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Educational institutes, which of them support effective learning and sustainable action

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Factors and conditions contributing to effective teaching and learning in Agricultural Educational Institution: Analysis of the CODESSER Case

Introduction

It is an undeniable fact that educational establishments are currently being affected by the dynamics of very complex and interrelated phenomena, amongst them, globalisation, scientific and technological advances and the diversification of access to information which, as a whole, are raising new demands on learning and, at the same time, are advocating changes to the identity, functions and objectives of teaching and, inevitably, to the process of management and modalities through which these are organized pedagogically.

In this new global environment, the transformation of information into knowledge plays a central role, which is why developing this competency is a priority challenge for the educational institution. But what type of learning is required so as to be competent in elaborating knowledge? Clearly, neither the traditional basic skills nor the predetermined and finite body of knowledge acquired within the school setting are sufficient. Something extra is needed, something different – in other words, an ability to master the learning process so as to access, evaluate, process and transform information, as well as the ability to transfer learning experiences and engage in lifelong learning, in different areas and for different purposes, making the most of experience, transferring it to new contexts and solving all kinds of problems autonomously.

This new form of learning, known as effective, significant or good learning, is both an end, a content and an educational method geared to promoting self-reliance and to sustaining individual learning as a tool for personal, professional and social growth and progress throughout one's life.

This form of learning cannot appear spontaneously. It needs to be put in place via a different type of school and pedagogical management which can create the necessary and sufficient conditions that enable students to be the architects of their own learning and the teacher to be a mediator and facilitator of this process. However, teaching is framed by and is part of the overall institutional process management, which means that achieving this aim substantially involves the entire educational body. This then prompts three new questions. What criteria or policies contribute to an efficient school organisation? What factors and conditions of school management contribute to effective teaching and learning? How can one ensure continuous improvement in both processes and outcomes?

This presentation aims to provide tangible responses to these questions. Based on the accumulated experience of Codesser, a Chilean educational corporation, its purpose is to analyse the administrative and pedagogical parameters that have helped achieve successful learning in the area of agricultural education.

Recounting the experience includes, first of all, a brief description of the institution. Then we set out the categories of corporate action that enable the effectiveness of the educational centre, and the school conditions and factors that contribute to effective and sustainable learning. Thirdly, we analyse the assessment mechanisms used to ensure the quality of the school management and the effectiveness of the teaching and learning. Finally, the lessons learnt by the institution, enabling its own sustainability over time, are discussed.

Institutional Context

a. What is CODESSER ?

CODESSER (Corporation for the Social Development of the Rural Sector) is a private, non-profit making corporation created 30 years ago by the National Agricultural Society of Chile (Professional Association) in order to promote the global development of the rural sector. Its work involves two main areas of complementary action: training human resources and enhancing production. The former task aims to prepare people by offering formal education services and work training. The latter aims to achieve greater economic efficiency and to boost the productivity and entrepreneurial competitiveness of the agro-forestry-livestock and agro-industrial sector.

The overall management of the Corporation is carried out by a seven-member Board, selected from representatives of the business, academic and associative world. It is chaired by a president who represents the institution.

It is the Board's task to establish the vision and ensure the institutional project is geared to achieving educational excellence, keeping the link with the productive world and ensuring that the corporate heritage is maintained. It also determines the general institutional policies that are implemented by a General Secretariat which has administrative and executive functions, and has four technical departments: Academic, Skills and Training, Productivity Support and Administration and Finances.

In short, CODESSER is an institution that manages human training services as well as services aimed at improving agricultural entrepreneurial capacity. To that end, it works in close cooperation with the State of Chile and with private organizations, administering public and private resources, both physical and economic, and development instruments aimed at supporting progress in, preferably, the rural sector.

b. How is CODESSER's educational system structured?

Formal education is at the centre of the institutional effort. CODESSER provides an educational system made up of 19 educational centres that offer the pre-basic, basic and middle levels. This last level includes the humanities-scientific and technical-professional or vocational modalities. The technical modality offers 9 specialities, the most important of which is the agricultural one in terms of students (63%) and number of schools (15).

