Chapter 3.

Management model for teacher accompaniment in online and distance education programs

Introduction

This chapter presents a summary of the instruments designed and applied to carry out the diagnosis and analysis of the results obtained from the diagnosis of tutorial accompaniment at the university under investigation, a fundamental input for the adequate definition of a management model for accompaniment.

The proposed management model is then presented with its definitions, architecture, pedagogical and accompanying strategies for the proposed management and monitoring system and its operation.

3.1. Results of the Diagnosis of the Tutorial Teaching

The diagnostic instrument was designed and implemented through an online survey type form, which sought to obtain information from the definition of eight key aspects for the diagnosis. The total population was 5,870 students from the first to the tenth semester of 17 undergraduate programs of the School of Distance Learning, and the open sample taken was 688 students, with a priority focus on the first four semesters of each program.

The statistical analysis was performed using Excel and a macro system of descriptive statistics and data visualization.

To obtain information by program, Table 4 presents the population analysis of the students who filled out the diagnostic instrument.

According to the number of students per program, the instrument was answered in proportion to the size of students in each program (Table 5), with the Bachelor's degree in Basic Education, Technology in Civil Works, Technology in Pharmacy Regency, Technology in Health Management, and Technology in Electricity being the programs with the highest number of students.

Table 5. *Determination of the Study Program*

Program	No. Surveys	%
Commercial and Financial Administration	19	2.8%
Health Services Administration	22	3.2%
Bachelor of Arts in Basic Education	138	20.1%
Technical Prof. Computer Installation and Maintenance	43	6.3%
Professional Technician in Commercial and Financial Processes	15	2.2%
Professional Technician in Administrative Processes in Health	18	2.6%
Professional Steel Production and Transformation Technician	3	0.4%
Technology in Electricity	61	8.9%
Technology in Telematics	8	1.2%
Technology in Civil Works	133	19.3%
Technology in Agricultural Marketing	11	1.6%
Steel Management Technology	10	1.5%
Regency Technology in Pharmacy	107	15.6%
Health Management Technology	77	11.2%
Technology in Systems Programming	19	2.8%
Machine and Tool Technology	4	0.6
Total	**688**	**100%**

We identified the semester students are studying since the diagnosis was prioritized in the population of students from first to the fourth semester, as

explained above, the highest dropout rate from the programs of the Faculty of Distance Learning is in these first semesters. A total of 66.4% of the total sample was obtained in the first four semesters. An adequate percentage of students from the first to the fourth semester were those who participated by filling out the instrument to obtain a diagnosis that would lead them to approach reality. On the other hand, the first-semester group obtained 32.4%, equivalent to more than a quarter of the sample. This is important for the analysis since this group of students is just beginning their studies at the university (Table 6).

Table 6. *Determination of the Study Semester*

Semester	No. Surveys	%
First	223	32.4%
Second	99	14.4%
Third	70	10.2%
Fourth	65	9.4%
Fifth	53	7.7%
Sixth	77	11.2%
Seventh	35	5.1%
Eighth	19	2.8%
Ninth	14	2%
Tenth	17	2.5%
Academic Completion	16	2.3%

3.1.1. Teachers who, by Enabling Access to the Virtual Classroom, Send a Welcome Message and Indications to Start the Learning Process to the Student

We sought to establish what happens in the first moment of the educational process in programs of the Faculty and how many teachers carry out the first moment of communication and accompaniment of the student.

When analyzing the answers to this variable, comparing that the programs of the Faculty of Distance Studies have five subjects per semester or period; we have as a critical result that 24.9% of the respondents indicate that in the

first week of starting the educational process they have no contact but only with one or no teachers. This situation, if we group it with the percentages of group 3 (two teachers), leads to 42.9%. Given this situation, we can see that it is imperative to define a model of tutorial accompaniment for the faculty and that it is clear what the procedures for the development of accompaniment should be (Table 7).

Table 7. *Teachers who Perform Accompaniment at the First Stage of the Course*

No. Teachers	Total	%
All	232	33.7%
Five	23	3.3%
Four	41	6%
Three	97	14.1%
Two	124	18%
One	75	10.9%
None	96	14%

3.1.2. Socialization of the Learning Guide (Syllabus) of the Course, Schedule, and Contents

Through this variable we sought to establish a key element for the success of online and distance courses, this moment has to do with the socialization of the syllabus or learning guide, with its work schedule and the contents to be developed.

When the results were consolidated, it was established that 59.9% of the teachers were involved in this process for all the courses and that when added to five and four courses, this figure could reach 65.9% (Table 8).

The importance of determining this aspect has to do with the accompaniment and the expectation that the student will learn.

Table 8. *Teachers who Socialize Guide, Calendar, and Course Contents*

No. Teachers	%
All	59.9%
Five	6.5%
Four	10.5%
Three	7.3%
Two	7.1%
One	4.2%
None	4.5%

3.1.3. Teacher Communication through the Virtual Classroom and E-Mail

Through this variable, we sought to establish a key element of communication with students at the beginning of courses, their development, and progress, such as the quality of communication in the classroom and by email.

The analysis of Table 9 establishes that only 23.4% of students receive information messages through the Virtual Classroom and 17.2% receive these communications via email from teachers (Borges, 2005).

It should be noted that 15.6% and 12.5% respectively do not receive communication from their teachers permanently. Such a situation is one of the critical aspects identified in this diagnosis that requires intervention.

