

**9. PROPOSAL FOR
HIGHER DISTANCE
EDUCATION QUALITY
STANDARDS**



GROUP WORK DURING THE TECHNICAL MEETING

The Team of Experts is composed of the following members:

- Alejandro Tiana Ferrer
- Rosario Domingo
- Beatriz López
- Emannuelle Reffenne
- María Jose Oyón
- Mercedes Herraz
- Mari Luz Castellanos
- María Gómez



The group wrote three basic documents for developing the foundations of the Quality Standards System, as well as the surveys and the report on its results:

1. Synthesis of documents compiled for higher distance education Quality Standards development
2. Quality Standards proposal
3. Potential regulatory framework for virtual course offerings

9.1 SYNTHESIS OF THE DOCUMENTS COMPILED FOR THE DEVELOPMENT OF THE QUALITY STANDARDS FOR HIGHER DISTANCE EDUCATION

In this document, contributions to the project are organized in three groups based on the following subjects:

- Models and experiences of quality and evaluation
- Standards and indicators for distance courses
- Models, standards, and indicators for virtual courses

This document provides a list of documents and a classification system that allows interested persons to access them easily. It includes a table with names of documents, dates, and names and affiliations of persons who submitted the documents, as well as information about the topic, a summary of the contents, and a list of key words.

9.1.1 RELATED DOCUMENTS

1. MODELS AND EXPERIENCES OF QUALITY AND EVALUATION

2. Standards and indicators for distance courses
3. Models, standards, and indicators for virtual courses

“Modelo Iberoamericano de Excelencia en la Gestión. Interpretación Sector Educativo” Fundación Iberoamericana para la Gestión de la Calidad. (FUNDIBQ)

ZAMBRANO, Nalve: “Informe sobre las experiencias en la definición de estándares de Calidad en la Educación Superior en Venezuela”. Universidad Nacional Abierta Venezuela. Ing. Nalve.

“Indicadores de calidad para la Educación a Distancia”. 3º Reunión Nacional de Educación Superior a Distancia. Asociación Nacional de Universidades e Instituciones de Educación Superior (ANUIES Consejo Regional Centro – Sur).

“Method for improving the quality of higher education based on the EFQM model”. Versión inglesa 1998.

BERGAMASCHI, Jorge: “Los desafíos de la educación a distancia universitaria en contextos de crisis socioeconómica: caso I.U.A. Argentina”.

CONTASTI, Max: “Evaluación Institucional. Notas e Indicadores. Enfoques y experiencias”. Universidad Nacional Abierta Venezuela.

TORANZOS, Lilia: “En la búsqueda de estándares de calidad”. Organización de Estados Iberoamericanos para la Educación, la Ciencia y la Cultura (OEI).

ZEPEDA DEL VALLE, Juan Manuel: “La Educación Abierta y a Distancia en Ciencias Agropecuarias y Pesqueras: Contribuciones para el diseño de la evaluación de programas no-presenciales y semipresenciales”. Centro Regional Universitario Centro – Norte. Comités Institucionales para la Evaluación de la Educación Superior (CIESS) Comité de Ciencias Agropecuarias.

WHITELEY, Peter (2002): “Quality Assurance & Audit. At the University of the West Indies. Procedures and practices”. University of the West Indies.

(2002): “Quality Assurance at the University of the West Indies: The Self Assessment”. University of the West Indies. Quality Assurance Unit Office of the Board for Undergraduate Studies.

(2002): “Work of the Review Team”. University of the West Indies. Quality Assurance Unit Office of the Board for Undergraduate Studies.

VILLARROEL, Armando (2002) "Presentación OUI. Estándares de calidad".

DE CASTILLA U. Miguel (2001): "Los estándares educativos: orígenes y controversia". Universidad Centroamericana de Nicaragua.

2. ESTÁNDARES E INDICADORES DE CURSOS A DISTANCIA.

"Estándares de metodología a distancia", "Resultados del taller"

"Promoting Quality in Open and Distance Learning"

"Estándares mínimos de calidad para la creación y funcionamiento de Programas Universitarios de Pregrado"

"Indicadores básicos para la evaluación del sistema de estudios a distancia de la Universidad Técnica Particular de Loja"

"Seminario sobre estándares de calidad para instituciones de educación superior"

"Estándares de la Universidad Católica de Santa María"

"Criterios y procedimientos para la verificación de estándares de calidad de programas académicos de pregrado. Versión preliminar"

"Distance Education. Guidelines for Good Practice"

"Academic Advising Standards"

"Oregon State University Distance Education Policy Framework E. Technical Standards"

"Indicadores de qualidade para Cursos de Graduação a Distância"

"Rhode Island System of Public Higher Education. Standards for Distance Learning"

"Propuesta de indicadores de desempeño para los Programas de Trabajo de la

Dirección de Educación Continua"

3. MODELOS, ESTÁNDARES E INDICADORES DE CURSOS VIRTUALES.

“Distance Learning Programs”

“Quality Standards in eLearning: A Matriz of Analysis”

“Evolución hacia un nuevo paradigma educativo-Educación Virtual”

“Fundamentación del modelo INNOVA para la evaluación de cursos en línea”

“Indicadores de calidad de los cursos virtuales”

“Desarrollo de una guía metodológica para la construcción de cursos que usen las tecnologías asociadas a Internet en las Unidades de Educación a Distancia de la UCN”

“La enseñanza virtual en la Educación Superior”

“La educación superior virtual en las Américas: problemas, tendencias y soluciones”

“Guiding Principles for Online COE Extension Coursework”

“Concepción sistémica de la educación superior a distancia y universidad bimodal: una vía hacia la calidad en Latinoamérica: Experiencia de la Universidad Técnica Particular de Loja”

“Utilização do QFD Estendido no Levantamento de Requisitos e Definição de Critérios de Qualidades Tecnológica no Desenvolvimento de um Ambiente de Gerenciamento de Informações para Ensino Distância (EAD)”

“Quality On the Line. Benchmarks for success in internet-based distance education”

9.2 QUALITY STANDARDS PROPOSAL

9.2.1 INTRODUCTION TO THE DEVELOPMENT OF QUALITY STANDARDS

by the expert team from UNED

This document presents a proposal for Quality Standards for higher distance education. It is organized in three sections. The first is an introduction whose purpose is to explain the organization of the rest of the work, especially the factors considered in the selection of the model by which the cited standards are defined. The second central section discusses the development of the standards. The third part is a glossary of terms.

1. EXPLANATION

In defining quality standards for higher distance education programs, a review of the literature shows a lack of consistency. For this project, it has been decided that the standards will bring together the factors related to distance programs and will serve as a guide to assure their quality and continuation. For this reason the following definition has been adopted:

“Level or grade defined as necessary and indispensable so that something can be considered acceptable” (Diaz, 2001).

As shown in Section II, “Standards Development,” this level or grade has been formulated as the fulfillment of a series of activities. Although the definition allows for a quantitative approach, it exceeds the scope of this work.

The process of determining Quality Standards is contained in a three-part hierarchical structure: 1) criterion; 2) standard; and 3) indicator. The criterion is a critical factor for the adequate functioning of an organization if it is an accurate measure that can be used to identify if a standard has been met. It acts as a

control variable, as defined in the latest version of the ISO 9001 standards “Quality management systems – Requirements.”

i. METHODOLOGY

The methodology used to develop the quality standard is as follows:

- a) Selection of a definition of quality
- b) Consideration of the general objectives
- c) Selection of a quality management model
- d) Deployment of the model

a. Of the many available definitions of quality

The definition established by the International Organization for Standardization (ISO) has been selected. The ISO Standard 9000:2000 defines quality as “grade at which a collection of inherent characteristics meets its requirements.” The term “requirement” is understood as “established need or expectation, generally implicit or obligatory” and relates to the aforementioned definition of a standard. Nevertheless, in agreement with Juran (2001), there are two key definitions:

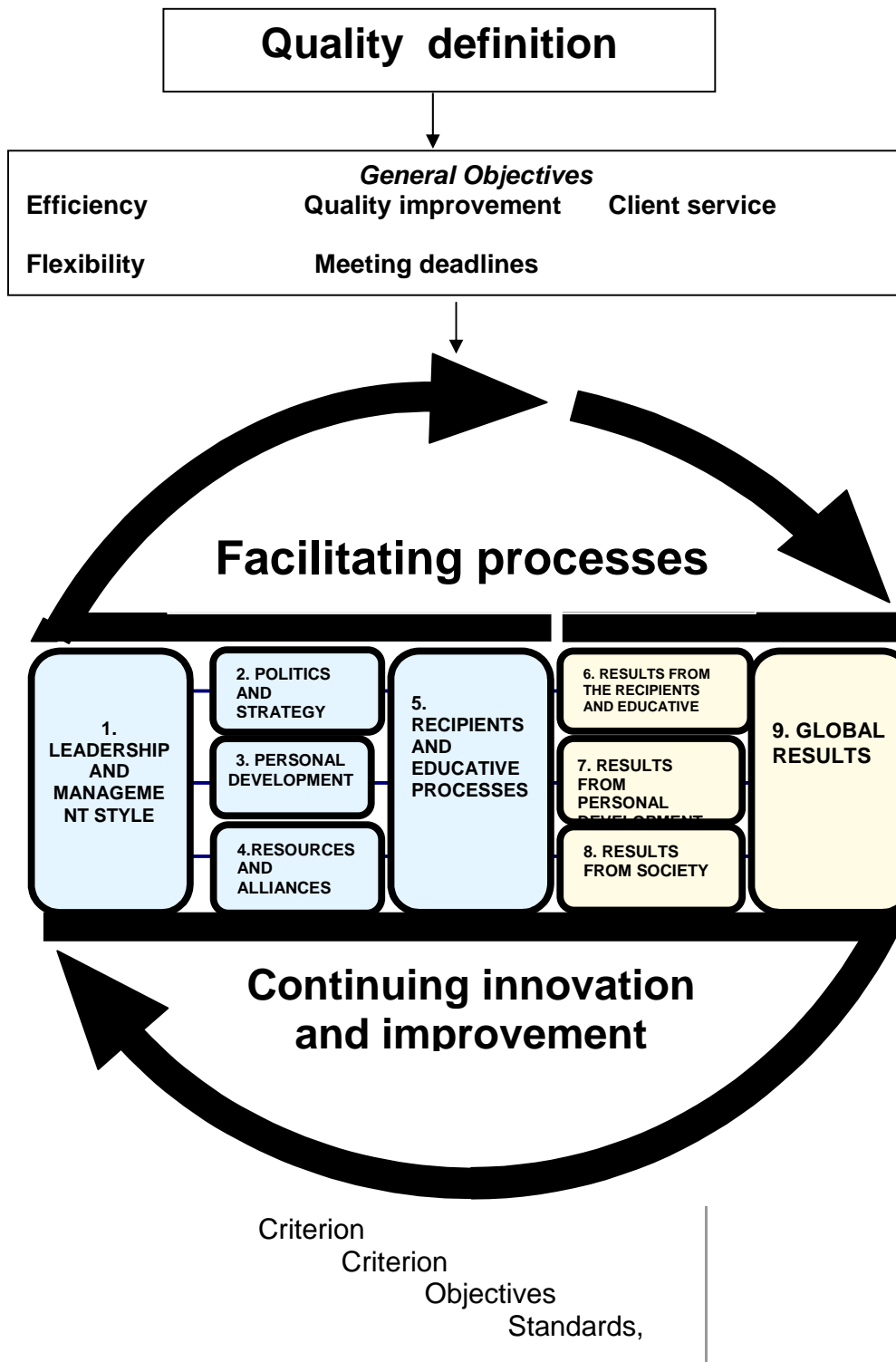


Figure 1: Methodology for standards definition

1. Quality means those characteristics of a product that meet the needs of the client and therefore satisfy him. In this sense quality is related to income.
2. Quality means a lack of deficiencies, a lack of errors that would require redoing the work, or that result in operational errors, unsatisfied clients, complaints, etc. In this sense, quality is related to costs.

Juran's considerations about the quality of a product can be extrapolated to a service and consequently to a distance program. Furthermore they provide an impetus to seek a framework related not only to the requirements of quality but also of the management of the program. It is not the intention to look for an economic focus but rather to keep in mind that a high quality program can include good resource management.

b. Consideration of general objectives

Consistent with the previous section, general objectives should be defined in a manner similar to the productive environment, including reduction of costs, improvement in quality, increase in flexibility, meeting of deadlines and service to the client (Machuca et. al., 1995). These general objectives should exist at the strategic, tactical, and operational levels.

Reduction of costs is achieved by taking advantage of resources and by investing in improved technology. In addition, an increase in efficiency is sought in the relationship between the results obtained and the amount of resources used to obtain them.

Improvement in quality is defined as continuing improvement or a recurring activity to expand the ability to achieve the requirements (ISO 9000, 2000).

Increase in flexibility is necessary in order for the system to be able to respond to any internal or external change.

Achievement of deadlines includes submissions by the planned deadline or ahead of schedule, such as the delivery of didactic materials for higher distance education.

Service to the client should be satisfactory since this is a means for the business to achieve a competitive advantage by distinguishing itself.

Furthermore, in order to define these general objectives, the following dimensions of service quality should be taken into consideration (Parasuram, Zeithaml, Berry, 1985):

Tangible elements include physical appearance of installations, equipment, personnel, and communication materials.

Reliability is the ability to provide the promised service in a trustworthy, secure, and timely manner.

