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**ADVANTAGES AND DRAWBACKS TO A MACROINSTITUTION:
SPAIN'S UNED**

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UNED AND CHARACTERISTIC FEATURES OF DISTANCE EDUCATION

In previous papers (García-Aretio 1986, 1990, 1994), we reviewed the definitions set forth by reputed authors in the field of distance education, and determined the features that characterize "distance education", which we define as a "technological system of two-way communication involving large numbers of students which replaces the ideal personal student-professor classroom relationship with joint and systematic action involving several kinds of didactic resources as well as organizational and tutorial support that further an independent and flexible learning process."

This paper analyzes a macroinstitution - Spain's UNED [Universidad Nacional de Educación a Distancia or National Distance Education University], in an attempt to determine how closely it conforms to each of the above characteristic features (García-Aretio, 1992).

Physical distance between professor and student

UNED pupils study at a physical distance from their professors. The Headquarters from which professors reach pupils all over the country and even abroad is located

in Madrid. The pupils do not personally know the professor responsible for the design, development and evaluation of lessons in each subject or course, unless he or she participates, on rare occasion, in a learning experience or seminar held in a Local Center for the residents in that particular area. The relationships between students and professors are normally established by other means, rather than personally.

Use of technical materials

In all of the over 600 subjects that make up the curricula of the 16 branches of university studies available today through UNED, plus the 180 -some non-official courses, printed material, the major teaching aid, is broken down into Teaching Units, Workbooks, Distance Exams, Addenda, etc.

In order to achieve a passing grade in scientific and technical subjects, students must also take laboratory courses that are made available through the Local Centers during the first few years and at Headquarters during the final years of study.

Where the subject matter allows, course materials also include audio and video cassettes. Software is also a complementary aid in some cases. Educational messages and communication between students and professors at Headquarters flow through the various channels. Thus, while the post is still often used, it is rather a slow medium. In many University subjects videotext is also used as a communications bond between students and professors. Finally, the videoconference system, used for the first time in academic year 1993-94, is beginning to be implemented.

All Headquarters faculty must devote some of their time to direct telephone contact with their students and tutors. Many of these telephones have answering machines so students can leave messages at any time of day. Professors reply either by phone or by post.

From 9:00 p.m to 11:30 p.m. Monday through Friday, one of the Spanish National Radio stations broadcasts a program devoted to UNED. Professors of the various subjects and courses use these programs to contact their students. Moreover, Spanish Television's Channel 2 broadcasts information about UNED several times a week.

Complementary support - tutoring

The fact that there is a physical distance between students and professors does not mean that the latter are not necessary. There are over 900 professors at Headquarters and over 3500 tutors to help students with their studies. In addition

to this academic support, students receive administrative support from the office and service staff at Headquarters and the Local Centers.

The most feasible way for pupils to enroll the aid of a teacher is by contacting the tutors in the Local Centers. There are tutorial sessions in these Centers once a week, normally. Here there is indeed personal contact between tutors and pupils, even though it is only once a week. In any case, students are free to attend these sessions or not, as they wish.

Independent learning process

Preferably, whatever the pupil can do on his or her own, should be done without the aid of a teacher. Therefore, the UNED faculty gives its students only the amount of support they actually need. Most of the learning process takes place on an autonomous, individual or independent basis. This individualized approach affords flexible learning pace, method and style.

Two-way communication

UNED students can and should reply to questions appearing in their teaching materials and exams, as well as to those posed by their tutor, but they may also initiate communication. And they may do so by asking their teachers questions - either Headquarters professors or tutors - to clarify foreseeable doubts or extend their knowledge of a given subject, or by making suggestions with regard to course design, teaching materials or the learning process itself. This kind of communication is personal in nature, i.e., contact is made on an individual basis by post, telephone, videotext or videoconference.

Technological approach

We define a technological approach to mean the planned, scientific, systematic and globalized conception of the elements involved in the process, in order to optimize learning. The UNED intends, under this approach, to avoid: a) improvised planning and execution of design, production, distribution, issue, etc., of teaching materials and messages; b) uncoordinated interaction of the various material and human resources involved in this multimedia system; c) incoherent evaluation of knowledge gained as opposed to established objectives.