Table 9. *Teachers Communicating by Virtual Classroom and by E-mail*

No. Teachers	% AV	EC %
All	23.4%	17.2%
5	6.3%	10.9%
4	6.3%	10.9%
3	17.2%	12.5%
2	17.2%	21.9%
1	14.1%	14.1%
None	15.6%	12.5%

3.1.4. Availability of Communication Alternatives to Address Student Concerns and Explanations

Through this variable, we sought to establish the alternatives of synchronous and asynchronous communication that the teachers provide to the students for their attention and accompaniment. Table 9 shows the results of this variable.

In the analysis of Table 10, several problems of tutorial attention are raised, being studied in distance and online mode; about the use of synchronous technologies, either of video or audio conference or instant messages (Skype, WhatsApp) 81.3% and 65.6% respectively of the students indicate that their teachers do not offer them this attention space. And only 4.7% and 7.8% indicate that all their teachers have provided them with these spaces. It is concluded that synchronous tutoring mediated by technology is almost non-existent in the Faculty.

Table 10. *Communication Alternatives for Addressing Concerns and Explanations*

No. Teachers	% Skype	% WhatsApp	% mobile	% email	% attendance
None	81.3%	65.6%	6.3%	9.4%	21.9%
1	9.4%	14.1%	12.5%	9.4%	7.8%
2	3.1%	6.3%	12.5%	14.1%	7.8%
3	0%	3.1%	12.5%	4.7%	1.6%
4	0%	1.6%	4.7%	6.3%	9.4%
5	1.6%	1.6%	4.7%	6.3%	6.3%
All	4.7%	7.8%	46.9%	50%	45.3%

On the other hand, the telephone tutorial service reports that 46.9% of students report that they are attended to by all their teachers through this means. And 6.3% indicate that they are not attended by any teacher over the phone.

It was possible to establish that 50% of the students indicated that they were attended by all their teachers, and 9.4% were not attended, a difference

compared to variable 5 in which only 17.2% of students reported that they considered that they were attended by all their teachers.

The attendance reports that 45.3% of students are attended by all their teachers in this way, it is noteworthy that 21.9% indicate that they do not have attention by this means since the university offers face-to-face meetings once or twice a month.

3.1.5. Addressing Concerns and Difficulties in The Learning Process

Through this variable, we sought to establish the percentage of students who have received attention to concerns and learning difficulties from teachers.

Analyzing the results of table 11, they are divided, a 45.3% indicate that all their teachers have attended to their concerns and the other 48.4% indicate the opposite, that no teacher attends to their concerns, the results are distant, and under this percentage and compared with the data of the previous variables analyzed there is coherence and it is possible to establish that the attention and tutorial accompaniment of the students of the Faculty of Distance Studies is deficient and requires intervention and design of strategies to improve it. According to studies such as those by Borges (2005), inappropriate attention to students in online or distance education generates frustration and must be prevented, to contribute to improving the quality of the education offered.

**Table 11.** *Attention to Concerns and Explanations Provided by Teachers to Students*

No. Teachers	%
All	45.3%
5	1.0%
4	1.7%
3	1.5%
2	1.3%
1	0,8%
None	48.4%

3.2. The Pedagogical Model for Online and Distance Learning Programs

Once the diagnosis of the tutorial attention to students for the working population of this research has been made and recognizing the opportunities for improvement and the existing difficulties reflected in the diagnosis, a model of quality management of teaching accompaniment for distance and online education programs is proposed. This model is supported by the experiences and work developed by the research team, as well as the theoretical references and the review of experiences from other university contexts with programs of a similar nature.

The starting point should be the definition of a pedagogical model for online and distance education, in which the incorporation of ICTs is established as a fundamental element for its development in terms of resources, this component being defined as the technological dimension of the pedagogical model. An adequate pedagogical model for online and distance education must contemplate three working dimensions, namely: the pedagogical, the technological, and the organizational dimensions (Poveda & Rodríguez, 2014).

Figure 1. *Key dimensions of the Pedagogical Model for Online and Distance Education*
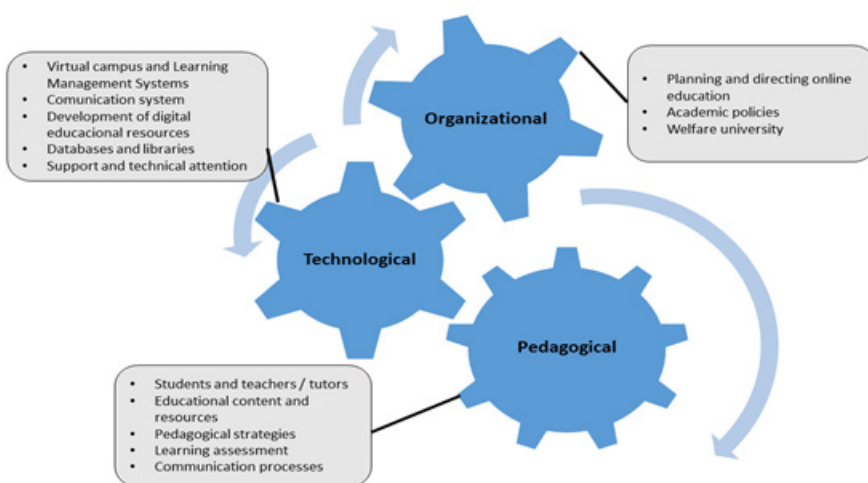
The pedagogical model must integrate ICT progressively and incrementally, to support through learning management platforms, interactions, digital resources and contents, and collaborative spaces to develop diverse and mediated training with a social purpose for the improvement of learning and the development of competences and skills.

