Using virtual learning environments in training people working in the Colombian coffee sector

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Director (E) Fundación Manuel Mejía, Colombia

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1. OVERVIEW OF THE PROGRAMME CONTEXT

Colombia is a country with a coffee growing tradition of undeniable cultural and economic value. More than 500,000 families spread out over 636 towns and 16 departments, throughout the country obtain their principal, and sometimes sole source of income from coffee production. In consequence of the global evolution of the coffee industry with its repercussions on Colombian coffee growing, in conjunction with the country’s complex problems, the coffee growers are obliged to face up to an unprecedented crisis, whose solution demands a variety of changes for which they are insufficiently prepared.

The National Federation of Colombian Coffee Producers can count on three fundamental instances to improve the competence of the coffee growers and make a contribution to the viability of their business: 1) The Advisory Service, catalyser for technological, social, cultural and economic development processes in the coffee growing areas. 2) The Fundación Manuel Mejía, an informal educational entity oriented to the encouragement of human talent in the coffee group and other rural sectors and 3) the National Coffee Research Centre - CENICAFÉ. There is no doubt that continuous training of personnel attached to the said institutions constitutes a strategic element in the competivity, viability and sustainability of Colombian coffee growing. The real-attendance education model is not able to provide expedient training for this population and is decidedly expensive. In this context, the use of virtual learning environments permits, not only a reduction of costs, but also the overcoming of barriers of time and space.

2. PARTICIPANTS

The programme addresses approximately 1000 people including Advisory Service technicians, CENICAFÉ researchers and lecturers from the Fundación Manuel Mejía. The majority are agricultural engineers but other professionals are also well represented. The average age is 35. The students come from all 16 coffee departments and, for the most part, have a medium social-economic level and can count on adequate facilities for Internet access.

3. GENERAL PRESENTATION OF THE PROGRAMME

3.1 EDUCATIONAL CONCEPT

Considering the importance of education in the establishment of more adequate living conditions as well as the dynamic character and changing face of reality, the programme emphasises the understanding of basic concepts and permits the participants to act in various contexts and face up to distinct problems. In this perspective, the student is conceptualised as the centre of the educational process and know-how is built up as an active process, imparted through interaction with tutors and the other participants. In line with this conceptualisation and the characteristics of virtual learning environments the programme is oriented to the following educational principles:
### Principles

<table>
<thead>
<tr>
<th>Principles</th>
<th>Conceived as the programme capacity to:</th>
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<tr>
<td>Interaction</td>
<td>Generate multiple and diverse interaction and collaboration alternatives between participants, promote integration of theory and practice, new and previous knowledge and between various areas of training.</td>
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<tr>
<td>Flexibility</td>
<td>Offer various alternatives for handling time and space; make various sequences and opportunities for deepening knowledge possible; permit various forms of interaction, participation and evaluation.</td>
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<tr>
<td>Pertinence</td>
<td>Respond to the participants’ needs for training, in particular, the training they need to develop the competences of their own functions.</td>
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<tr>
<td>Positioning</td>
<td>Respond to the needs of the national coffee context and the particular needs of the various producing regions of the country.</td>
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### 3.2 GENERAL OBJECTIVES

- Promote the development of skills that enrich the work performance of the advisors, researchers and lecturers of the coffee group and improve their interaction with the coffee growers in the various coffee producing regions.
- Contribute to improving the quality of life of the coffee families, through adequate orientation in decision taking with a view to guaranteeing the viability of their enterprise.
- Favour the exchange of experience and know-how among the advisors, researchers and lecturers in the coffee group through the interaction in virtual learning environments.

### 3.3 FORMATION AREAS

The curricular structure of the programme compiled on the basis of analysis of the national coffee context and the training needs of the participants according to the specific requirements of their professional work.