Responsiveness is the attitude that is shown in supporting the clients and offering rapid service, including fulfilling commitments on time.

Professionalism includes possessing the required skills and understanding how to perform the service.

Courtesy is defined as attentive, respectful, and friendly personal service.

Credibility is defined as truthfulness, believability, and honesty in providing the service.

Security is the clients' sense that they are in good hands, minimizing danger, risk or doubt

Accessibility means being easy to contact.

Communication keeps the clients informed, using language that they can understand, as well as listening to their concerns.

Understanding of the client is understood as making an effort to get to know the clients and their needs.

C. Selection of a quality management model

For the process of defining Quality Standards, three options have been analyzed:

- Develop the standards within a quality management model.
- Develop the standards within the guidelines of qualifications or careers created by the appropriate organizations of each country.
- Develop the standards using methodologies such as the Quality Function Deployment (QFD) or the House of Quality, a structured and disciplined procedure defined by Akao that provides a means to transfer the needs of the client to service requirements or quality characteristics through a series of steps involving all areas of an organization.

This does not preclude consideration of the classic subsystems of distance education, rather since there is a clear relationship between “standard” and “quality” tools that have been assessed in providing an effective structure.

Because of the possibility of using diverse methodologies, such as the previously mentioned QFD, within a quality management model, and because these models are recognized internationally, this option has been chosen. Furthermore, the evaluation guides published in Spain by the University Coordination Council (an organization of the Ministry of Education, Culture and Sports) also consider these types of models. In fact the document “Guide for Service Evaluations” was based

on the “European Business Excellence Model” proposed by the European Foundation for Quality Management (EFQM). This has provided a reference for quality management based on what is commonly known as Total Quality, which is in harmony with the growing consensus about the critical characteristics of an organization.

The Ibero-American Foundation for Quality Management (FUNDIBQ) has approved the Ibero-American model, which is similar to the European one. This new model has been adapted for educational institutions, university centers, and primary or secondary institutions (Consejo de Coordinación Universitaria, 2002).

If the definition of standards is included within a management system, the excellent European models (EFQM – European Foundation for Quality Management) and North American models (Malcolm Baldrige) must nonetheless be discarded because their area of influence does not include all the countries included in this project. For that reason, the “Ibero-American Model for Management Excellence – Interpretation for Education” has been extensively analyzed. Nevertheless, despite the fact that it has been adapted for the educational realm, the proposed model is suitable. It maintains the basic structure of the original model, but headings, criteria, definitions, and contents have been modified to reflect the reality of higher distance education.

Although distance education is relatively new, there are enough precedents in the educational environment to make one think that the focus and progressive utilization of an Excellence Model would be a change similar that which happened years ago with the transformation from an industrial world to a service-oriented one. Furthermore, these internationally-known models will improve the comparisons between institutions.

d. Deployment of the model

The use of the model will be carried out in the following steps:

- Selection of criteria and sub-criteria
- Definition of objectives
- Definition of standards
- Definition of indicators

The selected criteria are those that have been established in the Excellence Models and are grouped under Facilitating Processes and in Results, as shown below:

Facilitating Processes

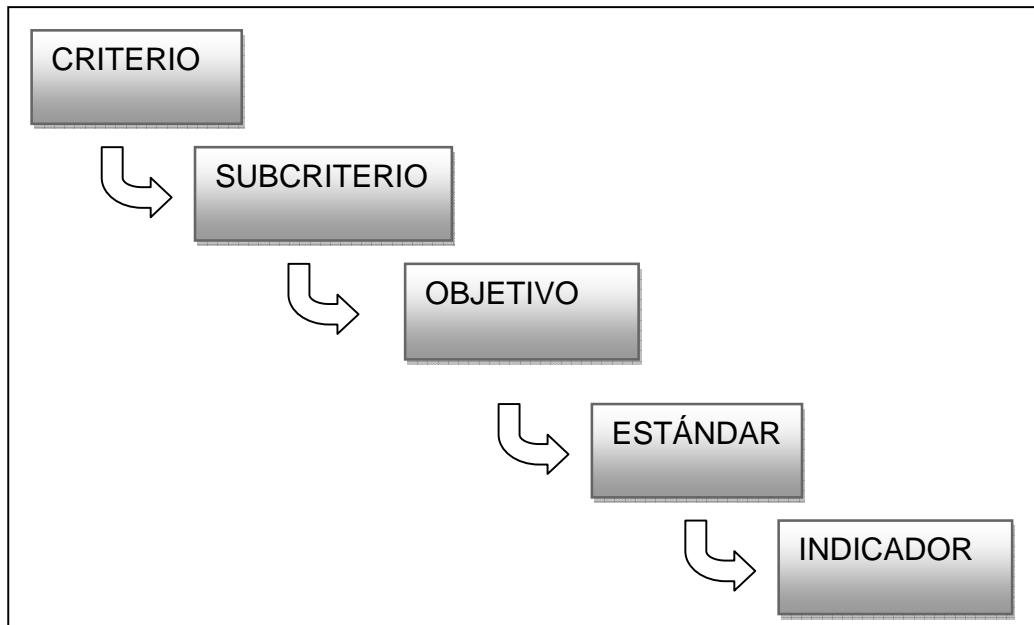
1. Leadership and management styles
2. Policies and strategies
3. Personal development
4. Resources and alliances
5. Recipients and educational processes

Results

6. Results from the recipients and educational processes
7. Results from personal development
8. Results from society
9. Global results

The criteria called “Results” expresses WHAT is being accomplished by putting the “Facilitating Processes” criteria into practice. The “Facilitating Processes” indicate HOW different activities are focused in relation to management and what they contribute to excellence. The order in which these criteria are presented in the model is not important. Moreover, a common practice of Excellence Models is assigning a specific score to each criterion; in the process of self-evaluation, the aggregate score rises as a function of the extent to which the criteria are met.

The division between the two types of criteria “Facilitating Processes” and “Results” does not mean that it is necessary to study those that are directly linked independently; rather, with this form of organization the links between the process and the results are emphasized. These criteria are divided into sub-criteria, objectives, standards, and indicators, as shown in figure 2.



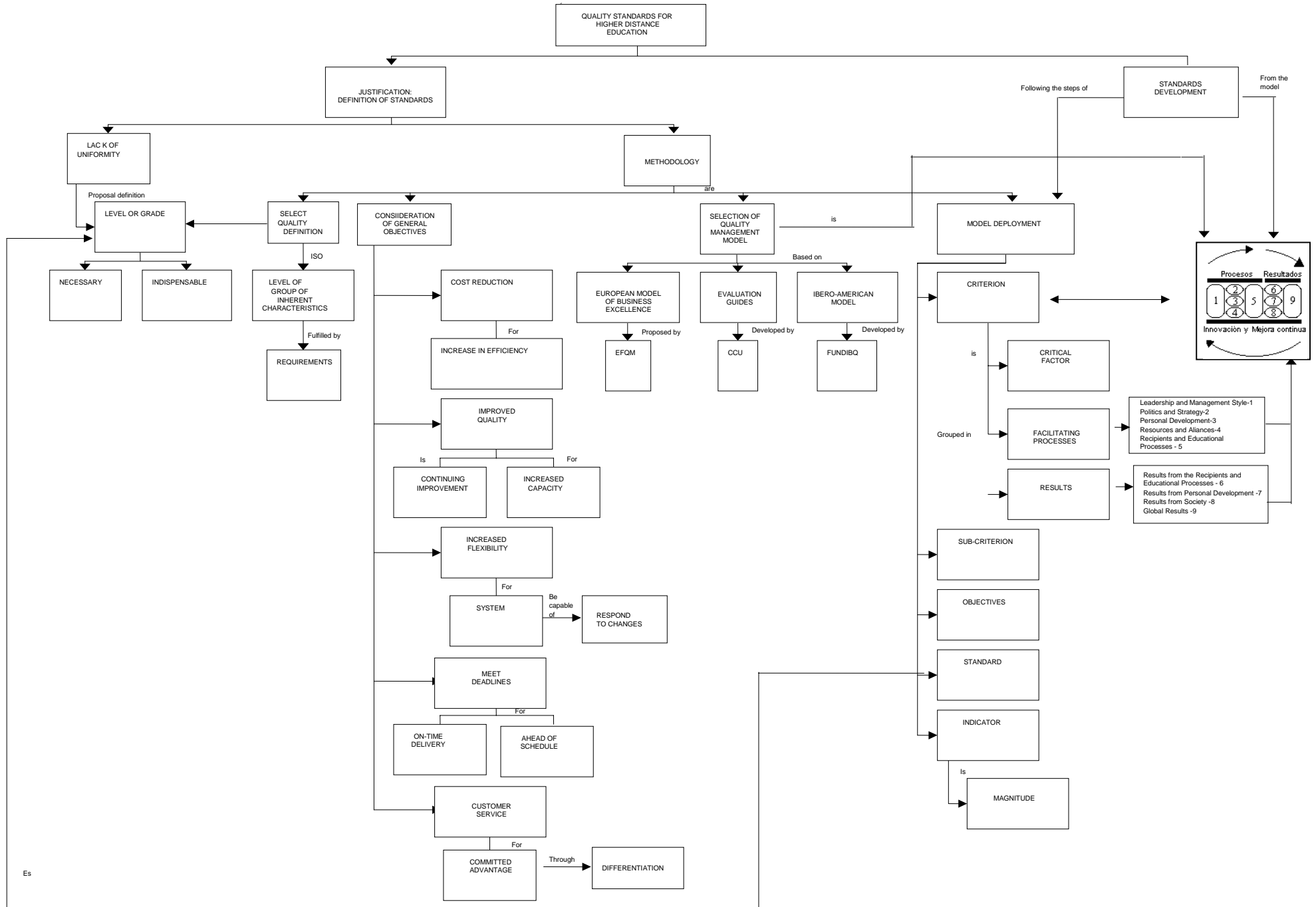
While the criteria define the general framework, the sub-criteria allow delineation of areas for closer analysis; the objectives reaffirm the purpose of the study in each area. For each area, and in order to reach the objectives, a minimum quality level, or standard, is set that is possible to measure with the indicators. This structure has been maintained within all nine criteria.

The “Results” criteria 6, 7, and 8 have been structured in two large sub-criteria: perception measurements and performance measurements. Criterion 9, “Global Results,” is a measure of improvement and is an essential element for providing feedback about the previous criteria.

The standards were developed in two ways; in the definitions of some criteria or sub-criteria those responsible for their application are explicitly named, while in others the responsible parties are not named.

The indicators have been created as measurable results to avoid the creation of a large number of levels and to facilitate the development of measurement instruments.

Below is a conceptual map showing the development of the model:



ii. GENERAL CONSIDERATIONS

The quality standards and their associated indicators, when incorporated in an excellence model, include not only the intrinsic characteristics of a program but also other characteristics related to its organization and teaching that can affect the perception that potential students have of the program. It is for this reason that institutional factors have also been considered, since their credibility can contribute directly to the program. However, the document does not focus on institutional evaluations.

In practice, the model can be applied in a modular fashion without needing to use all of the criteria, and each institution can choose the ones that they consider most relevant.

The sub-criteria have been formulated in a diverse way in the model in an attempt to make their contents reflect the reality of a program. As a consequence there is no significance to the way they are presented, either in their wording or in their number.

This work will become more concrete once the sub-criteria are defined and each one is assigned its corresponding specific objectives, quality levels or standards are defined for the objectives, as well as the variables or indicators that allow for their measurement. However, it is important to point out that it will be necessary to assign a quantitative compliance level for each standard. These levels have not been assigned because it was considered to be a responsibility of each institution, which should set realistic levels that can be used as a starting point for improvement.

Given that the established indicators, although intended to be representative of overall conditions, are ambitious, it may be appropriate to establish diverse levels.