Three aspects must be defined in a pedagogical model and their inclusion in the context of online and distance education:

1. The formation of a human condition oriented to creative and innovative peaceful coexistence under a collective, ethical-ecological, entrepreneurial, and persevering thought in the achievement of goals and objectives for personal and common benefit; with a systemic and connecting perspective of multiple realities and learning, which includes correctly and constructively the realities of others and the social and economic proposals with democratic and productive purposes for social equity and equality, beyond the economic gaps existing today.

2. The construction of evaluative social references for the formation and acquisition of learning through means, tools, and instruments that potentiate the creative capacity, the autonomy, the regulation of learning, and the critical capacity to self-evaluate, to evaluate others, to receive feedback from the tutor and, to build new knowledge references that allow him/her to boost his/her qualities under a process of tutorial mediation.

3. Open, synchronous, and asynchronous communication for educational mediation in the acquisition of self-regulated learning through an open curriculum; built around didactic strategies such as project learning, group discussions, case, and problem identification and analysis.

The communication model is mediated from the interests and needs of learning, which are generated from the design of guides (syllabus); with individual, collaborative activities, in scenarios mediated by ICTs or with face-to-face meetings, in which the student together with the teacher develop academic support activities that allow them to strengthen their learning.

The models of online education to be used (e-learning, b-learning, m-learning, and p-learning) should be established according to the nature of the programs. To do so, the existing learning theories, concepts, and relationships between them should be considered, being the most relevant ones:

Connectivism, this post-constructivist theory of learning, aims to model the complex process of human learning in the digital and socially active age. Learning today is a process that occurs both within and outside the educational environment, the web (internet) and web 2.0 and 3.0 technologies and tools, as well as social networks today, are an extension of the educational environment and field. And these in turn give rise to the empowerment of human beings to seek, create, share, collaborate and integrate stakeholders around learning needs and processes (Sobrino-Morrás, 2011).

Of course, many of its foundations are linked to constructivism and also in the theories and studies of Robert Gagné, which integrates the best of behaviorism and constructivism. To clarify this aspect, constructivism states that the human being is reflexive, creative, that to learn he interacts with his environment and with other individuals building his learning network. The learning network exists before connectivism. The difference is that Siemens and Downes focused on learning that takes place in the so-called knowledge society, where the Internet and the Web 2.0 and 3.0 have a marked influence on what we do, how we learn, work, and have fun (Siemens, 2005 & Downes, 2012).

Without ignoring the contributions of behaviorism and constructivism, connectivism is truly a theory of learning that allows us to understand the network and its tools and the influence that it has on young people today, and to integrate it into educational processes to build meaningful, collaborative learning based on active learning, in projects based on problem-solving, connecting knowledge with reality, and reality with networked knowledge (CISCO, 2010). This theory supports a global and universal collaborative learning society.

There are also references to constructivism, in learning by discovery, the significant, the collaborative, and the cooperative, among others (Jean Piaget, Jerome Bruner, David Ausubel, Joseph Novak, César Coll, and Edward

C. Tolman). And specifically, those based on the individual construction of knowledge (exploration in digital libraries, case studies, and learning by projects). Likewise, from the social-critical pedagogical currents, which contemplate learning based on problems and the pedagogy for an understanding of Jürgen Habermas, Paulo Freire, Daniel Goleman, Lev Vygotski, and Edward Thorndike. Based on the strategies of learning to learn, investigative capacity from the interest, individual differences, and collaborative work of students considering the styles and rates of learning.

To establish the characteristics of the methodology used in the FESAD pedagogical model, it is taken into account that according to Vera (2008), b-learning is blended learning (mixed or bimodal), that is, it aims at a way of learning in which a teaching and learning methodology is combined with a teaching and learning methodology online.

Following the model, it is necessary to point out the relevant characteristics of the tutorial processes of accompaniment possible in online or distance education:

Face-to-face tutorials are an opportunity for dialogue and the breaking down of discussion schemes, where spaces are generated for the socialization of experiences, the exchange of knowledge, and the construction of new pedagogical and curricular approaches, in favor of the permanent reflection of practices in higher education.

Within these sessions you can project:

• Promote various scenarios for discussion and analysis of activities developed during the training.
• To broaden knowledge, practices, strategies, and behaviors, in the face of real contexts of higher education.
• To offer students the tools and strategies necessary for the development of the competences and skills that university teaching requires.
• To create a space of commitment with the students, so that they get involved in the follow-up of the different actions of the development program.

For the development of the in-person sessions, some actions are raised as:

- Explanation and expansion of knowledge acquired through short theoretical presentations.
- Monitoring and control of the program's implementation by the students and teaching guidelines for their use.
- Support the realization of the program through didactic material, demonstrations of the operation and handling of the tool, instructions, and practical recommendations.
- Group exercises and practices aimed at applying and perfecting the skills acquired through different strategies.

Digital tutoring is a unique element of online and distance education. It is a way of establishing a particular and personalized channel between the learner and the *tutor*, supported by synchronous audio or video conference communication systems.

