both scientific and humanistic which allows him to feel useful to society when he finishes high school. Education at the intermediate level should be treated in this way and not merely as a phase preparatory to entrance into a more advanced phase called the university.

We are aware that in the developing nations there is a scarcity of qualified professionals at the middle level. Such individuals are absolutely essential to progress in the many areas of technology. We should value the professional at that level and recognize his worth.

Nevertheless, although not all students wish to continue their studies, or are capable of doing so, it is necessary that some should go on. Which of them should enter the university? Only a few? In that case, which ones? How does one select the best students? By what criteria should we judge the best qualified?—Here we begin to understand why selection for university entrance is such a critical and painful process in the educational system. The great number of candidates from various levels, who each year confront the barrier of the 'vestibular', is submitted to a process of evaluation which is not always objective or complete, and which can lead, in some cases, to a poor selection. The lack of professional orientation, allied with incomplete information about university studies produces negative effects and tends to create a university student population which is frustrated and distorted professionally. Consider the frustrated or disillusioned student: he hopes for a perfect university, a model, integrated by capable professors who will lead him to a well-rounded education. His frustration is the result of the lack of vocational—educational guidance combined with the basic flaws in the university system.

### CHOICE BETWEEN UNIVERSITY AND OTHER CAREERS

Admission to the university should be regulated by a process of evaluation of the candidate's whole knowledge, not his familiarity with a limited number of subjects considered especially important for a particular career. Since the above criterion is not normally taken into account the student turns to the 'cursinho' which orients him to deal with the techniques in the entrance examinations. He is trained to take examinations, not to acquire knowledge.

Another problem is related to the choice of a career. It is difficult for a young person to know exactly what he wishes to study. While he decides, he should be counselled individually in the best possible manner by a counsellor using effective processes of vocational selection. In general these elements are sadly lacking in the educational system.

How does one measure the knowledge of candidates for university admission? Ideally, it is done under equal conditions for all. A few years ago when the

number of applicants was smaller the 'vestibular' was both a written and an oral examination. The procedure was repeated for hundreds or thousands of candidates by a limited number of examiners and led to exhaustion for both students and professors. Problems related to a lack of objectivity also occurred which occasionally distorted the purposes of the examination. A 'vestibular' which fairly evaluates the applicant's knowledge, both scientific and cultural, needs to be developed. It should require of the student a thorough knowledge of the material taught in secondary school. Objectivity in judgement is an important factor since the number of candidates is growing continually. Although the number of vacancies is relatively large it will not be sufficient to accommodate everyone.

How should the questions be formulated? They must cover all aspects of the educational programme, be prepared with great care and be analysed in the most objective way. It is especially important that they take into account the criteria of scoring. Clearly, manual scoring of a great number of examinations cannot be done by one person; even if it were possible that individual's criterion of a correct response would not be the same for the last test as it had been for the first one. One recent approach has been the tendency to unify all the 'vestibular' examinations, transforming them into an objective, well-formulated, multiple-choice type test which can easily be graded in a very short time.

In addition to the campus in São Paulo the Universidade de São Paulo consists of 'campi' in other regions of the state: São Carlos, Bauru, Campinas, Piracicaba and Ribeirão Preto, where there exist schools in various disciplines: Medicine, Agronomy, Engineering, Exact Sciences, Biology, Humanities, Law and others. USP is adopting a criterion of selection which unifies the candidates according to their choice of study. In the case of subjects related to biology that function is performed by the 'Fundação Carlos Chagas' by means of an organization called CECSEM. In the exact sciences (Physics, Mathematics, Chemistry, Engineering and Geosciences) selection is in the responsibility of another institution, called MAPOFEI, which includes not only USP but also private engineering schools in various locations. There are still other agencies which select candidates for entrance into programmes related to the humanities (Geography, History, Letters, Law, Economics and others).