The concept of interface as an analytical and practical approach to organizational communication in higher education institutions

El concepto de interfaz como enfoque analítico y practico de la comunicación organizacional en las instituciones de educación superior

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ABSTRACT

Higher education institutions (HEIs) have considered communication to be a necessary aspect in the fulfillment of their objectives as organizations. The interface is a concept that allows us to analyze educational organizations in order to understand the network of relationships and interactions established by their multiple actors, and the processes in which they participate (Scolari, 2021). By applying this concept with an analytical focus, it is possible to understand the communicative spaces that exist within the structural complexity of HEIs.

This work proposes a theoretical reflection based on an understanding of the concept of interface, its categories and analytical dimensions, applied to the organizational environment of HEIs. In turn, it proposes to identify elements present in educational organizations such as HEIs, which can be conceptualized as components of the interface, and which have links or connections with other communication spaces and other interfaces in the educational context.

The aim is to construct a model of intervention that can be put into practice to propose communication strategies that strengthen HEIs at an organizational level. In conclusion, it is considered that this concept can be useful both for the analysis of organizational communication in HEIs and for the planning of actions that contribute to the fulfillment of communicational purposes both internally and externally.

Keywords: Interface; Higher Education Institutions; Organizational Communication.

RESUMEN

Las instituciones de educación superior (IES) han considerado la comunicación como un aspecto necesario en el cumplimiento de sus objetivos como organizaciones. La interfaz es un concepto que permite analizar a las organizaciones educativas para comprender la red de las relaciones e interacciones establecidas por sus múltiples actores, y los procesos en que estos participan (Scolari, 2021). A partir de la aplicación de este concepto con un enfoque analítico, es posible comprender los espacios comunicativos que existen dentro de la complejidad estructural de las IES.

Este trabajo propone una reflexión teórica sustentada en la comprensión del concepto de interfaz, sus categorías y dimensiones analíticas, aplicada al entorno organizacional de las IES. A su vez, propone identificar elementos presentes en organizaciones educativas como las IES, susceptibles de ser conceptualizados como componentes de la interfaz, y con vínculos o conexiones con otros espacios de comunicación y otras interfaces del contexto educativo.

Con ello se busca construir un modelo de intervención que pueda ser llevado a la práctica para el planteamiento de estrategias de comunicación que fortalezcan a las IES a nivel organizacional. Como conclusión se considera

que este concepto puede ser de utilidad tanto para el análisis de la comunicación oraganizacional en las IES, como para la planificación de acciones que contribuyan al cumplimiento de los propósitos comunicacionales hacia su interior y al exterior.

Palabras clave: Interfaz; Instituciones De Educación Superior; Comunicación Organizacional.

INTRODUCTION

Higher education institutions (HEIs) have constantly sought to keep abreast of the context and dimensions surrounding them. These educational organizations understand the challenges presented by these dimensions to respond to the objectives they were created and serve as a reference, goal, or catalyst for change or transformation they have set for themselves as social entities. In response, communication understood from an organizational perspective, has represented an opportunity for HEIs to adopt or apply it in developing responses to the context.

Given that educational organizations' context includes tensions, conflicts, and specific changes in each of their dimensions, HEIs, along with the responses they generate to the context and the changes that arise, and the objectives that guide their activities, are also subject to updating or changing depending on the human elements that participate as recipients of their activity.

The objective of this paper is to provide a set of concepts that help to understand HEIs as educational organizations that possess interface features in which their components can be analyzed not only from an idea of communication in the organization that starts from the objectives, plans, and actions that take place in organizations, which give rise to models or systems of planning and intervention.[1]

We propose reflecting on a concept that understands communication as an organizational phenomenon. This phenomenon varies according to the participation and relationships between not only human actors such as managers or authorities, middle management, members or public members, audiences, stakeholders, or interest groupsbut also institutional, technological, biological, etc. [1,2]

DEVELOPMENT

Educational organizations and organizational communication

Educational organizations have the capacity to learn critically, reflectively, and innovatively from their own experience and that of other organizations.[3] From this capacity for learning within and for the organization, communication has been a key element in the evolution of organizations and their connection to the context through fulfilling their objectives and the social action they carry out.[4]

González and Codagnone[5] point out, from the perspective of university-type organizations, that these have three fundamental purposes: the development of teaching, research, and outreach. The tasks and activities they carry out are consistent with the purposes for which they were created. In turn, these tasks and activities generate their structures. As Mintzberg points out, "the structure of an organization can be defined simply as the set of all how work is divided into different tasks and then coordinated".