This type of tutoring aims to promote interactivity between the different actors in the educational process, taking advantage of information and communication technologies to facilitate access to information and the subsequent construction of knowledge. Likewise, flexibility is sought in the development of academic activities, according to the learning styles and rhythms of each student, making permanent communication possible and at the same time establishing the group and individual interaction relationships.

Consequently, the use of digital tools for the processes of communication and interaction with participants, allows students to develop self-learning and self-regulation skills, allowing the significant construction of new knowledge, while sharing and building an academic community that is strengthened over time.

For the management of the digital tutoring process, some aspects are considered such as:

- Continuous accompaniment, based on the learning rhythm of each student, promoting the development of the academic activities proposed, within the programmatic contents of the curricula of each program.
- Effective orientation, in the time when concerns arise that do not allow the achievement of the learning objectives formulated at the beginning of the

program.

- Resolution of technical incidents, doubts, and questions about the operation of the program or its contents.
- Information on logistical aspects of the program such as course schedule, criteria for evaluation, etc.
- Follow-up and assessment of the students' progress, ensuring that they follow the established planning and favoring the achievement of the established milestones.

The communicational process is conceived from "the didactic dialogue mediated between the teacher and the student, who learns independently and flexibly" in the configuration of the contents and processes for learning and teaching, taking as a reference the realities of the student, his or her environment and the axes of education, teaching, and learning. This didactic dialogue is produced through the communication media, in such a way that the learning objectives are achieved, for this reason, it is important to have adequate communication channels, permanent and open where there is room for the student to ask questions. In this sense, the student develops training skills in "know-know", "know-do" and "know-be," as fundamental pillars for the success of distance learning supported by ICT. See Figure 2.

Figure 2. *Communication and Interaction Model in the Web 2.0*
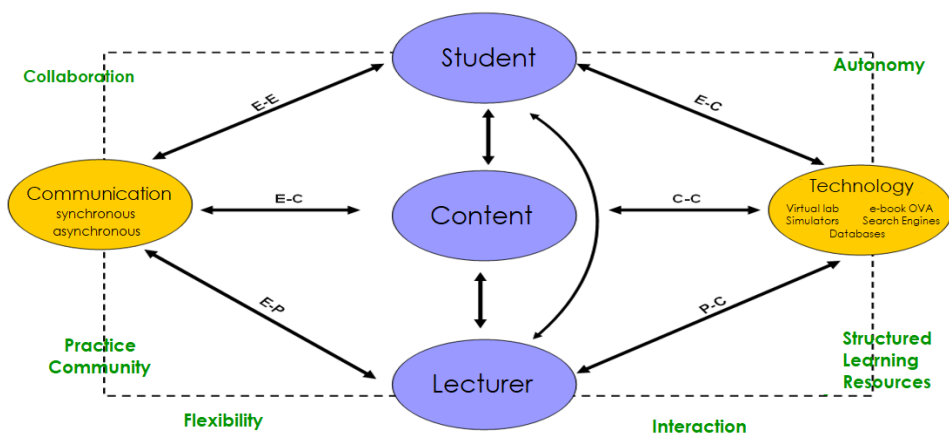
Note. Adapted and translated from *Theory and Practice of Online Learning*, by Anderson, T. & Elloumi, F., Athabasca University, 2008

The previous knowledge (theoretical-practical) is the support of the knowledge and new experiences and these, as starting points for the generation of new knowledge that leads to changes in attitude, both in the training processes, as in the professional performance. Knowledge and comprehensive training revolve around didactic dialogue, which makes it possible to determine both the theoretical and practical content and the criteria for research, application, action, and reflection.

Educational resources are all those materials selected, prepared, and proposed by the teacher for the study, analysis, and development of cognitive, procedural, and attitudinal skills that allow learning. Within these educational resources, the Faculty of Distance Studies has established as fundamental in its pedagogical model: the programmatic contents of the curriculum in each program, the Learning Guides for the didactic orientation, the development of learning activities and the evaluation of minimum contents, the multimedia educational resources, computer resources and Digital Learning Objects (ODA) available in the learning management platform through the structured courses that support the accompaniment and tutorial development. There are also specialized digital libraries for consulting and mastering information from the web.

3.3. Proposal for a Quality Management Model for Accompaniment

3.3.1. Background and Justification of the Need for a Quality Management Model for Accompaniment

Once the diagnosis was made to determine the status of the tutorial teaching accompaniment in the programs of the institution under investigation, the following were identified as critical elements to be improved:

- **The lack of guidelines for developing accompaniment**. There is no model or conceptual theoretical reference that establishes the form of tutorial accompaniment that the Faculty should develop, a situation that means that the teacher or tutor does not have clearly defined tutorial processes about the use of ICT as a means of supporting and accompanying their students.

- **Tutorial accompaniment is deficient**. It was possible to establish that the technological means available to advise and accompany students at a tutorial level have a low use, and the student in a high percentage considers that he does not receive accompaniment, perhaps with more in-depth research, it can be established that this situation is a cause of desertion or abandonment of training processes.
- **There is no definition of critical moments of accompaniment.** The Faculty has no defined criteria or guidelines regarding times in the learning process when tutorial accompaniment should be followed.
- **There are no instruments for monitoring teacher tutorials.** No instruments and procedures have been established to describe how and in what way to carry out tutorial follow-up and that the management can control if this is carried out.
- **No efficient use is made of ICTs to carry out processes of tutoring and teacher accompaniment**. A high percentage (67%) of teachers reported that they do not provide information to facilitate support and accompaniment, despite having the necessary technological tools for this purpose.