Hence, careful planning in advance of all action taken is instrumental to the institution's success.

Furthermore, the production and distribution of teaching materials for large numbers of students and the management and coordination of the activities of students and their respective tutors scattered throughout the country entail the

application of procedures calling for process rationalization, division of tasks and mass production.

Nonetheless, such mass production and distribution of materials and the need to attend to huge numbers of students detract from the flexibility of the organization, as materials production and distribution systems must be rigidly programmed and the relations among course designers, producers, material distributors, tutors and pupils highly structured; this is detrimental to flexible and close attention to personal needs. This is a problem that macroinstitutions find most difficult to overcome, although new technologies tend to reduce the negative effects of this kind of difficulty.

Mass communication

Communications media eliminate space-time barriers and the messages disseminated by these media can be turned to the advantage of a large and highly scattered student body. Both circumstances are present in UNED. During the 1992/93 school year, there were over 130 000 students enrolled in the various branches of learning and special courses the University offers. These students live all over the country, and over 1 000 of them enrolled through the Local Centres located abroad.

It will be noted that Spain's National Distance Education University (UNED) falls under what has been defined as a distance education institution, complying with each and every one of the characteristic features of such institutions.

OTHER ADVANTAGES AND SOME DRAWBACKS

This distance education institution offers other advantages in addition to the ones listed under the description of the characteristics analyzed above. At the same time, it faces certain difficulties and problems, arising precisely because it is a macroinstitution with over 130 000 students. The following analysis is based on our previous studies on efficiency, objectives, functions and virtualities of distance education (García-Aretio 1986, 1989, 1990, 1994).

Advantages

Firstly, we should point out other advantages to this open system which provide evidence that this kind of education should be considered to respond effectively to many educational needs. In the following discussion, these advantages are grouped under the following headings: openness, flexibility, effectiveness and cost. The presence or absence of each such advantage in the UNED system is also considered.

Openness

1. Barriers and pre-requisites are largely eliminated.

There are, in fact, requirements that must be met in order to enroll in the 16 official branches of university studies offered through UNED: students must have obtained the diplomas called for in all other Spanish universities. Nonetheless, for students over the age of 25 there is a Direct Access Course open to people who have not earned an official diploma. Once they have passed this course, they may take the university course of their choice. Prior studies or diplomas are not usually required for non-official courses. That is to say, there are no pre-requisites in such cases.

2. There is a diverse and extensive list of courses available to satisfy growing demand as well as the aspirations of very diverse groups, as regards the organization of official and non-official educational activities.

The kind and number of courses available through UNED is extensive and very diverse. In addition to the Direct Access Course for persons over the age of 25, mentioned above, the following disciplines are available through UNED: Law, Philosophy, History, Spanish Philology, Psychology, Education, Economy, Business Administration, Sociology, Political Science and Administration, Physics, Mathematics, Chemistry, Industrial Engineering, Systems Analysis and Management. Doctorate studies are likewise available for students who have earned their graduate degree.

There is a Teachers Training Program designed for all Spanish teachers who wish to update their scientific, technological or educational skills. In the 1994/95 school year, 93 courses on a wide range of topics are being offered under this program.

The Open Education Program, consisting of 94 courses (1994/95 academic year) and intended for anyone wishing to gain theoretical, technological or practical knowledge, is also available. No prior studies are required to enroll in the courses under this Program.

Post-graduate courses are offered through the College of Business Administration, to train highly qualified professionals in specific fields or recycle those who are already working in such areas of endeavour.

Other courses are also available as a result of agreements with other public and private organizations.

3. Educational services can be made available to a very large and geographically distant student body.

In academic year 1992/93 a total of 99 852 students were enrolled in official university courses. Enrollment in the Direct Access Course for Persons over the

Age of 25 was 22 162. There were 8 175 students enrolled in that year in the Teachers' Training Program, and 3 216 in the Open Education Program.

These students live all over the country. About 600 are confined to penitentiaries and over 1 000 live abroad, and are attended to by Local or Support Centers in any of the following cities: Athens, Bogotá, Bonn, Brussels, Caracas, Copenhagen, Geneva, Lisbon, London, Malabo, Mexico City, Paris, Rome, Rosario, Vienna, Washington and São Paulo.