The educational offer is addressed to children and young people between 5 and 18, men and women, coming mainly from the rural sector and the urban-marginal zones of the whole country. Enrolment for 2006 is about 9000 students, of which 25% are women and 75% men. The education service offers boarding which is taken up by 49% of the student population (22% women and 78% men). The Corporation provides teaching free of charge and boarding is also free for the student.

On leaving CODESSER, the students can either go directly into the world of work or continue with further studies. For graduates from the vocational courses, the Corporation has agreements linking up with important higher education institutions (INACAP and DUOC-UC) that permit direct entry and official approval of their studies.

c. What are the aims of CODESSER's educational system?

The educational mission of CODESSER is to form rounded, professionally competent and socially engaged individuals. These three educational aims mean that three groups of competencies have to be acquired by the students: learning to be, learning to do and learning to be with others, respectively.

The former requires, and in turn is based on, the command of a key, indispensable capacity, namely, knowing how to learn, which underlies the concept of effective and lasting learning.

In this framework, the Corporation understands the term effective learning in two ways. On the one hand, as a principle of action, content and teaching method aimed at developing the active, effective, autonomous and sustainable learning capacity of the student. On the other, it is seen as a global training outcome, expressed as the command of a range of competencies acquired by the student body by the time they leave.

With this approach adopted over the last decade, the Corporation has mainstreamed the ability to learn to learn as a cross-cutting goal in the curriculum, in such a way that effective learning, in both senses, has become a benchmark for teaching that permeates and engages the entire school activity with a view to fostering personal fulfilment, social integration and the employability and adaptability of the student to future situations.

d. What are CODESSER's results?

In the course of its existence, the Corporation's growth and impact has been sustained. Some relevant educational results include: more educational establishments joining the corporate system, diversification of specialities, increased enrolment, increase in the rate of job placement for graduates and in the level of satisfaction of both students and employers, as well as an improvement in the system's efficiency indicators. In this regard, one could ask what factors have enabled these results. The answer is a sound institutional management process focused on the education mission whose characteristics are analysed below.

II. Criteria, factors and conditions facilitating efficient schooling and effective learning.

a. Management framework for an efficient educational organization: Which institutional policies contribute to the efficiency of the educational establishments run by the Corporation?

The CODESSER schools make up a system run by the Central Office that lays down the objectives and provides the guidelines, policies and rules that define the schools' mission. This higher body is responsible for ensuring the individual and collective efficiency of the different schools. To that end, it has developed over time a framework for action for the management of the educational system. Its distinguishing features are the following: an explicit educational benchmark, direct and active participation of the business community in the institutional and academic management, autonomous school management, quality school management, specific plans and programmes, a framework for efficient teaching, continuous assessment and systematic improvement of teaching.

Explicit educational benchmark: The education service offered by CODESSER responds to an institutional education project governed by a Set of Principles that provides the guiding and normative framework for the schools' action. It sets forth the type of education promoted, the way of carrying out the training, how to understand the educational centre and its relationship with its surroundings. It serves to guide and bring together school management criteria as well as to help parents in selecting the education they want for their children.

Participation of the business community: A key feature of corporate administration is the involvement of business-people in the school and institutional management. Each educational centre is headed by a Regional Business Council with management, executive, consultative and advisory attributes. The contribution of the business community includes providing updated information on the demand for labour, entrepreneurial management criteria, a link with the productive world, professional practice and employment for graduates.

Autonomous school management: The educational establishments are autonomous bodies. They have broad administrative powers framed by the general policies and regulations as established by the Central Office. Each centre works according to an annual school plan which defines the academic, productive, administrative and service provision goals. This is drawn up with the involvement of managers and teachers, is approved by the Regional Business Council and evaluated by the Central Office.

Quality school management: The running of each school establishment is governed by a series of principles embodied in the quality approach. These are: user-needs orientation (students, parents, teachers, employers, etc.), strategic leadership, participation in the school community, process management, continuous improvement and strengthening institutional ties.