These elements, which are highlighted in Chapter 2, constitute the justification for proposing a quality management model for teaching support for the Faculty of Distance Learning for both its distance and online programs. The model is presented below in graphic form and its elements, instruments, and control and monitoring system are described.

3.3.2 Definition and Description of the Quality Management Model for Accompaniment

The quality management model of teaching accompaniment, for its definition, requires clarification of the term model, which comes from the Italian concept of *modello*, applied to this project is defined as: "a theoretical scheme of a system or a complex reality."

When referring to the management model, it should be noted that the concept of management, for its part, comes from the Latin *gesîo* and refers to "the action and the effect of managing or administering". The notion also implies actions to govern, direct, order, dispose or organize. In this way, management is a set of procedures carried out to resolve an issue, management according to

the ISO is "a set of coordinated activities to direct and control an organization or to realize a project" (International Organization for Standardization [ISO] 9000:2005, 2005). Therefore, a management model is a scheme or reference framework for the administration of an entity or project.

When referring to quality, according to the ASQ and EFQM, this is a set of characteristics of a product, process, or service that gives it the ability to meet the needs of the user or customer (American Society for Quality [ASQ], 2004).

Integrating the three terms, a Quality Management Model is conceived as a set of processes and activities of an organization in which responsibilities, objectives, and quality policies are determined so that the project meets the needs for which it was undertaken (Project Management Institute, 2014).

The quality management model of tutorial support is a set of processes and activities in which responsibilities, objectives, and quality policies are established to ensure that tutorial support meets the learning support needs of students in distance or online modes. From this definition, we proceed to define its structure, describing actors, elements, processes, activities and reports, and monitoring and control instruments, as seen in the model shown in Figure 3.

Figure 3. *Quality Management Model for Tutorial Support*
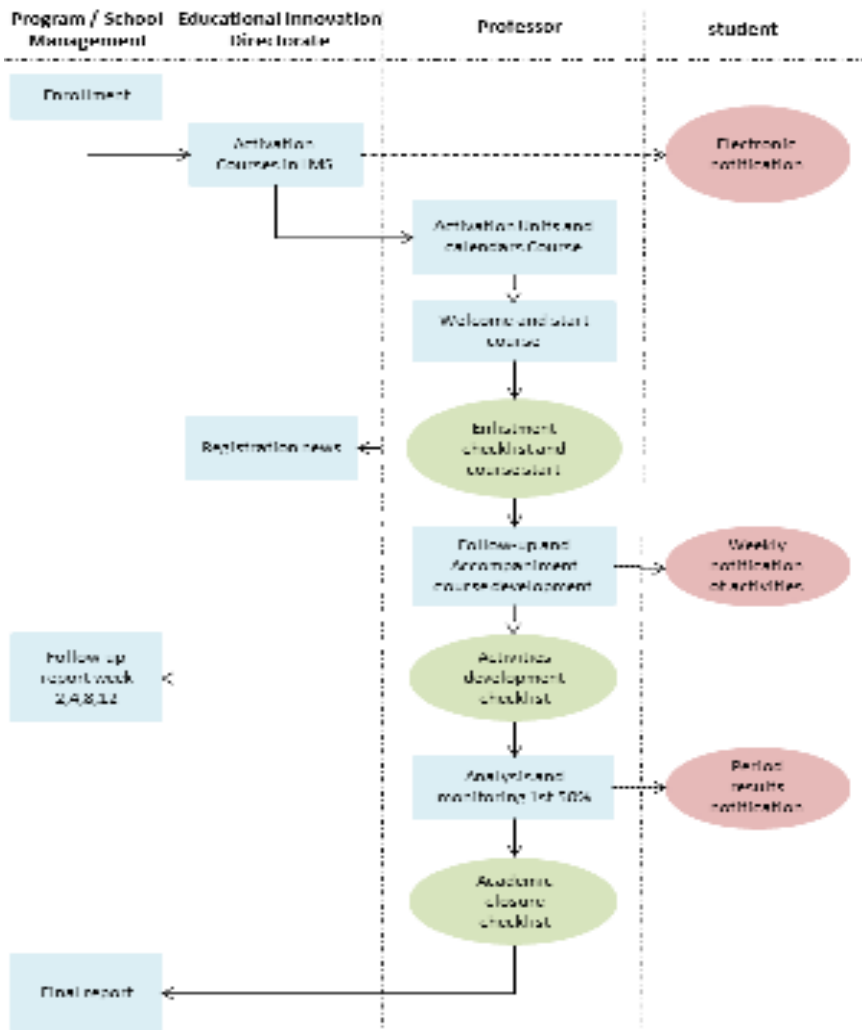
3.3.3. Actors in the Proposed Management Model

The model has four actors, namely the program or school directorates (together with their curriculum committees), who are responsible for following up and controlling the development of the model.

The office or department of technology for online education, in this case, the Directorate of Educational Innovation, which is responsible for facilitating the technological mediations for the deployment of courses, digital libraries, digital learning objects, learning management platform (LMS) by its acronym in English, video and audio conference platform and human support of these technologies.

The teacher, who is the executor of the model and who is responsible for implementing the accompaniment strategies for his or her students.

And the student who is the most important actor and the beneficiary and who will be the overseer that will allow verifying the efficacy, efficiency, and effectiveness of the model.