<table>
<thead>
<tr>
<th>AREAS</th>
<th>COURSES</th>
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<tr>
<td>Use of virtual environments</td>
<td>“Basic computer science and handling of the virtual platform”</td>
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<tr>
<td>Rural expansion</td>
<td>“Expansion and communication”, “Community participation and organisation” and “Formulation, execution and evaluation of projects”.</td>
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<tr>
<td>Coffee economy</td>
<td>The coffee business”, “Plantation management” and “Coffee marketing”.</td>
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<tr>
<td>Information system</td>
<td>“Coffee information system”</td>
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<td>Coffee institutionalisation</td>
<td>“Coffee institutionalisation”</td>
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3.4 COURSE STRUCTURE

There is a basic structure for course planning integrating the following elements:

**Presentation** of the objectives, modules, learning activities, complementary material, evaluation strategies and academic calendar; realisation of activities to promote motivation and knowledge among the participants.

**Modules and lessons** compiled on the base of the specific fundamental concepts of each area and accompanied by graphics, photographs, animations and other teaching aids.

**Complementary material** designed to provide various opportunities for deepening and information on other texts, web sites and other resources permitting the participants to enrich their learning process.

**Individual learning activities** comprising a fundamental axis to strengthen the understanding of concepts and the identification and solution of specific problems in the work context of the students.

**Collective learning activities** to promote interaction and collaboration between students through staging debates, the exchange of experience and building up know-how collectively.

**Evaluation of the learning** designed to permit not only an appraisal of the learning, but also to strengthen it, to make the students aware of their progress and difficulties and to establish new understanding objectives.

3.5 COURSE OUTPUT

Given the characteristics of the virtual learning environments and the pedagogic conception of the programme, the students have an eminently participative role that obliges them to undertake their learning process with discipline and responsibility, establish continuous communication with the tutor and the other participants, work as a team and develop skills for individual study. To offer greater flexibility the process was designed to allow the programme to absorb reading and learning activities according to different timetables although respecting the set periods of the academic calendar.

The orientation of the courses is incumbent on the expert tutors, responsible for accompanying the learning process; providing social-affective support; encouraging critical appraisal of the subjects treated and their application in the work context; promoting participation, interaction and collaborative learning; offering opportunities for deepening what has been learned; appraising understanding; providing clear, warm and expedient feedback; and encouraging a sense of responsibility for learning. Moreover, the students can count on the necessary technical support to solve the problems of dealing with the virtual platform.

3.6 EVALUATION OF THE PROGRAMME

The evaluation is integral, participative and formative. It draws on the technology available to accentuate feedback on the part of the various actors; an essential input for the continuous adaptation and enrichment of the programme. It touches the various components of the curriculum, the performance of the work team and the contextual factors impinging on the learning process.
4. PILOT PROJECT EXPERIENCE

The objective of evaluating and defining the pedagogic and administrative foundations of the programme marks the close of the two course pilot project with 30 students run between May 2003 and March 2004; this period also saw progress in the elaboration of new courses; implementation of learning strategies for personnel engaged in the same and consolidation of the task force.

4.1 LEARNING BY EXPERIENCE

- The emphasis on the understanding of concepts is a particularly significant element from the pedagogic point of view; considering not only the quality of the learning but also the diversity of the contexts in which the students are involved and thus the different situations where they must utilise their know-how to tackle everyday work problems.

- A key factor to promote the accumulation of knowledge and motivate student participation in the virtual environments is the adequate structuring of the learning activities that is particularly valuable for those promoting the utilisation of the new know-how in the work context permitting various forms of participation, facilitating the articulation of concepts and promoting better levels of understanding through the analysis and solution of everyday problems.

- The potential of virtual learning environments for the generation of interaction opportunities should be based on clear motivation, organisation and feedback strategies on the part of the tutor who plays a fundamental role in supporting the students in the identification of joint objectives, generation of a sense of shared responsibility and the creation of a warm interaction environment, The above acquires more relevance because it concerns adults with restricted time, a strong tendency to individual learning and little familiarity with the use of virtual media.

- The human and profession quality of the tutor, his forms of interaction and his capacity to give the students a feeling of being accompanied in their learning through expedient and adequate feedback, is manifested in characteristics that are highly relevant in the process. Further to the specific scientific training, the tutor must have technological, pedagogic and didactic skills to be able to utilise the virtual learning environments adequately.