Specific plans and programmes: The Corporation has its own plans and programmes that are approved by the Ministry of Education for the nine technical-vocational specialities taught. The curriculum of each technical speciality is based on competencies expressed in a graduate profile, that have been determined in consultation with the different productive sectors and their plans and programmes drawn up with the participation of the respective teaching communities together with experts.

This instrument has a common core of general and vocational subjects for all the educational centres and another variable one that is selected by each school in line with the productive circumstances of the zone. In 2003, the subject of Good Agricultural Practice – related to quality farming processes - was added to the variable core and is obligatory for all the establishments.

Framework for efficient teaching: For the Corporation, teaching management must have clear parameters for optimum implementation. To that end, it has established a framework for efficient teaching which fixes the responsibilities and requirements of every teacher in their daily work, both those in the classroom and the school itself. This framework considers the following four areas, each of which refers to a distinct aspect or responsibility of the teacher, following the whole educational cycle. They are: planning and preparing the teaching, pedagogic practice as such, assessment and reflection on one's own teaching practice and the link with the school community.

Planning is a prerequisite of classroom activity. Based on their pedagogic skills, on their knowledge of their pupils and command of the content they teach, the teacher must document the design, selection and organization of the pedagogic acts, as well as the evaluation strategies they will use to assess their students' achievements in learning and to feed back into their own practice.

Pedagogic practice must adhere to a model of teacher interaction that is learning and pupil centred. Teaching must therefore: aim for autonomous learning; use content as a means of developing the ability to learn; be set in the context of the reality, needs and interests of students; be clear in purpose and structure; make very best use of time available; be demanding in performance expectations; give the student the opportunity to practice and be the protagonist; offer positive incentives; regularly assess and provide feedback into the learning and teaching, and be committed to all students' learning.

The **evaluation** results must help to better understand and detect the students' difficulties and also to help them overcome them. Equally important is considering the effect that one's own working strategies have on the students' achievements. This conscious and systematic reflection on practice should help reformulate pedagogic action and guarantee a quality education for all students.

Sound pedagogic management also implies **bonding responsibilities** that go beyond work in the classroom and that mean commitment and involvement in the educational project of the establishment, peer relations, relations with parents and the educational community. It also means being aware of one's own learning needs and being a constructive part of the working environment, sharing and learning from and with one's peers, and feeling that one is constantly learning.

Continuous assessment: Assessing processes and results is an integral part of institutional management. This can be done via different mechanisms. The results provide the Corporation and the educational centres with objective information on how to constantly improve education. Similarly, the executives from Central Office regularly visit the different educational centres to monitor and supervise the management.

Improving teacher performance: The Corporation's premise is that the quality of the education is played out in the classroom and depends on sound teaching management. Therefore, an essential part of improving the staff's performance involves ensuring the academic preparation of the teachers, which is considered a strategic variable that is directly linked to the excellence of the educational service. Improving teacher performance aims to consolidate pedagogic competencies, update disciplinary knowledge and strengthen the professional performance of the school staff. It is a dynamic process and considers a range of themes and modalities.

Although different in nature, the elements mentioned above make up the policy-normative benchmark of the Corporation that helps steer and regulate the operation of the school by clarifying educational objectives, standards and results, determining processes and procedures and generating the conditions for sound and efficient school management.

b. Pedagogic and school management framework for effective learning: What factors and conditions contribute to attaining effective learning and sustainable action within an educational centre?

The above-mentioned general criteria, policies and standards for educational management are not sufficient of themselves to achieve efficiency in the school. Achieving effective and sustainable learning means thinking up a new educational architecture in which different processes, spaces and didactic forms are articulated and complement each other. That is, school management that is centred on pedagogy and rooted in quality management.

To achieve this, another series of functional parameters of the establishment need to come together that will generate good learning conditions. For CODESSER these factors are: multifunctional structure of the educational centre, learning-centred organization, school resources centred on learning, interactive pedagogy, teacher support and facilities, a productive-didactic plan, participatory evaluation and an annual educational project.