3.3.4. Elements of the Management Model

For its implementation, the model requires, apart from the actors already described, a set of elements that are deployed and integrated through processes and support systems for its development, it has monitoring and control instruments to report the activities developed by the actors of the model.

The *role of the teacher or tutor:* To fulfill his or her role, the teacher must have a set of organizational, guiding, and social skills, as well as academic-pedagogical, technical, and organizational functions (Llorente, 2006).

As a facilitator of the teaching-learning process, the teacher must possess technological skills, such as knowledge of office automation and the Internet; a professional profile based on the subject matter, and broad knowledge of the purpose and pedagogical themes of the course to be developed.

He/she must possess creativity and the facility to guide and solve problems, must be an enthusiast of the formation process, and encourage autonomous and collaborative learning; these qualities may be acquired. His/her management is fundamental to achieve the development of the proposed activities, besides administering technological elements and communicative skills in a textual and oral way (Medina et al. 2011).

According to García-Areito (2001), the teacher-tutor must have a set of skills at the academic-pedagogical, organizational, guidance, social, and technical levels:

Organizational skills of the teacher

- Establish the course schedule, globally as well as specifically.
- Explain the rules of operation within the environment.
- Maintain contact with the rest of the teaching and organizational team.
- Organize group work and facilitate coordination between members.
- Contact experts.
- Provide meaningful information for the relationship with the institution.
- Establish structures in online communication with a certain logic.

Teacher guidance competencies

- Facilitate intellectual work techniques for networked study.
- To provide public and private recommendations on the work and its quality.
- Ensure that students work at an appropriate pace.
- Motivating students for work.
- Inform students about their progress in studying.
- Be a guide and counselor to the student.

Teacher's social competences

- To welcome students who participate in the networked course.
- It will motivate students to expand and develop the arguments presented by their peers.
- Integrate and conduct interventions.
- Encourage and stimulate participation.
- Propose activities to facilitate knowledge among participants.
- To boost training action and networking.

Academic / pedagogical teacher competencies

- Provide information, extend, clarify, and explain the contents presented.

- Responding to student assignments.
- Make sure that students are reaching the right level.
- Design activities and learning situations according to a previous diagnosis.
- Summarize the students' contributions in group discussions.
- Make global and individual assessments of the activities carried out.

Teacher's technical competencies

- Use e-mail properly.
- Know how to direct and participate in asynchronous communications.
- Design, create and control synchronous chat rooms, video conference rooms, and audio conference rooms.
- Master and use word processors, spreadsheets, and databases.
- Use web page creation tools, blogs, podcasts.
- Use the software for specific purposes.
- Ensure that learners understand the technical functioning of the digital learning environment.
- Manage the learning groups that you form for the work in the network.
- Incorporate and modify new materials into the training environment.
- Keep in touch with your system administrator.

Technological Architecture and Educational Support Media. The model is supported by the technological architecture of the institution for the support of distance and online education, which in its basic elements is integrated by

- **Telecommunications, video, and audio conference equipment**. The institution must have video and audio conference software for its processes. Servers, either own or in the cloud, and end-user devices.
- **Virtual laboratories and simulators**: you must have licenses for virtual laboratories or simulators.
- **Software for design and production of educational resources**: software licensing for production of video tutorials and packaging of digital educational material, software for rapid production of digital educational resources (rapid e-learning), and teacher training for the use of these software solutions.

3.3.5. Pedagogical and Accompanying Strategies

The institution must have an institutional strategic plan where it integrates the implementation of virtual learning in the programs and in which it establishes the strategies and scenarios of interactivity and interaction:

The Digital Learning Environment (Learning Management Platform)

Each module or subject must have its course in the Digital Learning Environment, to which students are automatically enrolled and teachers are assigned by the respective program or school management and the technology management. Each digital support course is developed by a team of expert teachers in the area under the parameters defined by the University, according to the Integrated Quality Management System.

Courses in the Digital Learning Environment should have a minimum structure, which should be designed to create scenarios of interaction between students and teachers and between students themselves. The online course for each subject must have an Academic Learning Guide or syllabus.

The Academic Learning Guide or Syllabus

As a fundamental element of the development of processes in online or distance education each course or module of having an academic guide or syllabus, as far as possible defined within the system of quality management, so that it is unified for the entire institution. The guide is related to the online course of each module and is a synthesis of the work to be developed by the student.

It is defined as the document methodologically designed to work by units to develop the knowledge, skills, and objectives of a module or subject. And it must be revised and updated regularly.

Structure of an Online Support Course

The online course of a subject is supported by the following guidelines of the institutional quality management system and with defined conditions and components.

Minimum conditions for course creation and use

An online support course is implemented by subject. If the course has more than one teacher, the teachers will be registered, and the groups will be organized according to the academic assignment of each teacher.

The course that is created must be reviewed to meet minimum quality standards.

Virtual support course components

The course is composed of:

- A general space of the course: This can be called Introduction to the Course.
- Course sections: These are called units.

Introduction to each course

The components of the Introduction of each course are:

1. **Course title**: (Title of the Module or subject and its internal code).
2. **Teacher information:** (Names and contact details of the course teachers).
3. **General course resources:** (Basic course materials, academic course guide, and calendar are published here).
4. **Link to classes and virtual support**: This is the space of synchronous interaction, which is programmed from the beginning of the course, with the support of a teacher at least one day per week and at a specific time the class through video conference for support and accompaniment.