Within the complexity of HEIs as educational organizations, they are made up of different levels: a) objectives, the formal and informal rules that define their objective function; b) the governance structure, which implies the degree of autonomy (in the case of university organizations) from the state and the market, de jure and de facto property rights, and the distribution of authority; and c) the academic structure (which is implicit in HEIs from a systemic perspective) and its institutional and functional differentiation: the rules governing the transmission and production of knowledge in different fields of knowledge and the degree of integration of the institutional structure.[6]

Within these objectives, the author mentioned above states that, in the case of universities, ten objectives govern their social action and can be grouped into explicit objectives (which address the university functions of research, teaching, and outreach) and implicit or latent objectives (such as the production of cultural goods, etc.). [6]

1) The training of professionals for the labor market (government, business, academic sector).
2) The training of scientists for producing and transmitting knowledge in the sciences.
3) The training of political and business leaders.
4) The training of citizens with more excellent knowledge and general culture.
5) The production of new scientific knowledge.
6) Producing technical assistance, consulting, and technology transfer services to the productive sector and the community.
7) Improving income distribution by providing opportunities for upward social mobility.
8) The provision of knowledge independent of governments and political parties, with the search for truth

as a guiding value.
9) To establish itself as a hub for local economic development.
10) Preserving and disseminating cultural values.[6]

Although these objectives respond to the contexts in which universities operate, training through research and teaching is one of the principles that guide the activities of HEIs. In this sense, it is important to understand HEIs as educational organizations that go through these learning cycles and use communication to establish or maintain their links with the social environment in which they are located.[7] To emphasize the above, organizational communication is understood as:

"a set of techniques and activities aimed at facilitating and streamlining the flow of messages that reach the members of the organization or institution and its environment, or at influencing the opinions, attitudes, and behaviors of the company's internal and external audiences, all to improve the latter's performance and achieve its objectives."[8]

Vera[8] divides organizational communication into two main types, internal and external, which can be formal or informal. The following is mentioned in this regard:

Internal organizational communication: "set of actions carried out by the organizational entity to generate and maintain good relations with and among its members, through the use of various means of communication designed to keep them informed, united, and motivated in order to contribute with their work to the fulfillment of organizational objectives; and, therefore, its target audience is the employees of the organizational entity."[8,9]

External organizational communication: "a set of messages sent by the organization to different external audiences, to improve relations between them and promote a favorable image."[8]

If the purpose of communication in organizations is to link a diversity of actors or members and circulate expressions internally and externally to influence the behavior of other actors, it should be noted that other elements and their relationship to the existing distribution can play special roles or functions that contribute to organizations achieving their objectives.

These elements or actors, in addition to the participants or those involved within organizations, share the stage with other elements that are not necessarily personal or group-based but instead refer to devices or tools, values or practices that stem from the organizational culture and philosophy, and even other eventual elements that are not necessarily human. To understand this complex web of participation in which communication takes place as a factor that generates this fabric, this paper proposes to revisit the concept of interface in its extended use to other spheres.

Interfaces and systems

An interface is a network of actors, whether human, technological, institutional, textual, or even biological, that are related to each other and involved in processes in which they participate.[10] This complex network, containing interactions between its actors, is also a space for communication. With them, HEIs as organizations can be seen as interfaces where these actors interact, relate, and engage in specific processes within an educational dimension.

Scolari[10] explicitly illustrates that the human actors within an educational interface can be students, teachers, authorities, and service personnel. In the case of technological actors, they can be all those devices or tools used by human actors. In the case of institutional actors, they would correspond to the rules and regulations that govern the educational process itself. To complement this diversity of participants, events such as the recent COVID-19 pandemic are a good example of biological agency within an interface, which at that time had a considerable influence due to the impact it had on the educational environment.