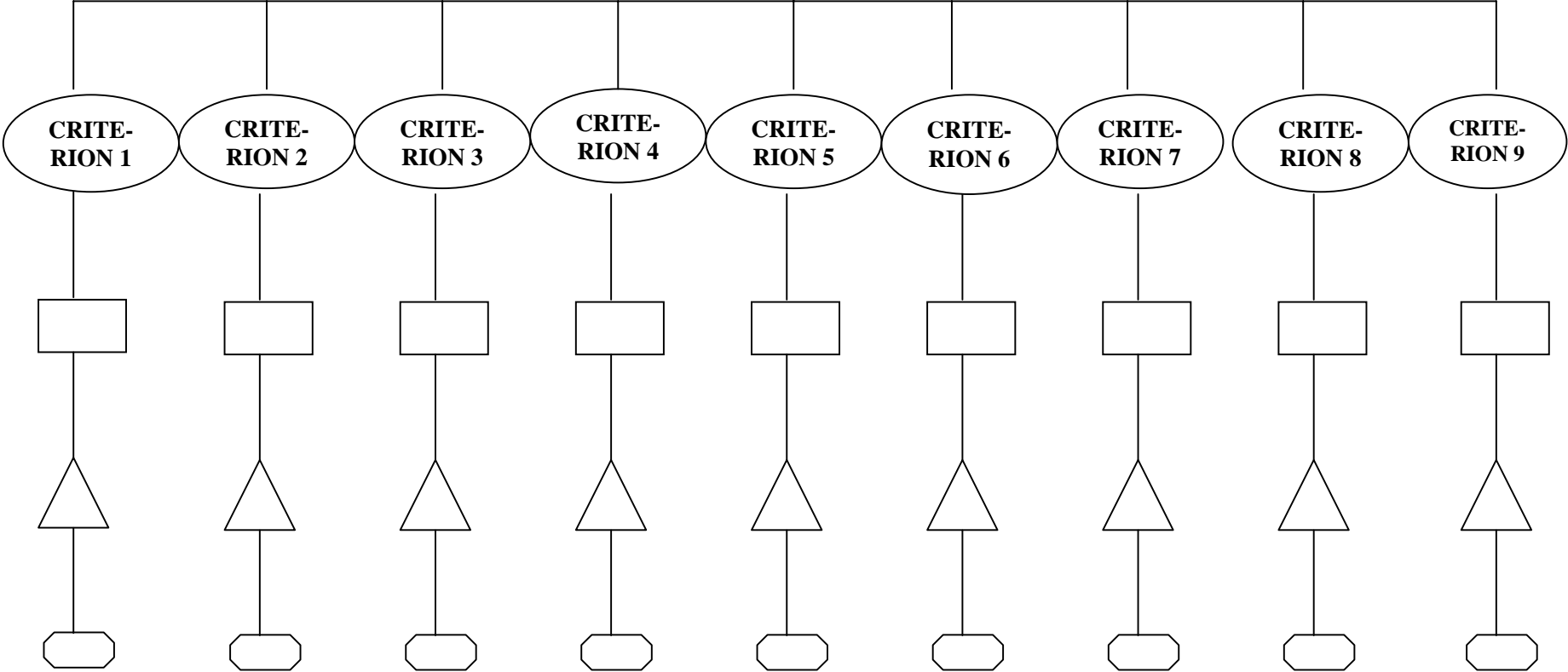
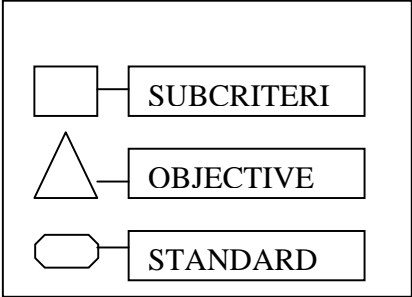
The Ibero-American Model has served as a reference for structure of the development of the standards, but scores assigned to each criterion of the numerous standards in the Model were not taken into account, nor were the associated indicators.

9.2.2 PROJECT RESULTS: STANDARDS

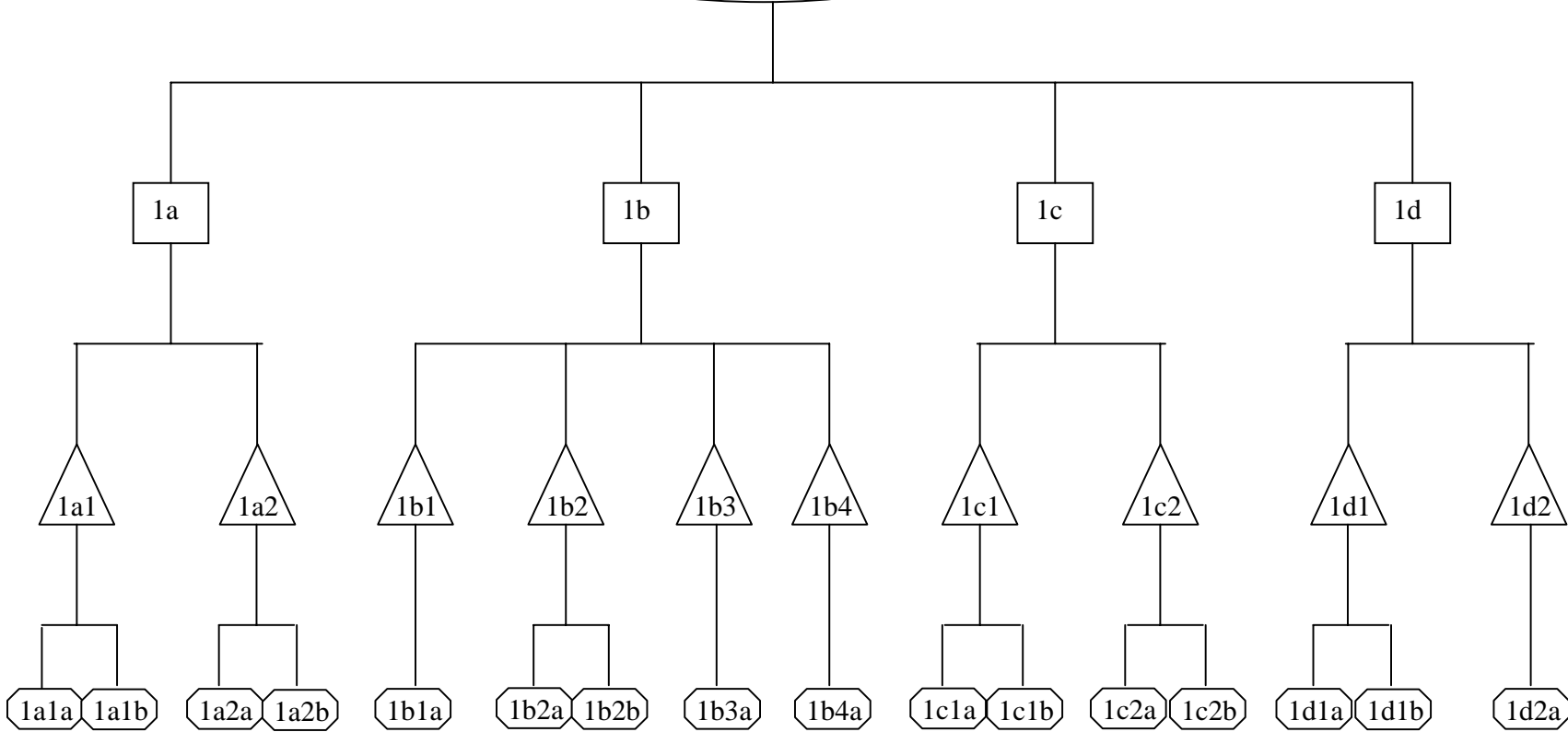
Next we present the results of the work of the experts, after inclusion of the suggestions from the project technical meeting and the pilot project. Included are the nine criteria with their corresponding standards.



**REPRESENTATION OF THE
STANDARDS TREE**



**CRITERION 1:
LEADERSHIP AND
MANAGEMENT STYLE**



CRITERION 1. LEADERSHIP AND MANAGEMENT STYLE

Criterion 1 discusses how the organizational structure of the distance education programs, the institutional procedures and management have been developed and applied. The reason criterion 1 was developed was to maintain coherence with policy and the strategic plan of the instructional center.

Subcriterion: 1.a.The leaders or program directors demonstrate their commitment to excellence by maintaining coherence with the policy and the strategic plan of the Instructional center.
Objective: 1.a.1.- The leaders are actively involved in quality management of program..
Standard: <ul style="list-style-type: none">• Know the Instructional Center's policy and strategic directives• Know the Instructional Center's policy and strategic directives.
Objective 1.a.2 To be accessible and listen to the employees and staff working on the program.
Standard: <ul style="list-style-type: none">• Communicate with program staff.• Encourage the participation of all staff.
Subcriterion: 1.b The leaders or program directors actively work with the Instructional center and the public to promote the interests and satisfaction of all program staff.
Objective: 1.b.1 Help identify all staff involved in program development and their needs and expectations.
Standard: <ul style="list-style-type: none">• Offer resources to the program organizers for identification of all staff involved in program development.
Objective: 1.b.2. Ensure that the needs and expectations of program staff are considered in the planning process

<p>Subcriterion: 1.a. The leaders or program directors demonstrate their commitment to excellence by maintaining coherence with the policy and the strategic plan of the Instructional center.</p>
<p>Standard:</p> <ul style="list-style-type: none"> • They ensure the satisfaction of program staff involved in program planning • They provide an adequate environment for the needs and expectations of staff involved in program development.
<p>Objective: 1.b.3 Ensure the availability of channels for program staff to express suggestions and complaints</p>
<p>Standard:</p> <ul style="list-style-type: none"> • Ensure the availability of channels for program staff to express suggestions and complaints.
<p>Objective: 1.b.4. Facilitate the establishment and maintenance of good institutional relationships for the organization itself and functioning of the program</p>
<p>Standard:</p> <ul style="list-style-type: none"> • Facilitate the establishment and maintenance of good institutional relationships for the organization itself and functioning of the program.

<p>Subcriterion: 1.c The program directors guarantee that the program's organizational structure supports its policy and strategic plan, and the institution's values and culture</p>
<p>Objective: 1.c.1 Define and assign responsibilities, creating a coherent organizational structure</p>
<p>Standard:</p> <ul style="list-style-type: none"> • Establish an organizational structure with definition and distribution of responsibilities, using a participative managerial style • Circulate the organizational chart among the program staff.
<p>Objective: 1.c.2 Promote feedback and communication among program staff as well as make decisions based on staff performance about promotions, distribution of responsibilities, etc.</p>

Standard:

- Promote feedback and communication among program staff.
- Consider staff performance in making decisions about promotions, distribution of responsibilities, etc.

Subcriterion: 1.d The program directors guarantee systematic program management and improvement, in line with the processes of the Instructional Center.

Objective: 1.d.1 Support improvements and involvement by giving appropriate resources and assistance

Standard:

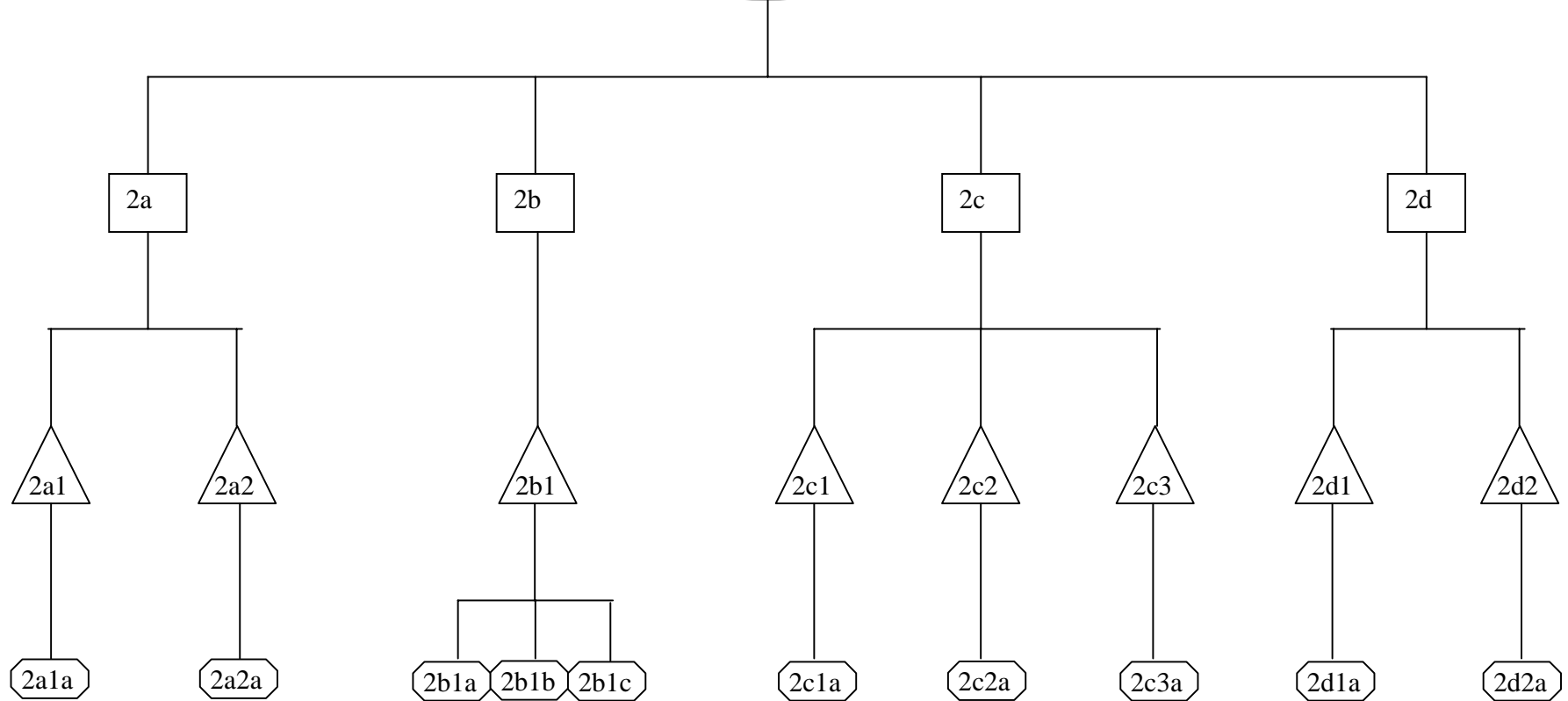
- Support initiatives and activities by program administrators and improvement facilitators
- Provide resources needed for continuous improvement.