Structure of the units of each course

1. **Unit title**: This title is related to the contents of each unit in the module.
2. **Unit objectives**: This describes the competencies that the student is expected to acquire in developing the unit.

3. **Study resources**: Here you are provided with all the resources, readings, links to supplementary material, and learning objects necessary for the development of your learning activities. It is organized by topic in direct relation to the learning guide.

Activities

a. **Discussion forum:** In each unit, a support forum is scheduled to address student concerns and the development of activities that the Tutor schedules to generate interaction with and among students. This is the space for asynchronous interaction within the Learning environment.

b. **Tasks:** Scheduled space to receive the unit's tasks, related to practice, laboratory, and research reports that the teacher schedules. There, not only are the reports delivered but the teacher informs and gives feedback to the student about the activities and learning developed.

c. **Questionnaires:** Online evaluation of the unit, scheduled at a general level.

In general, the institution's Digital Learning Environment has to implement in each course different scenarios of synchronous and asynchronous interaction from different angles, some for training purposes, others for evaluation purposes, others as social spaces for interaction among students.

The Institutional E-Mail

As a strategic element of communication and contact among its community, the institution should have an institutional e-mail service for teachers, students, and administrative staff. This is a space and scenario for interaction and interactivity since the institutional e-mail account has exceptionally good services.

Strategies for Accompanying and Monitoring Students

Each module or subject within the institutional educational model for online and distance education must have an online course and an Academic Learning Guide or syllabus, which is created under internal quality standards,

where each component of the guide has a purpose and an objective aimed at accompanying the student in his or her learning process to monitor the process.

From the objectives and indicators that are defined to evaluate the level of achievement of skills and knowledge, to the activities that are suggested for the development of the topics of each unit, its objective is to guide, accompany and follow up on their learning.

Similarly, the communication spaces set up both in the Digital Learning Environment (chat, videoconference, forum, and other activities) and the channels of e-mail, telephone, and even face-to-face attention during the practices are created, activated, and energized by the teachers and tutors to accompany and follow up.

On the other hand, a course in the Digital Learning Environment is not only attended by one teacher or tutor, but the course is also divided into groups, attended by two or more tutors according to the number of students and each tutor is, in turn, an evaluator of the other tutors to monitor both the colleague and the students and through meetings of teachers or Curriculum Committees the problems identified in the day-to-day academic activity are discussed.

For student care and support, the following spaces should be available according to the online or distance education model:

- **Tutorial attention in person,** for the development of practices and in the centers or units of attention and it is necessary to count on full-time, part-time, and professorship teachers to support the students in their formative process.
- **Synchronous virtual attention:** This requires licensing for video conference systems for tutoring and accompaniment through video and audio as well as chat in the Digital Learning Environment.
- **Asynchronous virtual attention**. The Digital Learning Environment should have discussion forums, instant messaging, and advice and support should be provided through institutional email.

3.3.6. Management and Monitoring System for the Management Model

To follow up on the quality management model for tutorial accompaniment, checklists have been designed, using forms that can be made available online for the teacher to review and complete, on the calendar dates defined within the model. In total there are four checklists.

Checklist and course enrollment checklist: This checklist (Table 12) is reviewed and revised in the previous week or the 1st week of the semester or module, for:

- Verify the creation or restoration of the course.
- Verify the functionality of the same.
- Check access to the course for students and teachers.

Table 12. *Checklist for Preparing a Subject or Module Remotely or Online*

No.	Course or module recruitment activities	Produced	
		YES	NOT
1	Approve the guidelines of the academic assignment and confirm the corresponding verification in the platform, according to the notification received.		
2	Enter the Virtual Classroom and verify that the assigned course appears along with the associated students according to the list found in the SIRA teaching platform. In case of any inconsistency, please contact the School Management and the Educational Innovation Department: univirtual@uptc.edu.co.		
3	Enter the Teachers' Platform and download the list of students assigned to your course. In case of any inconsistency, please contact the school management.		
4	Use institutional e-mail for all communications with students and the University. Verify email activation with your mail or network administrator.		
5	Update virtual classroom teaching profile according to work experience, academic background, and significant achievements. Provide updated document-type photography.		
6	Review the entire Learning Guide or syllabus of the assigned course, and each unit of the same, updating calendars, verifying that the links are available and in force. (Reports of inconsistencies and new developments should be communicated to the School management and the coordinating teacher of the module or course).		

No.	Course or module recruitment activities	Produced	
		YES	NOT
7	Verify that Learning Guide or syllabus materials and resources are available for viewing, viewing, and/or downloading (reports of inconsistencies and updates should be communicated to the school administration).		
8	Establish the schedule of activities of the module describing each activity: start and end date, percentage against final note, detailed information of deliverables, other data you consider necessary.		
9	Manage with the administrative assistant of virtual education the availability of room for videoconference according to the defined weekday schedule, and by the schedule of activities. Remember that you must hold at least one specific synchronous meeting per week for all students.		

Course start checklist: This checklist (Table 13) is reviewed and revised during the first week of the semester for:

- Communicate with the student to welcome him/her and the teacher's contact information.
- Provide general course directions, learning guide, or syllabus and calendar.
- Contact each student.