Multifunctional structure of the educational centre: The Corporation's establishments have a particular operating structure. They act simultaneously as educational units, tasked with providing top quality training, as productive units that work their own farms and workshops that offer top quality products, as well as providing a home for half the student population, and as a community service unit that contributes to improving the school environment. These four areas of the schools' action work in synergy, complementarity and convergence to achieve effective learning.

The educational unit is the core and hub of the school's mission. Around it, the production unit is the place for practical learning where, in real-life conditions, job skills and competencies are progressively practised and developed, the accommodation unit the place where individual behavioural skills and rules of coexistence are learned, and the service unit a chance to learn to relate to the productive and social world.

Learning-centred organization: Focussing the role of the educational centres on learning means prioritising skills over disciplinary content and placing pedagogic action at the heart of the educational process organization. This approach requires dynamic teaching and learning processes, spurring teacher participation towards process monitoring and encouraging the student towards a conscious, active, efficient and committed attitude to their own learning, and bolstering in both the corresponding individual responsibilities.

In addition, this view of the organization implies a style of teaching linked to operating as a team, to fixing common goals and objectives, an aptitude for collaborative work, assuming individual and collective responsibility for the learning outcome, fixing high expectations for the students and being involved in permanent training processes.

From this angle, the educational centre represents for CODESSER a place for dynamic learning where all the members, including business-people, play a leading role that requires that each and every one, at their own level and function, excel his or herself and engage in continuous learning. The latter factor turns the school into a learning community that fosters the individual's and the school's development.

Learning-centred provision of school resources: The fact that the student and their learning is at the centre of the educational effort means substantially modifying the physical organization of the school environment and functioning so as to turn the school into a welcoming place that is both stimulating and promotes learning in every corner and for all the occupants. For the same reason, it needs to properly fulfil the characteristics specific to an educational, accommodation and production centre, brought together in a large organic space that is suited to providing all-round training for the student and that addresses the well-being of the teachers and of the other education employees.

A key element in the physical structure of the CODESSER school is the concept of the itinerant student in search of knowledge. This idea translates into arranging the school infrastructure around information sources. For example: allocating rooms according to themes or disciplines; setting out texts, equipment, technology resources and furnishings so as to be appropriate for the class subjects; organizing a learning resource centre; establishing computer laboratories permanently connected to the Internet; using the farm and work premises as the prime places for acquiring and practising technical knowledge; arranging learning areas on the property, sports and recreational areas and individual study areas and creating work and common rooms for the teachers. This is to facilitate access to information and promote independent learning in a context similar to that encountered on leaving the educational institution.

Interactive pedagogy. In a learning-centred educational organization, the mode of teaching plays a fundamental role. Teaching how to learn implies a new teaching role, a collaborative work style and using a positive, active, participatory pedagogy that is constantly interacting with the student and other education workers. It also implies trans-, inter and multidisciplinary didactics that includes teachers from a range of subjects. Equally, it means applying methods that foster independent learning and of making the effort to learn, transferring knowledge to new contexts and repeatedly practising learning skills. No less important is support for individual and collaborative work. It should foster a horizontal articulation of subjects and integration of content, the use of didactics applied in real contexts, the use of varied curricula spaces and team teaching.

Teacher support and facilities: The abovementioned means that the teachers need to have time within the teaching schedule to individually and collaboratively do their planning as well as to constantly update their skills. It also requires constant support and back-up from the teaching management through class supervision and reviewing with the Head Teacher planning and assessment instruments.

Didactic-productive plan: A prime aim of agricultural vocational schools is to prepare students for the world of work. With that in mind, the educational establishments run by the Corporation have productive units that reproduce the labour market that the student will join when they leave. An important part of the student's training and job experience is done in this context, the farm, which becomes the school's most relevant classroom and learning zone. The school/productive business approach applied is similar to that of alternate training - the difference being that the student gets work experience in the productive unit of the school itself, under the supervision of their teachers.