Other elements that form part of the interface are the processes in which these actors participate. They are understood as sequences of operations or events unfolding over time, considering those objects or aspects that pass through them as flows of data, goods, texts, and capital.[10]

As a second component of the interface, the processes that occur between actors can be categorized into the following types: processes of meaning and interpretation that have their starting point in the meanings attributed and their understanding within the interaction; processes of production, circulation, and consumption to understand interactions from an economic perspective; processes of convergence and divergence in which actors converge or diverge to generate other interfaces; inclusion and exclusion processes in which actors can be incorporated or displaced by others; centrifugation and centripetal processes in which actors are attracted to or repelled from the interface; and coevolution processes in which actors share or coexist in specific evolutionary cycles.[10]

Relationships, as the third component of the interface, can be categorized into the following types: unidirectional, bidirectional, and multidirectional relationships, depending on the direction of the interaction between the actors and a certain number of them; relationships of domination and equality, depending on the degree of imposition and hierarchy between the actors; and relationships of cooperation or competition, in which the actors interact with each other based on the link that contributes to achieving a goal.[10]

To conclude this conceptual overview, it should be noted that the analysis model proposed by Scolari is based not only on the network involving interactions between the three components mentioned above but also on a set of premises that contribute to understanding the definition of this concept and the categories that derive from it. Below is a summary of the laws (according to the author) that define the interface as an object of analysis:

Interfaces are the places where interaction occurs. They are not transparent. They form a (media) ecosystem. They evolve and co-evolve with their users. They do not become extinct but rather transform. If they cannot do something, they will simulate it. They are subject to the laws of complexity. Their design and use are political practices. They are a place of innovation.[10]

Although the author put forward these premises to undertake a descriptive exercise in terms of a technological dimension and those processes of socio-technical transformation, it is worth remembering that this paper proposes to transfer the concept of the interface to the field of higher education institutions. For the

The proposal made in this paper includes some of these premises referring to the characteristics and features of the interface, which are taken up in line with the purpose of this reflection on higher education institutions as educational organizations and the role played by communication in them.

HEIs, as educational organizations, are also systems divided into specific systems or orbit around others. Rebel, Hidalgo, and Moreno define organizations as:

"a community of people with a purpose (philosophical subsystem), working as a group (psychosocial subsystem), using knowledge and techniques (technical subsystem) and relating to each other through a hierarchy of command and division of labor (structural system), including its administrative subsystem that plans and controls the overall effort of the organization, which is embedded in a supersystem (environment or surroundings)."[4]

The supersystem is the environment in which the organization operates, and it has two basic dimensions located in the macro environment (external influences on the organization) and the microenvironment (elements generated by the system's interaction with the supersystem). Under this understanding, the concept of interface, which has no delimitation in terms of the scope of spatial-temporal analysis, can be used to locate the interface's components within the organizational system's components. Regarding subsystems in an organization, Rebel, Hidalgo, and Toledo[4] provide a deeper understanding of each of them:

• *Philosophical subsystem*: represents the core philosophy and is the fundamental ideology that serves as a compass, orientation, and direction for the organization's decisions. The term philosophical foundations includes the organization's mission, vision, philosophy, and values.

• *Technical (technological) subsystem:* "refers to both the knowledge necessary for performing tasks associated with transforming inputs into products, goods, or services, and the technology to achieve this transformation. For example, this subsystem includes techniques, skills (including tacit knowledge), machinery, and equipment that incorporates knowledge."

• *Structural subsystem:* "refers to the division of labor, hierarchical relationships, how different tasks are integrated, workflows, and administrative and managerial communication."

• Psychosocial subsystem: "has to do with the behavior of individuals, their attitudes, motivations, perceptions, interactions, and networks of influence. This subsystem gives rise to the work climate and organizational culture that greatly influence the members of organizations."

• *Administrative subsystem:* consists of planning, designing, and controlling the entire organization's activities. It plays a central role in the organization and its relationships with the environment."

Although the human actors within the interface model correspond to the philosophical and psychosocial subsystems, the technological actors to the technical subsystem, and the institutional actors to the administrative and structural subsystems, it would be important to promote a scale that contributes to understanding the interactions between the actors and their performance within these subsystems and consider the levels or scales at which educational organizations interact with the supra system environments.

