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Development of Professional Skills Through Participatory
Evaluation and Simulation Using Web Tools

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Executive Report of the Joint Report on the
Student Dropout and Labor Insertion of
University Graduates in Bolivia, Colombia,
Costa Rica and Ecuador



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The project aims to improve the quality of Latin American Higher Education through the development of the evaluative competence for professors and students with the purpose that students complete their studies successfully and integrate into working life. In its initial phase, applied research is conducted on the topics of student dropout, labour insertion, transverse competences to the evaluation from the perspective of students and professors and work skills from the perspective of companies. This project is complemented with another phase in which an innovative training program is designed, validated and implemented for students and professors.

The European universities involved are: the University of Cadiz, general coordinator of the project and Durham University. The Latin American partner universities are: University of Antioquia, University of Costa Rica, Pontifical Catholic University of Ecuador, Ibarra Campus and the Salesian University of Bolivia.

Executive Report of the joint report on the student dropout and labour insertion of university graduates in Bolivia, Colombia, Costa Rica and Ecuador

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This report integrates two subjects of interest in higher education, student dropout and labour insertion. The first specifically refers to the causes of dropping out as well as the strategies that universities could develop to prevent it. The second focus is on aspects such as work and employment, actions and strategies promoted by each university for labour insertion.

The information presented corresponds to the work carried out by the following four Latin American universities: University of Antioquia (UdeA); University of Costa Rica (UCR); Pontifical Catholic University of Ecuador, Ibarra Campus (PUCE-SI) and the Salesian University of Bolivia.

1. Objectives of the report

1.1. Specific objectives

- Determine the state of affairs of student dropout of at least five careers of each university, recognized by their high dropout rate and which represent diverse knowledge areas.
- Determine the state of affairs of employment, in at least five careers of each university, recognized for its low insertion and which represent different areas of knowledge.
- Define intervention strategies that help to reduce dropout rates and improve labour insertion to raise the degree of employability of graduates of Latin American universities.

Sample of informants

In relation to student dropout, all universities studied two cohorts for the years 2009 to 2011, whose students were not enrolled in two consecutive periods or intermediate periods.

The selection of the sample in each university was established according to the method of sampling for finite populations. Different calculations considering the levels of confidence and error were done. Table 1.1 shows the sample sizes and sample applied at each university.

University	Cohorts 2009-2010	Sample	Surveys conducted
University of Antioquia	747	594	126
University of Costa Rica	1561	110	110
Pontifical Catholic University of Ecuador, Ibarra Campus	74	66	59
Salesian University of Bolivia	741	232	126
TOTAL	2129	1002	421

Tabla 1.1. Institutional dropout. Cohorts, samples and surveys conducted at the participating universities in the study. Source: specific reports by university. DevalSimWeb, 2012

For employability, samples in each university have also been established based on the sampling method for finite populations and it were studied university graduates in 2009 and 2010. In each case, different calculations considering levels of confidence and error were done. Table 1.2 shows the sample sizes and sample applied at each university.

University	Population of graduates 2009-2010	Sample	Surveys conducted
University of Antioquia	821	582	65
University of Costa Rica	512	116	116
Pontifical Catholic University of Ecuador, Ibarra Campus	284	193	143
Salesian University of Bolivia	426	131	111
TOTAL	2043	1022	435

Tabla 1.2. Labour insertion. Population, sample and surveys applied by the participating universities in the study. Source: specific reports by university. DevalSimWeb, 2012

Table 1.3 shows careers chosen in each university to conduct the surveys.

University	Careers Chosen for the study
University of Antioquia	<ul style="list-style-type: none"> • Systems Engineering • Political Science • Philosophy • Math • Zootechnics
University of Costa Rica	<ul style="list-style-type: none"> • Biology • Architecture

University	Careers Chosen for the study
	<ul style="list-style-type: none"> • Nutrition • Sociology • Philosophy • Food Technology
Pontifical Catholic University of Ecuador, Ibarra Campus	<ul style="list-style-type: none"> • Systems Engineering • Agricultural • Administration • Hospitality • Design
Salesian University of Bolivia	<ul style="list-style-type: none"> • Sciences of Educational • Public Accounting • Law • Systems Engineering

Table 1.3. Careers chosen by each university to conduct the study.
Source: Specific reports by university. DevalSimWeb, 2012

2. Methodology and analysis used

2.1. Institutional Dropout

To gather information, it was used the technique of the survey, which includes two categories: the first inquires about the reason why the students left the university and the second refers to strategies for preventing dropout. In the first are established causes of type personal, institutional, academic, academic assessment and socio-economic, while financial, academic, psychological and university management aspects were considered in the second.

The survey also included an option so students identify strategies they believed could prevent dropout.

2.2. Labour insertion

The survey technique was also used to collect information. Categories were established whose contents appear in the survey for graduates and respond to the following aspects: university career in which the degree was obtained, time elapsed since the student finished the programme until he graduates, aspects of work and work relationship, actions and strategies that the university promotes for

employability, skills for employability, difficulties in the application of these in work performance, the utility for its work, as well as those that were favored in their university education.

Semi-structured interviews were applied to authorities, including Deans, Directors of academic units and others of the different universities, inquiring about issues such as causes of university dropout, employment, actions to prevent dropout and promote employability.

3. Results and Conclusions

3.1. Results

Student Dropout

Among personal causes of student dropout it is common to find, the transfer of domicile, difficulty for adaptatin to the university environment, unfavorable family environment for the academic commitment and obligations arising from their marital status, with percentages ranging from 15.9% to 18.5%. While the cause of institutional order, "schedule of the career", is repeated at the four universities.