Objective: 1.d.2 Prioritize and make decisions, evaluating results obtained and proposing improvements

Standard:

- Formulate and/or approve improvement proposals

**CRITERION 2: POLICY
AND STRATEGY**



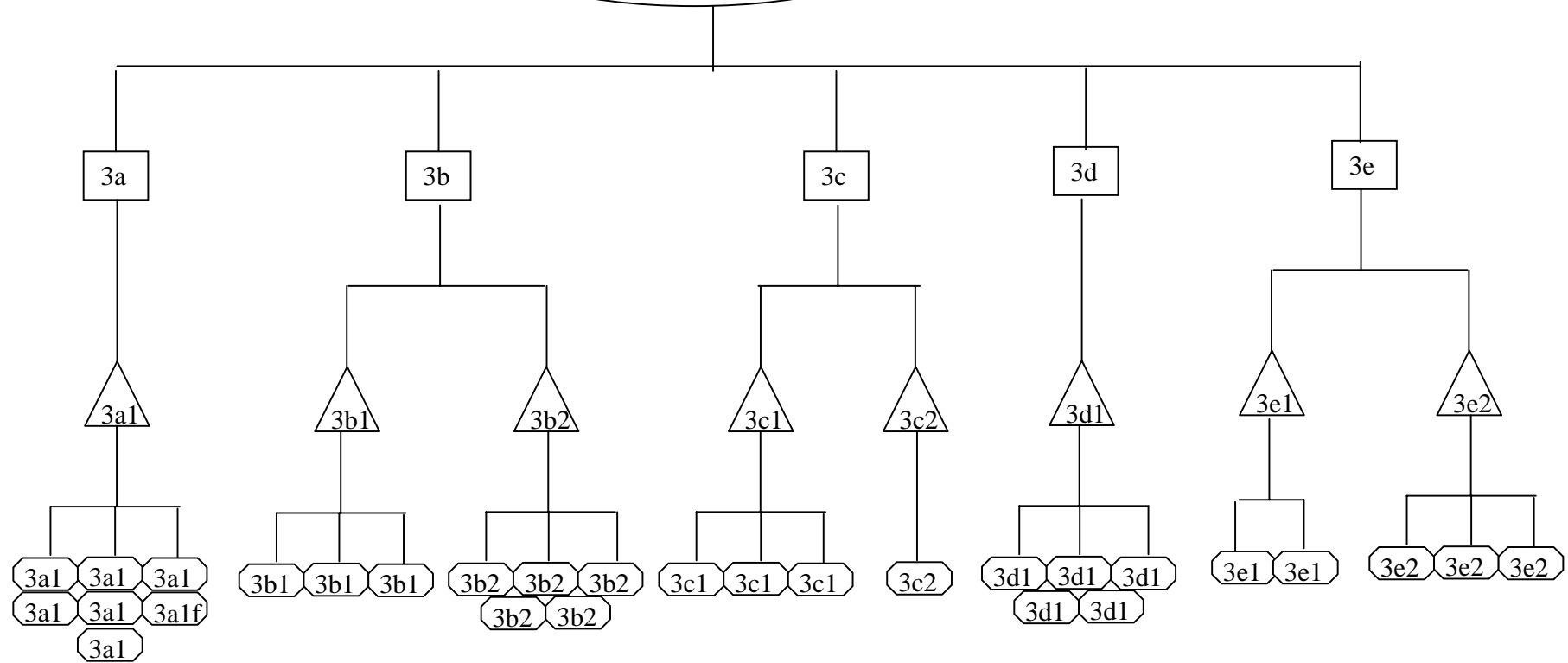
CRITERION 2: POLICY AND STRATEGY

Criterion 2 analyzes how the program carries out its Vision and Mission; and how it applies them through general planning directed to the stakeholders implied in the program development, aligned with the instructional center's policies and strategies .

Subcriterion: 2.a. The program objectives are based on the present and future needs and expectations of the stakeholders and aligned with the instructional center's policies and strategies
Objective: 2.a.1. Establish the program objectives by analyzing the current and future needs and expectations of stakeholders involved with the program
Standard: <ul style="list-style-type: none">Analyze current and future needs and expectations of stakeholders.
Objective: 2.a.2 Ensure that the strategic planning of the program is adequate to attain the program objectives, and in tune with the instructional center`s policies and strategies
Standard: <ul style="list-style-type: none">The Mission and Vision of the course are coherently and clearly formulated, in line with the Instructional Center's policies and strategies.
Subcriterion 2.b The program objectives are based on pertinent and complete information, that provides a frame of reference for development and review.
Objective 2.b.1 Plan the development of program objectives considering the current and future needs and expectations of stakeholders
Standard: <ul style="list-style-type: none">All existing directives, rules and statutes are taken into consideration.Technological advances and pedagogical innovations are considered.

Subcriterion 2.c The strategic plan of the program is reviewed for its continuing relevance, and periodically updated and improved
Objective 2.c.1 Ensure that the strategic plan leads to a realistic action plan
Standard: <ul style="list-style-type: none"> • Create an action plan establishing the timeline, the individuals responsible for each task, the material resources required, as well as the risks and contingency plans.
Objective 2.c.2 Use the annual evaluation of results to ensure that the program's strategic plan remains relevant
Standard: <ul style="list-style-type: none"> • The strategic plan is adapted to the results obtained in the annual evaluation.
Objective 2.c.3. Foster a culture of systematic program evaluation of program staff
Standard: <ul style="list-style-type: none"> • A culture of systematic evaluation for the continuing improvement of the program is adopted
Subcriterion 2.d The strategic plan of the program is known and understood within the instructional center and by all stakeholders
Objective 2.d.1 Define an effective and efficient process to communicate the strategic plan of the program, its requirements, objectives and goals to all program staff
Standard: <ul style="list-style-type: none"> • An effective and efficient process is defined to communicate the strategic plan of the program, its requirements, objectives and goals to all program staff.
Objective 2.d.2. Provide information to assist in program improvement and engage all stakeholders in reaching its objectives
Standard: <ul style="list-style-type: none"> • Information is provided to help improve the program and engage all the stakeholders in reaching its objectives.

**CRITERION 3: HUMAN
RESOURCE**



CRITERION 3: HUMAN RESOURCE DEVELOPMENT

Criterion 3 analyzes how the organization of the program promotes the participation, formation and development of the staff, in an individual or group way with the purpose of contributing to the effective and efficient program's procedure.

Subcriterion: 3.a. People in charge of the program plan and improve the performance of the Staff of the Program
Objective: 3.a.1. To equip the assignment of the responsibilities with the needs that emerge in the program and in the personal training
Standard: <ul style="list-style-type: none">• The competent profile of the work places with the purpose of facilitating the selection and assessment of the performance is designed.• The assignment of responsibilities with the planning and program strategies are corresponded.• The performance of each person is evaluated and the results are communicated to the interested people.• An internal environment of motivation is promoted in order to have an optimum performance of the functions and with the personal commitment.• The needs of the staff of the program and the resources and installations are studied in order to develop the work of the staff .• The program planning is checked by people in charge and assigned coordinators.• The schedule of the staff is elaborated according to the program needs.
Subcriterion: 3.b. People in charge of the program identify, keep and develop the experience and abilities of people by means of their formation and qualification
Objective: 3.b.1. To offer information according to the needs of the staff development

<p>Standard:</p> <ul style="list-style-type: none"> • The continuous training is promoted. • The training plans are promoted and evaluated. • The analysis on the needs of the updating and training of the staff is performed periodically.
<p>Objective: 3.b.2. To offer training according to the program needs.</p>
<p>Standard:</p> <ul style="list-style-type: none"> • A specific training according to the subsequent performance in the program are offered to the staff of on-line subjects. • The professional development is promoted according to the program needs. • The improvement of cultural quality is incorporated into the training plans. • The effectiveness of the training plan with respect to the program needs is checked. • The staff participation for the definition of a self-evaluation process of their work performance is promoted.
<p>Subcriterion: 3.c. People in charge of the program promote the involvement and participation of the Human Resources in the improvement process</p>
<p>Objective: 3.c.1. To establish procedures for involving Human Resources in continuous improvement</p>
<p>Standard:</p> <ul style="list-style-type: none"> • The staff is encouraged to participate in improvement actions. • The improvement initiatives emerged by different teaching teams and the rest of the staff of the program are supported. • The staff participation and contribution to the continuous improvement is recognized.
<p>Objective: 3.c.2. To give opportunities that encourage the implication and give support to an innovative and creative behavior.</p>
<p>Standard:</p> <ul style="list-style-type: none"> • The experimentation initiatives and innovation by the staff of the program is promoted.

Subcriterion: 3.d. People in charge of the program an effective upward, downward and lateral communication.

Objective: 3.d.1. To keep information channels which guarantee an effective communication

Standard:

- The personal information is received.
- Information is transmitted to the staff.
- The communicational needs of the staff of the program are identified.
- The lateral communication between people, units and equipment that participate in the program is known.
- The communication effectiveness is evaluated and improved.

Subcriterion: 3.e. People in charge of the program recognize, help and reward to the Staff of the program.

Objective: 3.e.1. To create and keep an effective interaction among the agents involved in the program in order to achieve an environment of shared trustfulness.

Standard:

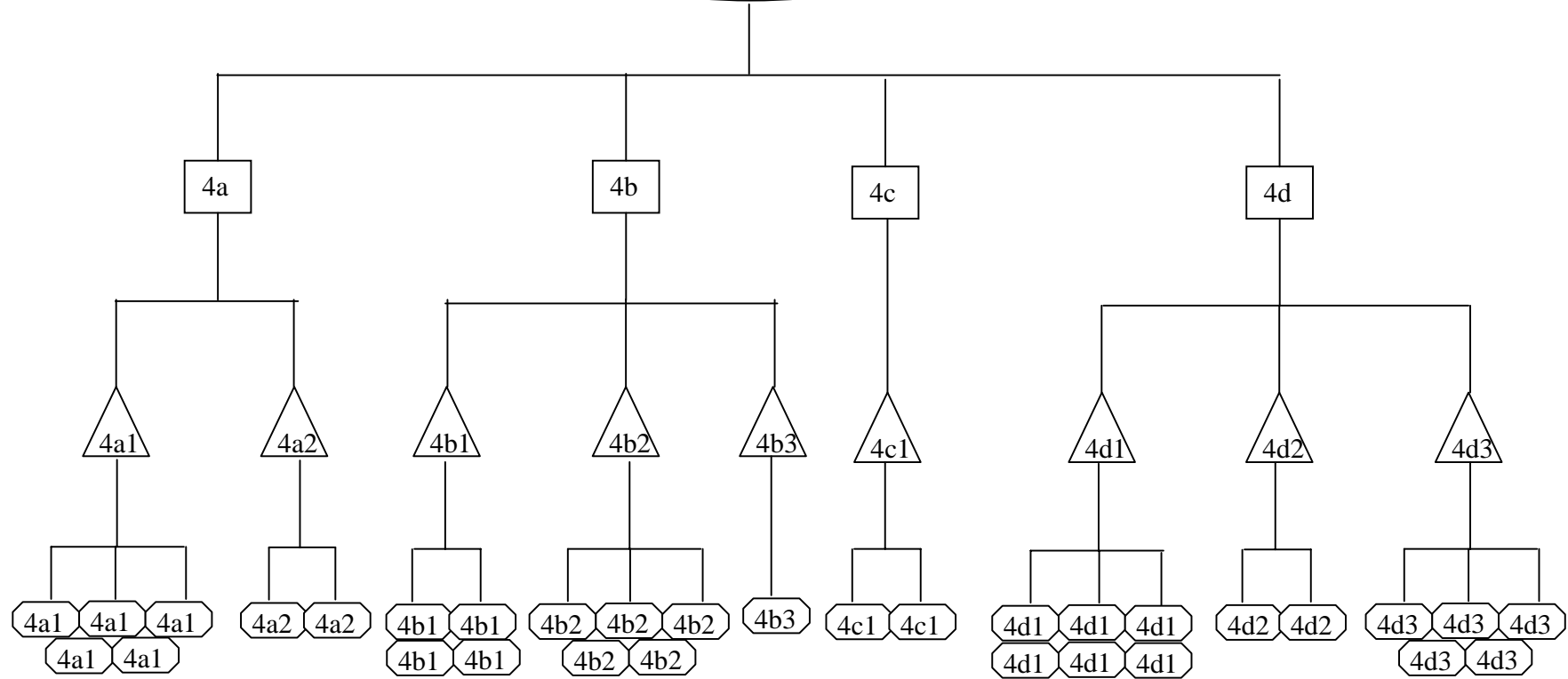
- Social and cultural activities are promoted.
- An environment of reciprocal trustfulness and solidarity is promoted.

Objective: 3.e.2. Recognize the work, contribution and improvement efforts of the staff

Standard:

- People are recognized for them to continue being committed to the Institution
- To promote and become aware about topics concerning hygiene, security, environment and the responsibility towards society.

**CRITERION 4:
RESOURCES AND
ALLIANCES**



CRITERION 4: RESOURCES AND ALLIANCES

Criterion 4 discusses how the people in charge of the program guarantee access, and obtain, maintain and optimize the internal and external resources to develop the general curriculum planning and achieving the program objectives.