4. Those who were unable to initiate or conclude prior studies are granted educational opportunities adapted to their needs.

UNED constitutes an opportunity to conclude studies begun at an earlier stage in life thanks to the wide range of disciplines and courses offered. Only 22 % of the University students enrolled in official university studies belong to groups traditionally enrolling in other universities. Seventeen per cent access these studies after having passed the Direct Access Course for Persons over the Age of 25, and 34 % are persons who have a university or junior college degree in some other discipline.

Flexibility

5. It affords the opportunity to continue to study without the rigidities of space (where to study), attendance and time (when to study) and pace (learning speed).

UNED pupils study at home, at work, in hospitals and penitentiaries. According to survey data, they devote time to their studies at nearly any hour of the day. The unemployed with no other occupation than their studies do so most frequently during normal working hours. Pupils who are employed usually study either before their working day starts or, more frequently, after hours. This group devotes much of their weekend time to studying.

6. It constitutes a way of combining work and study.

Eighty three per cent of UNED pupils hold jobs (Farjas and Madrigal, 1989, 198).

7. Students need not move away from their own work, cultural or family environment.

Students do not have to leave home. At most, and always on a voluntary basis, they may spend a few hours a week at the Local Center - "usually nearby" - to attend tutorial classes.

Effectiveness

8. Each student is the hub of the learning process and an active element in his/her own education.

About 30 % of students usually attend the weekly tutorial classes in the Local Centers. The rest of the time they devote to studying the subject or course is time spent alone, time in which they take the leading role in the teaching-learning process.

9. The kind of education offered is theoretical and practical, based on experience and direct contact with the occupational and social sphere which students intend to enhance.

In the official branches of university studies, large percentages of pupils enroll in disciplines related to their current jobs: primary or secondary school teachers study Education or Psychology, financial institution employees or company executives study Economics or Business Administration, etc. In the Open Education Programs, over 90 % of the students are enrolled in work-related subjects (García-Aretio et al., 1992).

10. A very high quality multi-media education is possible, since course content can be commissioned to leading specialists in each field.

This is an advantage of distance education, although generally in UNED course materials are drawn up by the professors responsible for the various subjects, whether or not they are leaders in their field.

Economy

11. Costs are lower than in conventional education.

In previous studies (García-Aretio, 1987a, 1991), we found that in UNED the costs of studying a specific subject in an official branch of learning is only 41 % of the cost of studying in a conventional university. Likewise, per capita UNED graduate student costs are just a little over half (53 %) of costs in conventional systems. These figures do not take into account, moreover, other savings to students, who need not travel, give up their jobs, etc. Finally, the high cost of the initial investment and the cost of producing materials is offset in UNED by economies of scale.

Drawbacks

Some of the drawbacks were mentioned in the discussion of the characteristics of distance education. Others are considered below.

1. Interaction among pupils and between pupils and professors is much reduced, so that objectives of a social nature are not generally met. In any case, this drawback is inherent in the "distant" nature of this kind of studies.
2. Feed-back is often very slow, since relations between UNED professors and students depend essentially upon the post. In this regard, returning term papers and exams by mail is particularly slow.
3. Certain subjects do not adapt at all well to the minimum standards that would enable them to be considered fitting for distance education. In other cases the closed, rigid or homogeneous nature of course content renders it inappropriate for this kind of learning process.
4. Results of distance exams are most unreliable due firstly to the possibility of inadequate wording of questions by the professors in charge, and secondly to the fact that there is no way of knowing who actually wrote the exam. Moreover, effective ways must be found of evaluating Local Center tutors' reports in establishing students' final grades.
5. The high number of drop outs from one year to the next (43 %, García-Aretio, 1987b, 313) is often the result less of the difficulty of the subject matter than of inadequate guidance or the failure of Headquarters professors and local tutors to provide initial and ongoing motivation.
6. The growing number of pupils enrolled, the diversity of electives under new curricula for official branches of university study and the increasing number of non-official courses offered make the enrollment process and in situ examination - which takes place three times a year (February, June and September) in the Local Centers under the supervision of a board of examiners made up of Headquarters professors - increasingly complex.

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