Among academic causes why students drop out are the "lack of vocational and professional guidance on the chosen career", with percentages ranging from 16.3% to 28.6%. The other cause arising in a high percentage is the lack of "interest in the career".

The socioeconomic cause "low income" is common in different universities. The lowest percentage is reported by the University of Costa Rica (18.18%) and the highest by the Pontifical Catholic University of Ecuador (42.37%).

Causes related to academic evaluation are diluted because of a low response from respondents.

Table 3.1 shows the suggestions or strategies that have higher percentage, according to the information provided by each university.

ESTRATEGIES	U de A	UCR	PUCE-SI	USB
Financial	Scholarships (57.1%)	Scholarships (79.54%)	Scholarships (44.07%) Funding of enrolment (42.37%)	Merit-based scholarships (42.29%)
Academic	Remedial courses (33.3%) Leveling courses (30.2%)	Leveling courses (89.08%)	Leveling courses (38.98%) Remedial courses (25%)	Expansion of the facilities of access (37.72%)
psychological	Courses of vocational guidance (44.4%)	Strengthening of the capacities and resources of the student in the process of human formation (80.9%)	Courses of vocational guidance (37.29%)	Strengthening of the capacities and resources of students in their integral human training process (35.94%) Courses of vocational guidance (33.85%)
Of management	Does not respond (93.7%)	Programs of educational mobility (92.71%)	Diversification of educational offer (44.07%) Expansion of the facilities of access (32.20%)	Expansion of the facilities of access (37.72%)

Table 3.1. Strategies suggested by the students to prevent dropout in higher education, according to each university participating in the study.

Source: specific reports by university. DevalSimWeb, 2012

"Granting scholarships" constitutes the main strategy to prevent dropout posed by students of the four universities. "Leveling courses" and "vocational guidance" are also mentioned.

3.2. Labour insertion

Table 3.2 presents the distribution of respondents by gender, which shows that there is more participation of women than men in three of the four universities.

Institution	Men	Women
University of Antioquia	35.4%	64.6%
University of Costa Rica	35%	65%
Pontifical Catholic University of Ecuador, Ibarra Campus	46.15%	53.85%
Salesian University of Bolivia	53%	47%

Table 3.2 distribution of the population by gender.
Source: specific reports by university. DevalSimWeb, 2012

Among the main results are that the majority of the respondents are currently working at the time of the survey, with percentages from 78.5% and 91%. They work in both private, public and independent companies. The company size is also variable, while 49% of the companies surveyed by the University of Antioquia work in large companies (more than 250 employees), 55% of those surveyed by the Salesian University of Bolivia are in small businesses (10 or fewer employees).

The degree obtained by the participants in the study is related to the work carried out in percentages ranging from 41% and 76.1%.

Table 3.3 shows the actions developed in each university regarding employability and that were more valued by graduates.

Institution	Actions of the university to promote employability
University of Antioquia	<ul style="list-style-type: none"> • Practices
University of Costa Rica	<ul style="list-style-type: none"> • Association or centres of graduates • Fairs science, innovation and development • Promotion of the active participation of students in the evaluation of learning processes
Pontifical Catholic University of Ecuador, Ibarra Campus	<ul style="list-style-type: none"> • Practices • Internships • Fairs science innovation and development. • Employment Exchanges

Institution	Actions of the university to promote employability
Salesian University of Bolivia	<ul style="list-style-type: none">• Internships• Pre-professional Practices• Promoting the active participation of students in the processes of assessment of learning.

Table 3.3 Actions developed to promote employability according to the universities participating in the study. Source: specific reports by university. DevalSimWeb, 2012

According to the graduate students, practices and internships, innovation fairs, science and development are the main actions that promote employability.

Regarding graduates' assessment about the utility, level of difficulty and favoring of a series of ten competences agreed by the participating universities (Teamwork, reasoned communication, analytical judgment, critical thinking, decision making, planning, sense of ethics, negotiation and participation, adaptation to change, problem solving), it stands that "teamwork" is highly valued as useful by graduates from three of the four universities, with values ranging from 83.6% to 94%. It follows "Sense of ethics" whose valuations are located between 62% and 85.9%. "Critical thinking" (87.72%) and reasoned communication (97%). are also mentioned individually and with high percentages.

The level of difficulty of competences is not profiling, since responses are located in "little" or "no" difficulty. The University of Antioquia (UdeA) identifies "decision-making", "reasoned communication" and "problem solving" with percentages of difficulty ranging from 40% to 49%.

Graduates from the four institutions valued the competence of "Sense of ethics" with percentages ranging from 55% (USB) up to 85% (UdeA). In addition, "critical thinking," "reasoned communication," "teamwork" and "analytical judgment" were mentioned by each university in percentages higher than 70%.

3.3. Conclusions

Based on the analysis of information and results obtained, it is concluded the following:

Dropout rates occur by various reasons and time periods. The causes why students drop out are located mainly in the academic, personal and socioeconomic order.

The respondents suggest mainly financial strategies to prevent university student dropout. Other strategies suggested are leveling courses, remedial and vocational guidance.

It is reiterated the need to promote joint actions with the educational system in such a way that students enter to the universities with the essential skills that allow them to overcome academic weaknesses facing once in the university.

A high percentage (more than 78.5%) of graduates from the four institutions is working and their work is related to the degree. They recognized professional practices and internships as university actions that have contributed to labour insertion.

Four skills stand out for their utility: teamwork, sense of ethics, critical thinking and reasoned communication. The "Sense of ethics" and "critical thinking" were mainly favored in university education.





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