Subcriterion: 4.a. Management of financial resources for programs
Objective: 4.a.1. Engage in the planning, allocation and control of the financial resources needed for the strategic planning of the program and meeting its objectives
Standard: <ul style="list-style-type: none">• Develop a financial plan corresponding to the strategic plan of the program.• They develop a follow- up plan.• They obtain necessary resources to carry out strategic plan• They evaluate investments and risks (technology classrooms, libraries, buildings)• They revise and improve financial strategies and practices, and analyze trends
Objective: 4.a.2. Design innovative financial methods to support continuous improvement of the program
Standard: <ul style="list-style-type: none">• They explore new program activities to obtain resources.• They establish and manage cofinanced programs.
Subcriterion: 4.b. Management of information resources
Objective: 4.b.1. Make available all relevant information to program staff
Standard: <ul style="list-style-type: none">• Establish an entry and exit system for information related to the program.• Establish a distribution system for teaching materials for the program.• Prepare information so as to facilitate exchange of information from internal and external sources.• Prepare information for the use of program staff.
Objective: 4.b.2. Ensure that all types of information are available to the staff

<p>Standard:</p> <ul style="list-style-type: none"> • Keep information up- to-date. • Ensure protection, confidentiality and integrity of information. • Enable access to and use of information by all program staff. • Provide access to teaching materials to all program staff . • Maintain copyright and author's rights in publication of information.
<p>Objective: 4.b.3. Use information to stimulate innovation and continuous improvement</p>
<p>Standard:</p> <ul style="list-style-type: none"> • Gather, store and use information about research or educational innovation for continuing improvement of program.
<p>Sub criterion: 4.c. Management of external resources and alliances</p>
<p>Objective: 4.c.1. Establish relations with external organizations following strategic plan, also development and improvement of the program</p>
<p>Standard:</p> <ul style="list-style-type: none"> • Establish collaborations with external organizations following a strategic plan. • Evaluate the results of collaborations.
<p>Sub criterion: 4.d. Management of buildings, equipment, materials and technology</p>
<p>Objective: 4.d.1. Select and procure buildings, equipment, materials and technology for the program, following a strategic plan</p>
<p>Standard:</p> <ul style="list-style-type: none"> • Select and procure buildings, equipment, materials and technology for the program, following a strategic plan • Select and procure information systems according to program needs • Select, procure or create information systems with mutual compatibility • Select, procure or develop applications with guaranteed applicability • Select, procure or develop applications with guaranteed usability • Select, procure or develop applications and technological media according to program objectives
<p>Objective: 4.d.2. Make available buildings, equipment, materials and technology to program staff, based on their needs and expectations</p>

Standard:

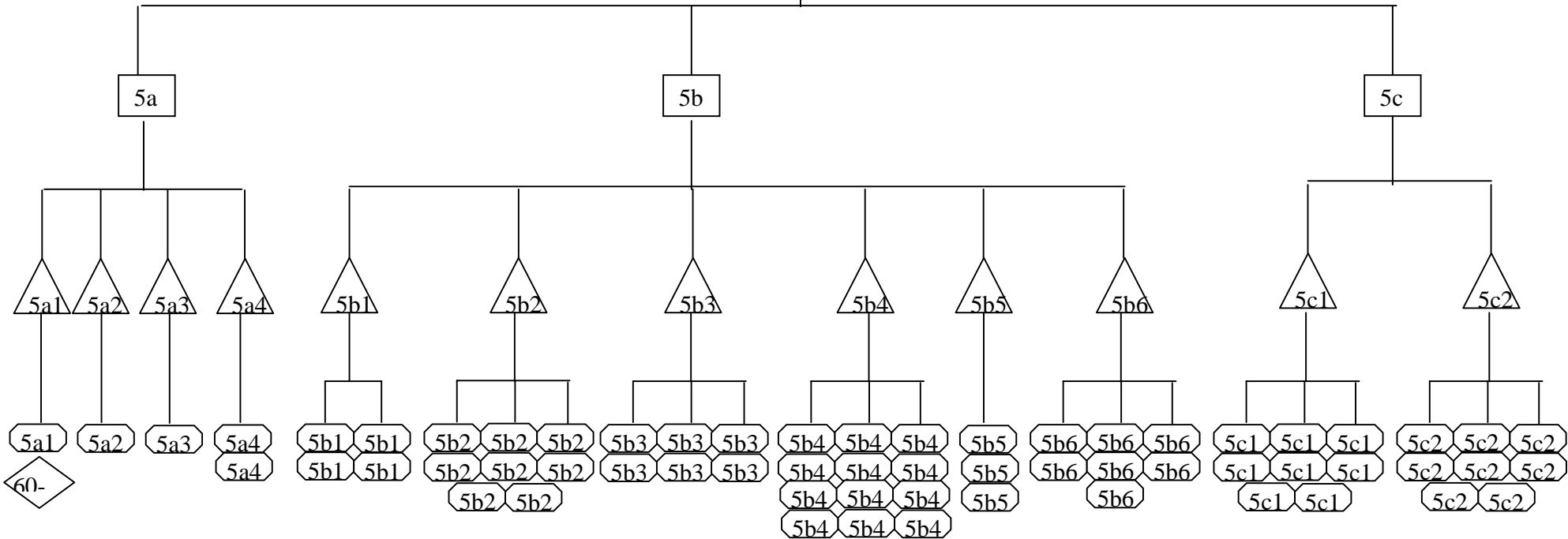
- Facilitate the use of buildings, equipment, materials and technology by all program staff based on their needs and expectations
- Develop alternative uses for buildings, equipment, materials and technology so that program staff use them more

Objective: 4.d.3. Ensure that buildings, equipment, materials and technology fulfill course needs, and develop and implement maintenance systems

Standard:

- Buildings, equipment, materials, and technology are well maintained so as to increase total return over the life of the program
- Have a security plan for buildings, equipment, materials and technology: insurances, guarantees, compliances, alarms, escape routes, emergency plan, recycling of residuals, etc.
- Seek out innovative equipment, material and technology for continuous improvement of program
- Consider the impact on staff (including health) of buildings, equipment, materials and technology
- Ensure that information and computer services are available

CRITERION 5: AUDIENCE AND EDUCATIONAL PROCESSES



CRITERION 5: AUDIENCE AND EDUCATIONAL PROCESSES

Criterion 5 discusses how the institution identifies the audience and educational processes for the program development , how the processes are put to practice which are reviewed and evaluated to assure the program's improvement.

This criterion is considered to be a key constituent of distance education.

Sub criterion: 5.a. Identification of audience: characteristics, needs, expectations and prerequisites for program participation
Objective: 5.a.1. Identify student characteristics
Standard: <ul style="list-style-type: none">• Study student profile
Objective: 5.a.2. Identify student's needs
Standard: <ul style="list-style-type: none">• Identify student's needs
Objective: 5.a.3. Identify student expectations
Standard: <ul style="list-style-type: none">• Identify student expectations
Objective: 5.a.4. Identify prerequisites for participation in the program
Standard: <ul style="list-style-type: none">• Establish prerequisites for the student to register for the program• Analyze causes, criteria and motives of students who do not complete registration requirements
Sub criterion: 5.b. Identification of educational processes for program development: design and improvement
Objective: 5.b.1. Establish the program's learning objectives

Standard:

- Design learning objectives based on profile and professional needs of audience
- The objectives take into consideration the student and professional profile aimed to be achieved
- Adapt program objectives to the needs of the labor market
- Study the viability of the proposed objectives

Objective: 5.b.2. Design the curriculum according to the established learning objectives

Standard:

- A pedagogically and methodologically sound curriculum is developed
- The curriculum is made work by the instructional design
- The program curriculum matches the learning objectives
- The curriculum is kept up to date
- The distribution of the number of credits in the program matches the program objectives
- The curriculum is published in a document making it accessible to everyone
- Make agreements with other organizations to develop external practices

Objective: 5.b.3. Developing the instruction: **Teaching Methodology and Materials**

Standard:

- Establish different teaching strategies for the delivery of the theoretical and practical instruction of the different contents of the program
- Various complementary activities are offered to the students to increase breadth of knowledge, study techniques and other skills
- Activities are offered to students with academic and other difficulties (remediation, special staff or programs)
- Printed learning materials are used for distance education are used (Teaching Units, Study Guides, Addenda, multimedia resources, basic texts, complementary texts)
- Non-printed learning materials are used for distance education are used (Cassettes, videos, CD, DVD, etc.)
- Technological media designed for distance education are used (Videoconference, Radio, Television, E-mail, Virtualization)

Objective: 5.b.4. Develop the Instruction: Tutorial Assistance

Standard:

- The instructors' tutorial obligations are established in accordance with the guidelines for the course
- A schedule of mandatory tutorials is established
- The level of fulfillment of the tutorial schedule is assessed
- Evaluate the degree to which instructors follow the tutorial schedule
- Information is given to students about the types of tutorial assistance available to them and the logistics for each (where, when and how)
- The different types of tutorial assistance defined by the instructors are used effectively
- The number of tutorial students assigned to each instructor is decided on
- Give students sufficient advance notice about changes in tutorials
- Study orientations are offered on a continuous basis
- Students receive assistance to resolve their queries
- Information and assistance are available to students on various topics
- All personnel who work with students (instructors, administration and service personnel) are trained and updated in teaching and/social skills

Objective: 5.b.5. Develop the Instruction: Student Work

Standard:

- Promote the students' independent learning and their own responsibility for their work
- Foster interaction and collaboration between students
- Foster complementary activities which not only help to pass an exam, but also provide better training

Objectives: 5.b.6. Develop the Instruction: Evaluation of Learning

Standard:

- Establish clear procedures for the evaluation of student learning
- Establish unified criteria to evaluate the students
- Align the learning evaluation with the course objectives
- Inform the students about evaluation criteria
- Inform the students about the results of the evaluations
- There is a specific complaints procedure for review of examinations
- Use instructors' reports for the global evaluation of student

Sub criterion 5.c. Evaluation and Program Improvement. Revision of educational processes and goals for improvement, follow up and program administration

Objectives: 5.c.1. Evaluate the processes involved in program delivery to see if they are adequate for mastery of learning objectives

Standard:

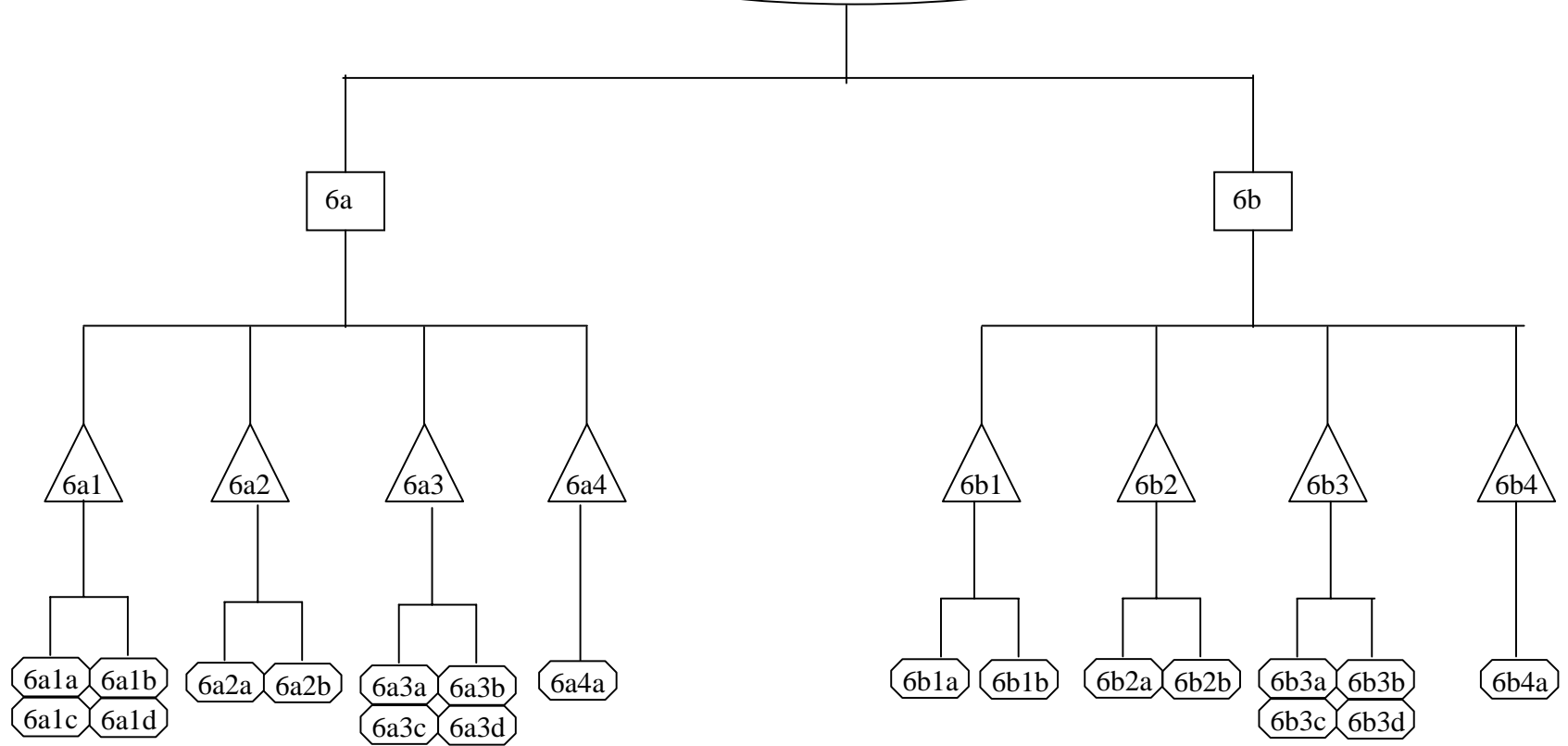
- Follow up on the program objectives to see if they are being achieved
- Follow up on curriculum to see if program design permits its development and implementation
- Follow up on program implementation (teaching method and materials) to see if they are adequate for the learning objectives to be attained
- Follow up on program implementation (the tutorial assistance) to see if it is adequate for learning objectives to be attained
- Follow up on program implementation (student work) to determine whether it is adequate for the program objectives to be attained
- Follow up on the teaching development (learning evaluation) for the program objectives to be attained
- Follow up on program implementation (learning evaluation) to determine whether it is adequate for the program objectives to be attained
- Study the future needs, which the program should aim to meet, of the students and external clients

Objective: 5.c.2. Update the improvement objectives and actions of the program from the follow up and control of the educational processes evolved in its development.