- It is particularly important, both from the pedagogic and from the administrative point of view that there is an adequate balance between the flexibility allowed to the educational process and the fulfilment of organisational conditions. In view of the geographic distribution of the students and the differences in the time and technology at their disposal, the use of asynchronous media is desirable to permit varying time frames for course access while using these also guarantees an adequate sense of commitment and discipline in fulfilling the academic curriculum.

- The orientation of educational processes in virtual environment with a population group that traditionally has participated in real attendance training processes, deserves - independently and according to his educational level - to complete an adequate transition process, optimum preparation for using virtual learning environments, the development of learning skills and the generation of basic support conditions at technology and pedagogic level.
• The virtual learning environments do not, per se, guarantee the quality of learning and can only facilitate it if realised in the context of a clear pedagogic objective. In this sense, **key quality factors** constitute the rigorous nature of the pedagogic and administrative design, the recognition of the potential and limitations of virtual environments, adequate training of the work team, continuous appraisal and an open approach to continuous improvement. This, with the support of sufficient sources of financing and the pooling of inter-institutional resources and efforts.

• In addition to the inherent benefits of using virtual learning environments, there are other factors that give the programme an **aggregate value**: systemisation of knowledge accumulated through research and experience on the coffee plantations, reinforcement of the interaction between the institutions and the professionals involved and the development of transverse competences such as communication, team work, problem solving, information management and handling the NICT.

### 4.2 CHALLENGES

Taking the findings acquired during the pilot project as a basis, it is planned to cover some 840 students in the course of 2004. Considering the progress made and the optimum conditions to guarantee the quality of the programme, there are various challenges that must be met both short and long term, namely:

• Evaluation and validation of students’ previous knowledge with a view to greater flexibility and pertinence of the curriculum.

• Use of curricular integration strategies enabling the articulation of concepts addressed in the various courses and training areas.

• Definition of strategies to promote the students’ development of skills for autonomous and collective learning

• Evaluation, compilation and implementation of new alternative technologies for students with limited Internet access.

• Definition and implementation of strategies to continuously reinforce the students’ technological competences and promote the optimum use of virtual learning environments.

• Construction of indicators for the evaluation of the impact achieved through the programme under the conditions of coffee growing in Colombia.
BIOGRAPHICAL NOTE

MARÍA TERESA MATIJASEVIC ARCILA

PERSONAL DATA

DATE OF BIRTH  22nd December 1962

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PROFESSIONAL PROFILE

Experience in the compilation, coordination and evaluation of educational, community and institutional projects; educational and social research; orientation of educational processes at various levels and in various modalities; coordination of inter-disciplinary teams. Work experience in non governmental organisations concerned with education and the promotion of human and social development in the rural environment with responsibility for coordination tasks. Lecturer at various universities in the educational, research and social sectors

ACADEMIC EDUCATION

Pregraduate:  Psychology - University of Manizales - 1987


Refresher courses:  Diploma in “Teaching in Virtual Environments”, comprehension teaching and other courses in the context of education, research and the definition of social development projects.

WORK EXPERIENCE

CURRENT ACTIVITIES

“Fundación Manuel Mejía” Stock Farming Education Centre

Since 1998 until today vice director and currently full-time director in charge. Functions: Compilation, coordination and evaluation of the Institutional Educational Project; planning and monitoring of training and education processes for producers and professionals engaged in the stock farming sector; training, assessment and monitoring of lecturers at the institute; development of educational and social research processes; compilation and implementation of institutional backup strategies.
PREVIOUS WORK ACTIVITIES

University of Manizales

Faculty of Psychology chair in evolutionary, investigative research and social community psychology 1987 - 2002.

Autonomous University of Manizales

Coordinator of the community component of the New Rural Initiative Programme in the years 1996 and 1997 on a full time basis.

Foundation for the Integral Development of the Minor and the Family

Coordinator of the Rural Family and Childhood Project from 1992 to 1996 on a full time basis.

University of Caldas

Faculty of Education chair in general psychology, evolutionary psychology and the psychology of learning 1988 - 1992.