Developing job skills in conditions and situations that reflect the outside productive world has meant creating mechanisms to ease the student's integration into a whole range of tasks and responsibilities implicit in agricultural production. To that end, a instrument known as the Didactic-Productive Plan has been designed that articulates and renders compatible the academic programmes and the agricultural-management side, as well as establishing the gradual involvement and responsibility of the student in running the farm.

Participatory evaluation: In a learning-centred organization, the evaluation approach and practice are of particular relevance, since they are an essential part of effective learning. In the case of the schools run by the Corporation, evaluation constitutes an educational content, and thus is built into the curriculum as a cross-cutting and permanent objective. Its teaching covers the ethical and methodological aspects of the process, so that teaching serves the purpose of continually improving learning as well as the student's personal, academic and professional development. By virtue of this, student assessment is a shared and integral process that is also integrated back into the education and therefore of great pedagogical worth and value for all levels and groups in the institution. The students and teachers are mainly responsible for the evaluation.

Direct and active student participation in self-assessment is fostered and encouraged as well as peer review. This means that the results of the process reflect the assessment that the student his or herself, and their colleagues, have made of their own learning.

Particular attention is given to feed-back that underpins learning. Information from this evaluation can be used directly by several groups, amongst them, the students, teachers, parents, the school, and indirectly, the Corporation. Its immediate benefits include better learning and teaching.

Annual educational project: For the Corporation, efficient execution of the school's mission requires sound school management and this, in turn, requires leadership able to bring together these functional criteria with institutional policies, generate optimum implementation conditions and guarantee quality of individuals, resources, processes and results as well as their interrelationship within the educational centre. Equal responsibility lies with the pedagogic management. It is the teacher's task to lead and to create - at their own level - the conditions for effective learning as part of efficient teaching that is also results-committed.

A useful, operative instrument for organizing, guiding and directing the school's work towards enhanced efficiency levels, is the annual educational project that is drawn up by each establishment, with the participation of the school community. It contains goals and benchmarks for each area of the school's operations. These goals are translated into indicators. In the educational area these indicators include: academic performance, level of student satisfaction, employment rate for graduates, employers' level of satisfaction, retention rate and pass rate. In addition, the plan includes the proposed budget and operating plan of the farm or productive unit. It is evaluated by Central Office at the end of each year.

These elements sum up the factors and conditions contributing to effective teaching and learning. Nevertheless, they must be mobilized through quality school management.

III. Evaluation for continuous improvement: How to assure quality school management and effective teaching and learning?

For the Corporation, evaluation is a tool for managing and continually improving the educational service, which is why it is an integral part of the institutional management. Four objects or focal points are identified for evaluation purposes: the institution, the school, the teacher and the student.

The institution is evaluated by two external bodies: the Ministry of Education and CODESSER's Board of Directors. The former periodically monitors compliance with administrative, financial and resource-use rules, whereas the latter assesses the level of compliance with the institutional aims via institutional management reports both centrally and at the level of the schools. As a way of building an objective approach to the constant process of evaluating the quality of the institutional management, the Corporation periodically contracts the services of external auditors.

It is in the institution's interest to verify the results and impact of its work. That is why two evaluation processes are carried out annually: the Annual Study on Graduate Monitoring (EASE) which aims to measure the institutional impact by gathering information about the jobs that its graduates have gone into, and the Employer Satisfaction Study (ESE) that aims to determine the level of employer satisfaction with CODESSER graduates' performance in the respective organizations.

The school is evaluated through three processes: self-diagnosis and external evaluation carried out by the Central Office and the Ministry of Education. The principal assessment benchmark for the school is the annual educational project that includes the academic and production aspects, external services and global management. The comparative parameters are the goals established by the school for each of these operating areas.

The teacher is assessed on their management in terms of their students' success, as well as their teaching performance. The latter is analysed via a teacher supervision system that covers all areas considered as part of efficient teaching.

The student is assessed externally via national tests such as SIMCE and international tests such as PISA, TIMSS and SERCE. Internally, the Corporation applies the Annual Performance Assessment System (SAER) that checks the quality and quantity of learning acquired by the students in both general and vocational subjects.