Standard:

- Use the results of the follow up of the administrative processes of the program for improvement
- Effectively manage the information derived from the audience (suggestions and complaints) so as to improve the administrative processes
- Work with all interested groups to improve the administrative processes
- Solutions are given to specific problems found in the process evaluations and their results , such as , for example, educational failure and dropping out
- Different channels exist for students to express opinions on program quality
- Foster the participation of students and clients in the program's design, implementation and improvement and services offered
- Communicate and publicize the program results to current or potential students and external clients in order to find new audiences and improve the program and increase student satisfaction
- Develop new complementary activities to improve program and increase audience satisfaction

**CRITERION 6: RESULTS OF THE
STUDENTS AND EDUCATIONAL
PROCESSES**



CRITERION 6: RESULTS OF THE STUDENTS AND EDUCATIONAL PROCESSES

Criterion 6 discusses the results of the program in relation to the students and the educational processes, satisfaction level, and the results of performance and achievement obtained by developing it.

Sub criterion: 6.a. Measuring the Satisfaction-level of the student and Educational Processes
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Objective: 6.a.1. Measure periodically the satisfaction level of the students and other external clients regarding the program

Standard:

- The students' and other external clients' satisfaction level is assessed with regards to meeting their initial expectations with regards to the program
- The students' satisfaction is assessed with regards to the processes implied in the program :
 - Objectives
 - Curriculum
 - Teacher's methodology and didactic material
 - Tutorials
 - Students' work
 - Learning assessment
- The students' satisfaction level is assessed with regards to other aspects related to the program: communicational and information interchange, complaints and/or suggestions related to the different aspects of the program, feelings of assets gained, interpersonal relationships, participation in developing and improving the program, installations and administrative processes, and preparation of the people responsible for teaching
- The external clients' satisfaction level of the program's services is assessed with regards to: agreements for practices and other complementary activities, general functioning of the program, meeting their needs and expectations, participation in improving the processes, information about the results .

Objective: 6.a.2. Inform students and other external clients about the obtained results on the basis of the satisfaction-level measurement used

Standard:

- Information is provided regarding their satisfaction level with the program
- Information is provided regarding the external clients' satisfaction level in relation with the program

Objective: 6.a.3. Systematically compare the students 'and other external clients' satisfaction level with regards to the program with the satisfaction level of other students and external clients participating in other programs of the Institution and in similar programs of other institutions

<p>Standard:</p> <ul style="list-style-type: none"> • The students' satisfaction level with regards to the program and the satisfaction level of other students participating in other programs of the Institution are compared • The external clients' satisfaction level with regards to the program are compared with the satisfaction level of other students and external clients participating in other programs of the Institution • The students' satisfaction level with regards to the program are compared with the satisfaction level of other students participating in similar programs in other institutions • The external clients' satisfaction level with regards to the program are compared with the satisfaction level of other external clients participating in similar programs in other institutions
<p>Objective: 6.a.4. Deal with areas in need according to the tendency demonstrated by the obtained results in the previous assessments</p>
<p>Standard:</p> <ul style="list-style-type: none"> • The areas that are dealt with require attention according to the tendency demonstrated by the obtained results in the previous assessments
<p>Sub criterion: 6.b. Measurements of Performance and Achievement</p>
<p>Objective: 6.b.1. Measure periodically the students' and other external clients' performance in the program</p>
<p>Standard:</p> <ul style="list-style-type: none"> • The students' performance in the program is assessed • The external clients' performance in the program is assessed
<p>Objective: 6.b.2. Inform students and other external clients about the performance results</p>
<p>Standard:</p> <ul style="list-style-type: none"> • Students of the program are provided information about their performance results • External clients are provided information about the performance results of the students and/or their staff participating in the program

Objective: 6.b.3. Compare systematically the performance of the students and other external clients of the program with the performance of other students and external clients participating in other programs of the Institution or similar programs of other institutions

Standard:

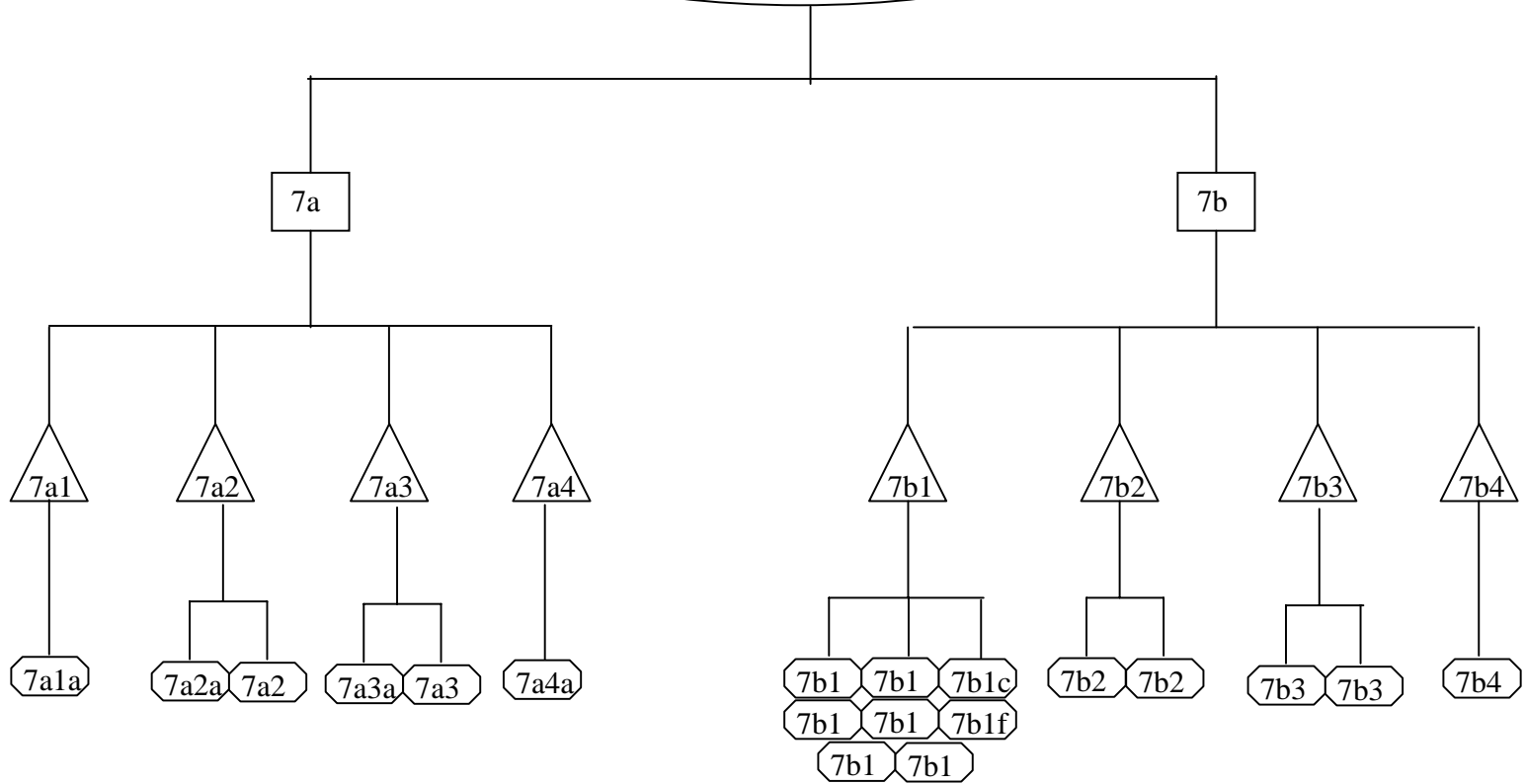
- The performance results of the students of the program and the students of other programs of the Institution are compared
- The performance results of the students of the program and the students of similar programs of other institutions are compared
- The performance results of the external clients of the program and the external clients of other programs of the Institution are compared
- The performance results of the external clients of the program and the external clients of similar programs of other institutions are compared

Objective: 6.b.4. Deal with areas in need according to the tendency demonstrated by the obtained results in the previous assessments

Standard:

- Areas are dealt with that have had shortfalls in the results of previous evaluations

**CRITERION 7: RESULTS
OF STAFF
DEVELOPMENT**



CRITERION 7: RESULTS OF STAFF DEVELOPMENT

Criterion 7 discusses the results of the program in relation to the staff development and the existence of the necessary means to adequately carry out their tasks.

Subcriterion: 7.a. Measures of perception of personnel
Objective: 7.a.1. Periodically measure staff perceptions on all aspects that affect their work in the program.
Standard: <ul style="list-style-type: none">• Evaluate the levels of staff satisfaction with: work environment, safety and hygiene, working conditions, salaries and benefits, interpersonal relations, equipment/services, fair treatment, equality of opportunities, career development, communication with the people in charge and among staff, coherence between the personal and program objectives , development opportunities, recognition of personal work, leadership and management style, participation in the program plans and their development , participation in the improving processes, teamwork and relationships among units, satisfaction with student results, cooperation with suppliers, self-confidence in carrying out their tasks , commitment to the institutional project and the program plan , environmental influence, internal and external institutional image
Objectives: 7.a.2. Be familiar with the results obtained from measures of perception
Standard: <ul style="list-style-type: none">• Evaluate the level of information obtained by the program directors on perceptions of staff satisfaction• Evaluate the level of information obtained by course personnel on their own perceptions of satisfaction
Objective: 7.a.3. Systematically compare the satisfaction ratings of the program personnel with those of other personnel who work on other programs at the institution and if possible on similar programs in other institutions

Standard: <ul style="list-style-type: none">• Compare the level of satisfaction expressed by course personnel with that expressed by personnel in other programs at the institution• Compare the level of satisfaction expressed by program personnel with that expressed by personnel in other similar programs at other institutions
Objective: 7.a.4. Act on areas of deficiency uncovered by evaluations
Standard: <ul style="list-style-type: none">• Take action on those areas shown to be deficient in the evaluation results carried out for that purpose
Subcriterion: 7.b. Measures of Performance and Achievement
Objective: 7.b.1 Periodically measure the factors that influence staff satisfaction and motivation

Standard:

- Evaluate the level of staff training and professional development, measured in terms of: Attendance at programs, seminars, and scientific meetings, Participation in activities of programs, seminars, departments, teams, committees, scientific meetings, courses, etc. Professional competence, Relations with other programs of the same institution, Relations with other programs of other institutions, Autonomy for own training
- Evaluate the level of staff participation through: improvement groups, initiatives/suggestions, responses to satisfaction surveys
- Evaluate the level of absenteeism
- Evaluate the number of complaints
- Evaluate the level of loyalty to the program in terms of: Time dedicated by staff to program, Promotion of program by staff
- Evaluate level of accidents and institutional handling of accidents. Incidents occurring during program, insurance coverage for accidents: Preventive measures
- Evaluate the provision of equipment and services necessary for the adequate implementation of the program: Staff use of equipment, functionality and accessibility of equipment
- Evaluate relationships between staff, and between staff and clients: Interpersonal relations and incidents, Conflicts between staff and clients, Coordination meetings

Objective: 7.b.2. Be aware of staff achievement ratings in their work processes

Standard:

- Evaluate the level of information received by the program directors about the achievements of the staff
- The amount of information received by the program staff about their achievements is evaluated

Objectives: 7.b.3. Systematically compare the achievement ratings of program staff with those of staff who participate in other programs at the institution and, if possible, in similar programs at other institutions