From this systemic perspective, and to strengthen the understanding of HEIs as educational interfaces, we propose using the human development ecology model, which seeks to study human behavior about the environment.[11] Although communication is not the object of study from this perspective, its integration into this work helps identify and categorize the elements that contain it.

Bronfenbrenner[11] points out that individuals who find themselves in a given environment and interact actively and dynamically within it form part of a system that, in turn, nourishes them, and individuals nourish the system in a reciprocal relationship in which individuals are not isolated, nor can they interact without being in an environment defined by other more comprehensive environments. On this point, the author makes a conceptual proposal to define the scope or boundaries of the system in which subjects interact. He mentions that "the ecological environment is conceived, topologically, as a serial arrangement of concentric structures, each of which is contained within the next. These structures are called micro-, meso--, exo-, and macro-

systems".

Below are the corresponding definitions proposed by Bronfenbrenner[11] regarding the structures that make up an ecological environment:

• *Microsystem*: a pattern of activities, roles, and interpersonal relationships that the developing person experiences in a particular environment with particular physical and material characteristics.

• *Mesosystem*: "comprises the interrelationships of two or more environments in which the developing person actively participates (e.g., for a child, the relationships between home, school, and neighborhood peer group; for an adult, between family, work, and social life)."

• *Exosystem*: "refers to one or more environments that do not include the developing person as an active participant, but in which events occur that affect what happens in the environment that encompasses the developing person, or that are affected by what happens in that environment."

• *Macrosystem*: "refers to the correspondences, in form and content, of lower-order systems (micro-, meso-, and exo-) that exist or could exist at the level of the subculture or culture as a whole, together with any belief system or ideology that underpins these correspondences."

From this perspective, it is possible to locate the elements or components of the interface interacting with each other and other interfaces or systems, as well as with environments or settings at different levels. Moreover, from the integration of the three approaches mentioned above, it is possible to provide the basis for a framework that represents the different levels or scales of educational organizations according to the influence of the environments, contexts, or systems in which they are involved, or at the levels or subsystems that constitute them, either according to their structures, hierarchy, and the role of their participants,[12] but above all, by the interactions that occur between the different actors involved in HEIs as educational organizations, in the relationships woven by their agency, and the processes they carry out.

It should be remembered that the fabric of educational interfaces, understood as the spaces where communication occurs within the organization, is the main element that must be observed for analysis purposes and, as will be presented below, for intervention purposes. The following diagram establishes a correspondence between the concepts provided by the three approaches:

Table 1. Correspondence between interface approaches, organizational systems, and human development systems. Prepared by the author based on the authors cited.		
Leyes de la Interfaz (Scolari, 2021)	*Sistema organizacional* (Rebeil, Hidalgo, Moreno, 2011)	*Sistemas del desarrollo humano* (Bronfenbrenner, 1987)
Niveles de interfaz. Interfaz: red de actores relacionados entre sí que participan en procesos	Filosófico Técnico Estructural Psicosocial Administrativo	Microsistema Mesosistema Exosistema
	Supraestructura	Macrosistema

DISCUSSION

Educational interfaces

Based on the correspondences between the points of conceptual equivalence discussed above, the interface analysis model, the structure of the ecological environments of human development, organizational systems, and the contexts that surround or emerge from educational organizations such as HEIs, a descriptive outline of the system levels that would, in turn, form an educational interface is proposed. From the macrosystem to the microsystem, the levels of an educational interface are as follows:

• International regulatory framework for education
• National legal framework for education;
• State education policy(ies) and education management or administration systems;
• Educational or training levels;
• Curriculum at educational levels;
• Educational centers;
• Subjects or courses;
• Specific classrooms or groups;
• Communicative interactions in educational settings.

This articulation of perspectives, theoretical approaches, and conceptualizations establishes the starting point for this research's methodological proposal. In summary, we conclude this section by taking into account the perspectives that designate communication as intrinsic to interactions that occur in educational environments

with the participation of specific human, technological, and organizational actors, which in turn involve or bring into play their key components or elements to build an interface for such interactions.

Table 2. Correspondence between interface approaches, organizational systems, and human development systems, with the proposed educational interfaces or HEIs. Prepared by the author based on the authors cited.