IV. CODESSER's learning achievements: What lessons can be drawn from the experience?

Several lessons can be drawn from CODESSER's experience:

First of all, that an educational institution, just as its students, needs to be able to **learn to learn**, that is, to understand, monitor and modify its own management processes, depending on its demands. To do that, it must build itself up as an intelligent organization, able to discover for itself the long-term institutional sustainability mechanisms.

Secondly, that is fundamental to **learn to do**, which means applying knowledge to tasks, through continuous and collaborative learning. It also means being able to rely on administrative flexibility and developing an ability to adapt to the new requirements of the global world. It must possess and develop innovation skills, the ability to project itself and embody change, by processes of self-reflection, permanent monitoring of trends, and by constant planning and evaluation.

Thirdly, the institution cannot generate all the knowledge, nor pool all the resources and synergies that are needed to subsist and flourish, which is why it is vital to **learn to establish effective and lasting bonds** with bodies that have the knowledge, resources and also that have needs to satisfy.

Fourthly, none of the abovementioned would be possible without individuals who are fully committed to and participate in the educational management, who are accountable for the results and can act autonomously within their area. This requires meticulous recruiting, constant improvement and a policy that fosters **learning to live together** with a clear institutional identification and shared expectations.

Finally, a successful institution needs to **learn self-governance** through forthright and effective leadership throughout the organization. At the central level, there needs to be clear ideas, constant vigilance, keen analyses of possible future scenarios, a constant redirecting of strategic objectives, periodic review of ends and goals and aligning both the organization and its resources towards these. At the school level, there needs to be efficient management, an essential factor for quality schooling. This means providing emphatic support for teaching, expressing high expectations for teachers, focussing concerns on school performance, exercising pedagogic leadership centred on teaching quality and being aware that the enduring goal is better learning for the students.

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Work experience

Professional work in a wide range of academic fields, in the spheres of teaching, teacher-training and educational research in Chilean universities. Her university experience includes the performance of high-level executive duties, especially governing a Chilean state university for three years. In addition to her university experience, she has worked as an international consultant in education in various Latin American countries and as an adviser in establishments of higher education, town councils, consultancy companies and educational projects financed by national and foreign organizations.

Currently she is the Academic Director of the Educational Corporation of the National Society of Agriculture of Chile, an institution that administers 21 educational units devoted to vocational training. Her main function is institutional academic management in close coordination with the central executive team and the educational establishments in its charge.

Education

- PhD (1979), Florida State University, Tallahassee, USA. Area of specialization: the design and evaluation of educational systems.
- Master of Science (1977), Florida State University, Tallahassee, USA. Area of specialization: the design and evaluation of educational systems.
- Specialist in Educational Technology(1976). Programme OEA/FSU. Educational Technology Centre, Florida State University, Tallahassee, USA.
- State teacher of German (1969). Roman Catholic Pontifical University, Chile.

Academic experience

- Maritime University (1998). Lecturer in the Research Programme for Total Quality Management in Education.
- Maritime University (1995-1997). Lecturer in the Research Programme for the Development of Educational Projects.
- Playa Ancha University of Educational Sciences (1987-1990). Lecturer in the Masters' Programme for Educational Evaluation.
- Pontifical Catholic University of Chile (1975-1990). Lecturer in the Methodology of Teaching in the Faculty of Education, and Lecturer in the Masters' Programme for Educational Planning.

Professional experience

- Academic Director of the Educational Corporation of the National Society of Agriculture (CODESSER) (1993 to the present).
- Coordinator of the Programme for the Institutional Promotion of Agricultural Education, Project 806-SF/PR BID/MAG Paraguayan Government, with headquarters in Asuncion, Paraguay (1990-1992).
- Rector of the Playa Ancha University of Educational Sciences (1987-1990)
- Educational Adviser and ACES Consultant, Adolfo Ibanez University and Diego Portales University (1999-2002).
- International Consultant in various educational projects in Paraguay financed by the BID, IICA and OPS (1994-2001).

Languages

Spanish: Mother tongue
English: Speaks, reads and writes
German: Passive