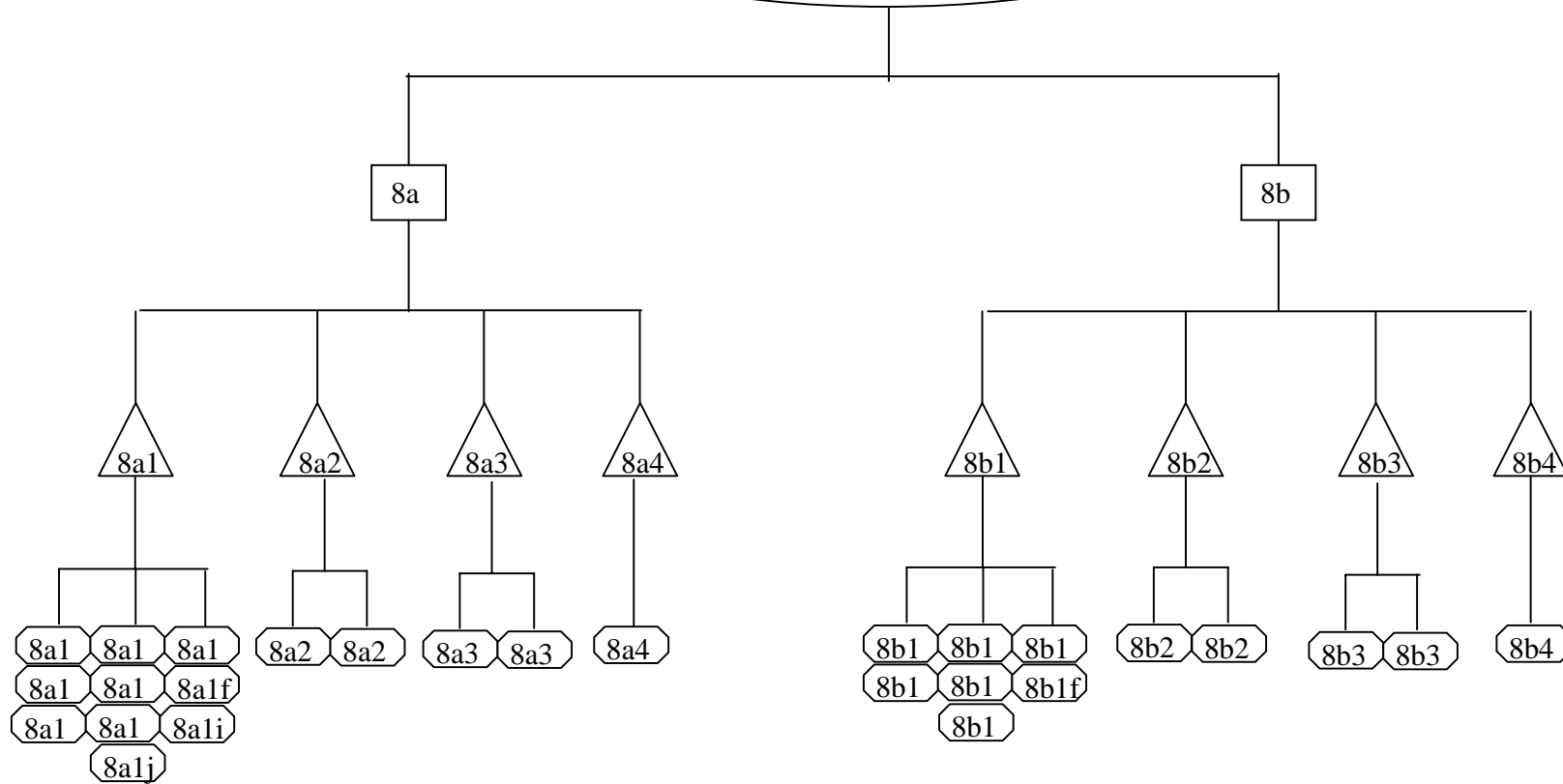
Standard:

- The achievements of program staff are compared with those of staff in other programs at the institution
- The achievements of program staff are compared with those of staff in other similar programs at other institutions

Objectives: 7.b.4. Act on areas of deficiency uncovered by evaluations**Standard:**

Action is taken on areas of deficiency as revealed by evaluations

CRITERION 8: SOCIAL RESULTS



CRITERION 8: SOCIAL RESULTS

Criterion 8 discusses how the program satisfies the needs and expectations of the Institution, the local, national and international environment (as required).

Subcriterion: 8.a. Measures of social perspective
Objective 8.a.1. Periodically measure the perception of society about the program at every level
Standard: <ul style="list-style-type: none">• Conduct activities in the program that have impact on the levels of employment and local economy• Provide solutions (in the program) to solve problems in the local environment and to improve the quality of life• Become involved in cultural activities in the immediate environment and the locality• Become involved with other institutions• Become involved in training or education activities through the program• Support sports and leisure activities• Stay current in the study and knowledge of questions on the environment• Provide assistance to socially underserved groups
Objective: 8.a.2. Know the results obtained from these measures of perception
Standard: <ul style="list-style-type: none">• Evaluate the level of information obtained by program directors about the society's perception of satisfaction• Evaluate the level of information obtained by program personnel about the society's perception of satisfaction
Objective: 8.a.3. Systematically compare the level of society's satisfaction with the program with society's satisfaction with other program of the center and, if possible, with other similar programs at other centers

<p>Standard:</p> <ul style="list-style-type: none"> • Compare the level of satisfaction expressed by society with the program with that expressed for other programs in the center • Compare the level of satisfaction given by society for the program with that given for other similar programs at other centers
<p>Objective: 8.a.4. Take action on areas of deficiency revealed by such evaluations</p>
<p>Standard:</p> <ul style="list-style-type: none"> • Compare the level of satisfaction given by society for the program with that given for other similar programs at other centers
<p>Sub-criterion 8.b Measures and Achievement</p>
<p>Objectives: 8.b.1. Periodically measure the program's impact on different aspects of society</p>
<p>Standard:</p> <ul style="list-style-type: none"> • Evaluate the program's influence on changes in employment levels • Establish formal relationships with the authorities regarding questions such as: certification, authorization, planning and provision of services • Prizes and distinctions are received • Information media "talk" about the course • The program is explicitly recognized and/or the center is recognized • Very few complaints are received from the population • Favorable reports are made by inspectors and other professional experts
<p>Objective: 8.b.2. Know the results obtained from these measures of social impact</p>
<p>Standard:</p> <ul style="list-style-type: none"> • Evaluate the level of information obtained by program directors about the social impact of the program • Evaluate the level of information obtained by the program staff about the social impact of the program
<p>Objective: 8.b.3. Systematically compare the impact of the program on society with the impact of other programs in the center on society, and, if possible, with other similar programs at other centers</p>

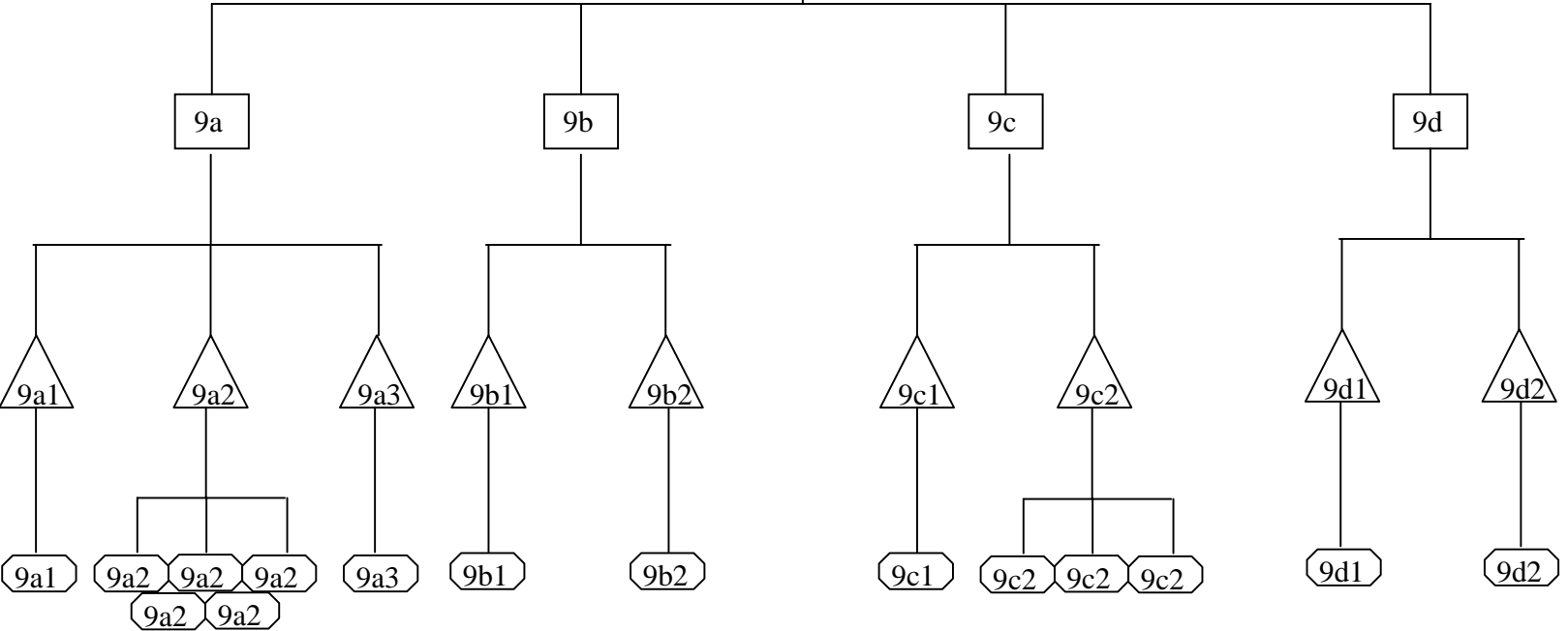
Standard:

- Compare the social impact of the program with the impact of other programs at the center
- Compare the social impact of the program with the impact of other similar programs at other centers

Objective: 8.b.4. Take action on areas of deficiency revealed by such evaluations**Standard:**

- Take action on areas that are deficient in the evaluations

Criterion 9. OVERALL RESULTS



Criterion 9. OVERALL RESULTS

Criterion 9 discusses the results of the program in relation to the management of the general (strategic) planning of the program and the key educational process that have an influence upon its continuous improvement with regards to all the recommendations and proposed suggestions.

Sub criterion: 9.a. Results obtained for the Organization
Objective: 9.a.1. Know the results obtained for the administration and strategic planning of the program
Standard: <ul style="list-style-type: none">• The administration and strategic planning of the program are monitored, to determine the weak points, and recommendations and suggestions for its continuing improvement are proposed
Objective: 9.a.2. Know the results obtained for the administration of economic and financial resources
Standard: <ul style="list-style-type: none">• The funds are adequately managed• An economic yield is obtained from the program• Level of Debt• Level of liquidity• An adequate level of employment is achieved
Objective: 9.a.3. Know the results obtained for other resources: information; external relationships and alliances; buildings; equipment; materials, and technology
Standard: <ul style="list-style-type: none">• The resources available for program implementation are monitored to determine deficiencies and weak points and propose actions for continuous improvement
Sub criterion 9.b. Results obtained for human resources in the program
Objective: 9.b.1. Know the results obtained for perceptions of human resources
Standard: <ul style="list-style-type: none">• The results of the perceptions of the programs human resources are monitored

Objective: 9.b.2. Know the results obtained for the performance and achievement of human resources
Standard: <ul style="list-style-type: none"> • The results for performance and achievement of the programs human resources are monitored
Sub criterion: 9.c. Results obtained for students and external clients.
Objective: 9.c.1. Know the results obtained for perceptions of students and external clients
Standard: <ul style="list-style-type: none"> • The results for perceptions of students and external clients who participate in the program are monitored
Objective: 9.c.2. Know the results obtained for performance and achievement of students and external clients
Standard: <ul style="list-style-type: none"> • The ability of the program to generate enrollment is evaluated • The educational outcome of the program is evaluated • Complaints and claims about the program are attended to efficiently
Sub criterion: 9.d. Results obtained for Society
Objective: 9.d.1. Know the results obtained for the perceptions of society
Standard: <ul style="list-style-type: none"> • The results of the societal perceptions of the program are monitored.
Objective: 9.d.2. Know the results obtained for performance and social benefit
Standard: <ul style="list-style-type: none"> • The impact of the program on society is monitored to detect weak points and propose recommendations and suggestions for the continuous improvement of the program

9.2.3 GLOSSARY

Abandonment rate: Percentage of students from a pool of new admissions who have not enrolled in any subject/module of the program in the years following the inception of the program.

Agents: All those groups that have an interest in a higher distance education program, its activities and achievements, including students, teaching and non-teaching personnel, and entities that collaborate with the institution

Alliances: Working relationships between two or more participants that create added value for the faculty, students, and institutions offering programs

Attendance rate: Proportion of students who take the official exams compared to the total number of enrolled students

Availability: Capacity of the computer systems to function 24 hours a day without interruption

Average duration of studies: Average number of years that it takes a student to complete a degree

Computer systems: Includes equipment (hardware), programs and applications (software), and communication networks

Curriculum delay: Analysis of number who have completed more than 75% of the credits needed to earn a degree and the number who have completed between 50 and 75% of credits needed

Note: Reference point for calculation is the end of the academic course predicted for graduation.

Delay rate: Proportion of entering students who continue their studies, calculated by subtracting the number of graduates and drop-outs from the number of newly entering students

Efficiency: Capacity of software to provide required productivity, in relation to amount of resources used under specific conditions (ISO/IEC FDC 9126-1:2000)

Excellence: Outstanding practices in the management of an organization and achievement of results based on fundamental concepts including orientation towards results, orientation to the client and the user, leadership and perseverance, processes and facts, involvement of the people, continuous improvement and innovation, mutually beneficial alliances, and social responsibility

Functionality: Capacity of software to provide functions that respond to specific needs in specific conditions of use (ISO/IEC FDC 9126-1:2000)

Graduation rate: Proportion of students that have completed their studies in the last course in relation to the cohort of entering students that began their studies one, two, or three years previously.

Institution: University or education center that provides higher distance education

Interoperability: Capacity of two or more systems or components to exchange information and to utilize the information exchanged (IEEE Standard Computer Dictionary)

Leaders: Those persons who coordinate and balance the interests of all the groups participating in the development of the educational program, including the management team, other managers, and those who direct teams or participate in the function of leadership

Maintenance Capacity: Capacity of software to be modified, including corrections, improvements, or adaptations of the software to environmental changes in its requirements and functional specifications (ISO/IEC FDC 9126-1:2000)

Management System: General outline of the processes and procedures that are used to ensure that in planning and development of programs necessary tasks are established to reach its objectives

Mission: Declaration that states the purpose of program, describing why said higher distance education program exists

Navigability and accessibility: Two factors that contribute to usability of software. Although a formal description of accessibility was not found on the WAI website (the principal promoter of its application) the following description can be extracted from its documents: accessibility is the capacity of the software to be utilized by persons with physical or mental handicaps.