Laws of the Interface [10]	Organizational system[4]	Human development systems[11]	Interfaces of higher education institutions
Interface levels.	Philosophical Technical Structural Psychosocial	Microsystem	Communicative interactions in educational settings.
		Mesosystem	
Interface: network of interrelated actors		Exosystem	Subjects or courses;
that participate in processes.	Administrative	Macrosystem	Specific classrooms or groups;

This approach of interface levels that can be analyzed to find or understand the state of communication within an organization, in conjunction with the principles of organizational communication listed above, provides guidelines for considering, in a practical application context and within the planning process, a basic model for generating strategies that serve HEIs both internally and externally.

Therefore, this conceptual basis for planning considers internal and external communication in relation to the objectives that the organization has as part of its social action as dimensions of this stage.

For communication planning in HEIs, internal and external communication shall be understood as follows: internal communication is a set of activities carried out by any organization to create and maintain good relations with and among its members; external communication is understood as the set of messages sent by any organization to its different external audiences, aimed at maintaining or improving its relations with them.[13]

Communication planning in educational organizations

These activities related to internal and external communication must consider, among the various objectives that may be set during the evolutionary cycle, those actions aimed at higher education training proposed by García de Fanelli[14] under the classification of explicit and implicit objectives that they have, at least in the university setting, but which does not exclude the social action of other educational organizations within the academic and administrative nuances of HEIs.

Of the specific objectives mentioned, and with the systemic or functional planning approaches proposed by Libaert[15] that are defined for implementation:

When properly aligned with the concepts discussed in this paper, these planning approaches would be effective as a practical proposal for internal and external communication strategies. To carry out this step, the strategy must be understood as "the communication management effort that must be made in the long term, within an organization, to ensure that the relationship with all stakeholders contributes to adding value, in line with achieving the objectives set based on the vision and mission of the company's overall strategy".[16]

Similarly, the approach must be considered, and tactics must be understood as part of the strategies so that the objectives-based approach (institutionally consistent with the field of higher education) can be aligned with the communication strategies proposed by the educational organization. This understanding consists of viewing tactics as actions that enable strategies to be developed and implemented.[16]

CONCLUSIONS

Drawing on the proposal developed in this paper, it is pertinent to conclude that higher education institutions can be seen as educational interfaces whose elements, at least human, technological, institutional, biological, etc., can be characterized from different approaches that allow identifying the interactions that these actors carry out, as well as the relationships they establish or maintain, and the processes in which they participate within the systems or levels of the educational organization understood as an interface. The identification of the elements and their location in different strata of the interface allows for the analysis of interactions based on the subsystems that underlie the levels of educational interfaces. HEIs are not exempt from being studied initially and then intervened if the work of identifying the components of the interface that exist in certain spatial-temporal, relational, processual, or eventual delimitations is carried out.

HEIs are organizational entities whose actors dynamically mobilize and interact within educational interfaces. Thanks to these actors, these organizations achieve their objectives in terms of professional training and social action, as well as those objectives that respond to the demands, tensions, conflicts, or challenges posed by the context, without forgetting those where the internal life of educational organizations is subject to changes and transformations.

Communication plays an important role in HEIs in this regard, and all the activities, tasks, and actions that these organizations plan or implement will impact the systematic achievement of their objectives. The role given to communication in this work is understood as an element that weaves together the interfaces or

organizational systems of HEIs. Not only does the network of related actors participating in processes within the organization translate into the presence of communication, but also into the interactions that occur there as a communicational sphere of educational organizations.

The aim is that this transfer of concepts and categories referring to the features that HEIs may present as educational interfaces can generate the basis for constructing a model not only for analysis as theoretical reflection but also for intervention in the everyday communication practice in organizations.

Through the exercise or practice of planning within the organization, communication strategies can be systematized and implemented at different interfaces or levels, with the specific actors involved in them, and considering the relationships and processes in which they interact. This is a task that HEIs must carry out not only internally as organizations, directed towards their members or most direct participants, but also externally, ensuring that social action responds to the founding philosophical principles by which they were created and enriched to the point of becoming complex entities with institutional powers that generate links with society. In Gabriel Kaplún's words (2012), suppose communication is the production of links and meaning. In that case, HEIs can create social meaning and generate links by being aware of their institutional capacities and objectives.

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