Table 13. *Checklist for Starting a Subject or Module Remotely or Online*

No.	Course or Module Startup Activities	Produced	
		YES	NOT
1	Contact the assigned students (on the platform and by email) using a welcome message containing formal greeting, information on the assigned module, start and end date. It is necessary to sign the message with full names, email and cell phone contact, synchronous business hours (Zoom, Google Meet, Skype, or Adobe connect).		
2	Publish (on the platform and by e-mail) the schedule of activities of the course that describes each activity: start and end date, percentage against final note, detailed information of deliverables, other data you consider necessary.		
3	Publish a message reminding students of respect for copyright, that copying of works between participants and from external sources is prohibited, emphasizing that works in which such fraud is found will be evaluated with a zero score and that this situation will be reported to the school administration.		

No.	Course or Module Startup Activities	Produced	
		YES	NOT
4	Publish the students' communication on the platform and emphasize the general guidelines for the development of the course.		
5	Notify you of new bounced emails or issues that require technical support.		

Course development checklist: This checklist (Table 14) is reviewed and revised at least in the 2nd, 4th, 8th, and 12th week of the semester for:

- Communicate with the student to notify him/her of the start of activities per unit.
- Address concerns and difficulties in the learning process.
- Reminders of activities, report of results, and in general maintain contact with the student.
- Notify of tutorials, videoconferences, and other accompaniment sessions.

Table 14 . *Checklist for the Development and Progress of a Subject or Module at a Distance or Online*

No.	Activities to be carried out during the development time	Produced	
		YES	NOT
1	Notify students about the learning activity initiated, clearly indicating the products to be delivered and the evaluation criteria against which the deliverables will be assessed. This exercise should be carried out every time an activity is started in the module.		
2	To answer questions and queries registered in the forums or messages in a consistent and relevant manner within a maximum of 24 hours, except on Sundays and public holidays.		
3	Daily review of institutional e-mail for the attention of requirements and concerns of students and the University (administrative or academic areas). Any communication or mail is required to confirm receipt.		
4	Publish (message by AV and by e-mail) the dates of the synchronous meetings scheduled for the course, as well as the virtual tutorials. Remember that you must make a specific synchronous meeting every week/activity.		

No.	Activities to be carried out during the development time	Produced	
		YES	NOT
5	In the courses where discussion forums are required: 1. Creating and opening the corresponding forum. 2. Inform students about the start of the forum through a message on the platform. 3. Make the participation in the forum more dynamic from your role as a teacher. 4. Conclude and close the forum according to student participation and topics discussed.		
6	Remind students of the closure of each activity and the maximum date on which they will receive deliverables as defined in the socialized activity schedule from the beginning of the course.		
7	Being a coach and motivator in communications with students is not just about delivering assessment results or reminders to deliver them. It is about providing general and specific guidance on how to carry out the activities.		
8	To inform students of inconsistencies in the deliverables, this notification must be made within 24 hours of receiving the evidence.		
9	Review compliance with APA or IEEE or ICONTEC standards in the referencing of bibliographic sources in the evidence received.		
10	Review the matching of work between students or with external sources, to identify possible frauds and inform the students involved in this situation, telling them the actions to take.		
11	Evaluate and feedback the activities tasks, forums in a maximum of 5 days (120 hours).		
12	Calculate the grade obtained by the student in each activity, considering the performance observed in the aspects established in the evaluation matrix (rubric) of the learning guide.		
13	To inform the student through messages in the classroom about the grade obtained and the observations made to the deliverables in each of the aspects evaluated. The grade information must be sent within a maximum of 5 days after the delivery of the activity.		
14	Attend to requests for review of qualifications.		
15	Maintain the grade book or report card in the form of grades, with the partial grades obtained by the students, verifying that no errors are made in the report of the 1st 50% and 2nd 50% or the single grade as appropriate.		
16	Hand in the follow-up report (partial grades) according to the indications informed by the school management and publish it in the Classroom taking care to use only the student code as identification data.		

Course closing checklist and control: This checklist (Table 15) is reviewed and revised in the last week of the semester or period of the *course* or module, for:

- Communicate with the student to notify him/her of the closure of activities and work, work deadlines.
- To deal with complaints in case of disagreement with the results and qualifications.
- Registering the final qualifications with the SIRA.
- To carry out the technical and pedagogical revision of the activities of the Learning Guide to propose improvements in the module if necessary.

Table 15. *Checklist for Closing and Completing a Course or Module Remotely or Online*

No.	Activity Activities to be performed during closing and completion	Produced	
		YES	NOT
1	Remind students of the closing of the module and the maximum date on which they will receive deliverables according to the schedule of activities socialized from the beginning.		
2	Perform the calculation of the final grade of the module, considering the reported partial grades and the percentages assigned to each of the activities in the Learning Guide or syllabus.		
3	Socialize on the platform the grades obtained during the development of the module (presenting the detail of partial grades and final qualification), no later than two days before the end of the module. Warn students that they have a maximum of 5 calendar days to request a review of the final grades.		
4	Attend to requests for review of qualifications.		
5	In the last week of the module, hold a closing meeting (synchronous meeting with the students) where you give feedback on the most important aspects that have been observed in the development made by the students.		
6	Record the final scores in the institutional system one day after the end of the claims period. Feedback on this process should provide a minimum of partial grades and any observations.		
7	Deliver the follow-up report (partial and final grades) on the dates informed by the School management. The report must be signed and sent scanned to the email of the respective School.		
8	Carry out a technical and pedagogical revision of the activities in the Learning Guide or syllabus to propose improvements in the module and inform the school management.		