The concept of accessibility has been extended to include technological and cultural aspects and the current, more widely-accepted definition is the following: accessibility represents the capacity of a product to be accessed and utilized by all users according to their needs and preferences.

Navigability is the capacity for a user to browse the pages of a website via the available hyperlinks, knowing at all times the location arrived at and the position in relation to the other pages.

Persons: All the individuals involved in the development of the program, including full or part-time employees, temporary workers, and those working on specific contracts

Portability: Capability of the software to be transferred from one environment to another (ISO/IEC FDC 9126-1:2000)

Process: Sequence of activities that add value to development of program

Program: Series of lessons that make up instruction of courses, including undergraduate instruction, undergraduate training courses, master's, and doctoral courses

Reliability: Capacity of software to maintain its productivity level under specific conditions of use (ISO/IEC FDC 9126-1:2000)

Scalability: Capacity of a computer system to maintain its productivity and efficiency with changes in capacity

Social benefits: Services that institution provides to its employees, including healthcare, retirement plans, childcare, and flexible work schedules

Society: All those who can affect the program, except those persons who work in its development and its users

Success rate: Proportion of students with passing grades in relation to the total number of students present.

Usability: The International Standards Organization (ISO) has various definitions of usability. The most recent are as follows:

Usability is the effectiveness, efficiency and satisfaction with which a product permits specific users to reach specific objectives with the context of a specific use (ISO 9241-11:1998).

Usability refers to the capability of the software to be understood, learned and used and to be attractive for the user, in specific conditions of use (ISO/IEC FDIC 9126-1:2000).

Vision: A declaration in which the desired future educational program is described.

9.3 THE POTENTIAL REGULATORY FRAMEWORK FOR VIRTUAL COURSE OFFERINGS

As required by Activity Two of the project, the expert team presented a potential regulatory framework for the offering of virtual courses of international origin, with the aim of assuring a quality online education for the population of Latin America and the Caribbean. A description of the plan follows:

Introduction

Technology is considered an additional resource to the existing means for providing distance education.

The role of the professors and tutors is distinguished more clearly in the virtual environment. The students take a more active role because of their interactions with the system. On the other hand, new participants in distance education include content designers and providers, programmers, and information technicians.

Similar to the distance education environment, the participants in virtual education systems are separated by time and distance.

1. Technology

The term technological environment refers to the infrastructure that supports the virtual education system. This includes computer equipment (hardware and software) as well as the people in charge of its design, implementation, and maintenance.

1.1 Technological infrastructure

- The technological resources of the clients are known:
 - Available equipment and software
 - Nature of equipment
 - Access to the internet
 - Speed of the internet connections

- The types of interactions that will be performed in the virtual course are identified.
- The necessary technologies to implement the instructional design are identified.

1.2 Availability, performance and capacity

- Availability of the virtual environment is ensured
 - Redundant installations
 - Copy nodes
 - Error tolerance
- Performance of the computers and the servers (computational power) is ensured
 - Transaction volume
 - Number of sessions implemented
- Sufficient storage capacity is ensured
 - Transaction volume
 - Number of virtual courses
 - Number of users per virtual course

1.3 Security and privacy are ensured

- Security, integrity and privacy of all stored data
 - Security measures for access to information installations
 - Security measures for computer access to the system
 - Exchange of confidential information such as personal or academic data through secure connections (encrypted).
 - Secure connections for exchange of confidential information
- Compliance with current legislation regarding private materials and personal data

1.4 Accessibility is ensured

- Access to the virtual course by all participants

- Means matched to technological capacities of the students.
- Standard and open system technology
- Audio and visual aids for persons with disabilities

1.5 Usability and navigability are ensured

- Usability and navigability of the virtual course
- Site maps and sidebars in virtual courses
- Help and support tools for virtual courses

1.6 Maintenance is ensured

- Scalability of the equipment and software
- Use of open standard technology
- The technology permits the reutilization of learning objects
- Technical maintenance of the computer systems
- Technological independence.
- Qualified personnel available to maintain systems
- Third-party systems under maintenance contracts (technical support).
- Licenses that allow the systems to be updated
- Development team available to adapt system to needs of institution
- Design team available to guide and assist teachers with content creation

2. Training

All the participants should be trained in the use of the technology, including professors and tutors, technicians in charge of designing and coding the content, students and clients. The students must not only know how to utilize the computer learning environment but also how to take advantage of it for their instruction.

2.1 Educational team

In the virtual environment the teachers play another role—that of the content designer. Instructional materials should be created specifically for virtual courses. If the professor designs the material, the coding needed to make it

available on the internet should be done by specialized technicians since a high degree of specialization is needed to correctly implement the technology.

Some teachers have the skills to create their own online materials, but this is the exception.

Tutors in virtual courses are generally not the teachers, since this is an activity related to promoting group dynamics, improving interactions, organizing activities, and helping the students. Their principal role is that of communicator.

- The educational team, teachers and tutors are trained to use the virtual teaching environment.
- The educational team has been trained to work in the virtual environment.
- The teachers are given specific training in designing virtual content.
- The tutors are given specific training in computer-aided tutoring.
- The training is given on the same platform that will be used by the teachers to conduct their courses.
- Support is available for teachers using the platform.
- Pedagogical and technical assistance is available to create virtual courses.
- Ongoing training in computer-based education and discussion forums for sharing experiences are provided.

2.2 Students

- To train the student how to use the virtual environment.
- There is a course to train students to use the virtual learning environment.
- The training course is required as a supplementary course.
- The training course is subject to the same standards as the other courses.

3. Instructional Design

This refers to a particular course, its structure, design, content, and the way in which course participation and activity are developed.

3.1 Objectives

The objectives must be clearly stated in a way in which the students fully understand what is expected of them, what they should expect to learn in the course, and the steps that they will go through to reach the stated objectives.

- The objectives of the course are emphasized from the beginning of the virtual course.
- Any changes to the objectives are clearly announced and highlighted.
- The students are informed of the results that are expected of them and of the means what will be used to evaluate their work.
- The students are given an activity calendar which is updated throughout the course.
- The students are given various study options.

3.2 Content

The content in the virtual environment cannot have the same structure of that of an on site course or paper-based course, in which the content is essentially sequential. The nature of the internet permits the presentation of content in a way that fits better to the learning strategies of the students.

The contents will be essentially dynamic, adapting to the development and needs of the students. Therefore, the structure should be associative and relational, permitting the students to navigate related concepts or expand understanding of concepts through links to other resources such as simulations, real-life cases, problems, self-evaluation, bibliographies, and related links.

1.2.1 Presentation

- The content is presented in small, easily managed units.
- Alternative means of providing course materials, such as CDs and printed material, are available for students without internet access or with low speed connections.
- Learning units are associated with other resources or activities that help reinforce what has been learned.
- Diverse activities adapted to different learning strategies are included.

1.2.2 Legal aspects

- Licenses and copyrights are obtained for all third-party content.
- There is a contract plan for course materials.
- Published material is copyrighted.

1.3 Interaction

Interaction is generally understood as the communication between the student and the tutor, but it has other meanings. Interaction also refers to what should occur between the student and the course content, the tutor, the teacher, and other students.

The interaction with the content is achieved by adapting it to the needs and learning styles of each student.

The communication between participants will be carried out with various tools depending on the context and the objective desired. They can be synchronous tools (chat, instant messaging, bulletin boards) or asynchronous (forums, email).

- Activities will be designed to encourage communication and exchange between students.
- Activities will be designed to encourage interaction between students and course content.
- Email or other non-public methods will be used for private communications.
- Social relationships between students will be encouraged.
- Rules of online “civility” will be published (net etiquette).

1.4 Monitoring

- Navigation statistics of the students are available.
- Contents of the sites visited by the students will be monitored.
- The virtual activities initiated by the students will be monitored.
- Interactions carried out by the students will be monitored and evaluated.

1.5 Evaluation

- Self-evaluation tests will be made available so that the students can evaluate their progress and level of comprehension.
- Nondisclosure of the identity of students who complete exams online and the confidentiality of the results and personal information are guaranteed.
- The system allows setting time limits for exams.
- Alternative evaluation systems are available to students who do not have consistent internet access.

2. Services and support

4.1 Information services

- All information about the availability of computer-based courses, including study programs, admission requirements, and enrollment, is made available on the website of the institution.
- Information about the technological requirements for enrolling in a virtual course is provided in advance.
- A list of frequently asked questions is available to respond to the most common concerns about the offering and development of virtual courses.
- Students are informed about the conditions of the use of the system as well as the management of their private information (academic and personal).

2.2 Student assistance

Students should have at their disposal resources such as Frequently Asked Questions (FAQs), manuals, and help forums for the questions that may arise about the use of the system.

- Assistance in the form of manuals or FAQs is made available to the students.
- Technical advice for users (a hotline) is available to the students.
- Assistance services are available during normal study hours.
- Students can contact their tutors directly via telephone during study hours (afternoons and weekends).

5 Definitions

Usability

The International Standards Organization (ISO) has various definitions of usability. The following are the most recent:

ISO 9241-11 (1998)

Usability is the effectiveness, efficiency, and satisfaction with which a product allows specific users to reach specific objectives in the context of a specific use.

ISO/IEC FDIS 9126-1 (2000)

Usability refers to the capacity of the software to be easily understood, learned, and utilized by the user under specific use conditions.

Navigability and accessibility

Navigability and accessibility are two factors that contribute to the usability of the software. Although a formal description of accessibility was not found on the WAI website (the principal promoter of its application), the following description can be extracted from its documents:

Accessibility is the capacity of the software to be utilized by persons with physical or mental handicaps.

The concept of accessibility has been extended to include technological and cultural aspects and the current, more widely-accepted definition is as follows:

Accessibility represents the capacity of a product to be accessed and utilized by all users according to their needs and preferences.

Navigability is the capacity for a user to browse the pages of a website via the available hyperlinks, knowing at all times the location arrived at and the position in relation to the other pages.

Functionality

ISO/IEC FCD 9126-1 (2000)

Functionality is the capacity of the software to provide functions that respond to specific needs in specific conditions of use.

Reliability

ISO/IEC 9126-1 (2000)

Reliability is the capacity of the software to maintain its productivity level under specific conditions of use.

Efficiency

ISO/IEC FCD 9126-1 (2000)

Efficiency is the capacity of the software to provide the required productivity, in relation to the quantity of resources used under specific conditions.

Maintenance capacity

ISO/IEC FDC 9126-1 (2000)

Maintenance capacity is the capacity of the software to be modified. The modifications can include corrections, improvements, or adaptations of the software to environmental changes in its requirements and functional specifications.

Portability

ISO/IEC FDC 9126-1 (2000)

Portability is the capability of the software to be transferred from one environment to another.

Availability is the capacity of the computer systems to function 24 hours a day without interruption.

Scalability is the capacity of a computer system to maintain its productivity and efficiency with changes in capacity.

Interoperability:

IEEE Standard Computer Dictionary

Interoperability is the capacity of two or more systems or components to exchange information and to utilize the information exchanged.

Computer systems

Computer systems include equipment (hardware), programs and applications (software) and communication networks.

6. References

Standards and quality

- Bevan, N. (1999). *Quality in use: Meeting User Needs for Quality*. Serco Usability Services. Journal of System and Software.
- Commission on Higher Education, Middle States Association of Colleges and Schools and AI (2000). *Guidelines for the Evaluation of Electronically Offered Degree and Certificate Programs*.
- Fabri, J.A. (2001). *Utilização do QFD Estendido no Levantamento de Requisitos e Definição de Critérios de Qualidade Tecnológica no Desenvolvimento de um Ambiente de Gerenciamento de Informações para Ensino Distância*. Fundação Educacional do Município de Assis. Marly Monteiro de Carvalho, Escola Politécnica da Universidade de São Paulo. XXII Simpósio de Gestão da Inovação Tecnológica.
- Frydenberg, J. (2001) *Quality Standards in eLearning: a Matrix of Analysis*. University of California Irvine Distance Learning Center.
- Henao Álvarez, O.; Zapata Zapata, D. (2002). *La enseñanza virtual en la educación superior*. Instituto Colombiano para el Fomento de la Educación Superior (ICFES).
- IEEE Learning Technology Standards Committee. <http://ltsc.ieee.org/>
- Learning objects & learning standards. <http://www.learnativity.com/standards.html>
- Standards for Quality Online Courses. <http://standards.mivu.org/>
- The Pennsylvania State University in collaboration with Lincol University and Cheyney University (1998). *An Emerging Set of Guiding Principles and Practices for the Design and Development of Distance Education*. <http://www.outreadch.psu.edu/de/ide>

Instructional design

- Advanced Distributed Learning Initiative (ADL). <http://www.adlnet.org/>
- Instructional Management System Global Learning Consortium (IMS).
- <http://www.imsproject.org>
- PROMoting Multimedia Access to Education and Training in European Society (PROMETEUS). <http://www.prometeus.org/>
- Siemens, G. (2002). *Instructional Design in eLearning*.
- <http://www.elearnspace.org/Articles/InstructionalDesign.htm>
- The Dublin Core. *Metadata for Electronic Resources*. <http://dublincore.org/>
- The instructional Design approach.
- <http://www.arts.ualberta.ca/~tchao/IDwebsite/index.html>

Usability

- Jakob Nielsen's website: <http://www.useit.com>

Accessibility

- Expanding the Web's potential for people with Disabilities. <http://www.webaim.org/>
- Web Accessibility Initiative. <http://www.w3c.org/WAI>