Challenges of Education in the Knowledge Society:

Components for Universal Education

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Abstract
Higher education, like other lines of interest for today's society called the knowledge society, has grown significantly in recent years. Thanks to advances in technology and research, there are several alternatives available to develop studies in different areas. However, this global massification represents a crucial challenge, because whatever the channel, education must have solid components that guarantee that professionals can exercise their disciplines in a decent way, and offer society tangible benefits in the different areas that are necessary. This article deals with this issue by asking actors from various corporations and universities about the elements that institutions should not neglect when providing education and training to today's individuals. For the study, a mixed methodology was applied, which incorporated quantitative and qualitative tools, making it possible to outline at the end of the document reflections on the most relevant components for the topic.

Keywords: knowledge society, higher education, globalization, quality, innovation

1 Introduction

The scope of higher education has changed markedly in recent years, and by the
1960s massive changes began to take place on the European continent, but two or three decades ago, the opportunities for access, communication and integration generated by Information and Communication Technologies (ICTs) made this expansion evident in Latin America, Asia and Africa [1]. Until a few years ago, it was people with large capitals who could access quality education, which was considered high cost; however, globalization as a universal phenomenon opened up great opportunities for people of all types of income, since with the breaking down of physical barriers it brought many more people closer to the possibility of studying at competitive costs through channels other than the traditional one, ceasing to be a privilege to pay for the required training at a higher level [2].

Therefore, observing the commitment of universities to aspects such as quality, research, social responsibility and technology is necessary to analyze whether the components required by a society in constant change are being considered by institutions when designing academic plans for each of the programs that are taken to the educational market [3]. As researchers in the field have expressed, education is an activity of dual responsibility, since each institution must be able to train suitable individuals to respond in a timely manner to the needs of the current environment [4].

2 Methodology

For the proposed analysis, a mixed research was defined based on quantitative and qualitative tools, this approach was selected taking into consideration theoretical aspects such as those developed by Sabino [5] who has expressed that in the educational field it is essential to mix numerical and non-numerical techniques, since this allows the processes where events involving various variables of interest are observed to be nurtured. Authors such as Rey [6] have also identified that mixed research can provide not only a glimpse but several visions of a particular topic, contributing to social processes such as education, and promoting reflection and deepening of studies or research that are carried out under such established parameters.

In order to extract the significant aspects on the basis of which to issue conclusions on the problem to be investigated, a population of rectors and academic coordinators of universities and higher education corporations duly registered with the Colombian Ministry of National Education and currently located in the city of Barranquilla was defined. The sample that was worked on was intentional (not probabilistic) taking a total of 10 people who participated in the research, answering a semi-structured interview with the purpose of knowing their positions in front of the previously designed questions. The information was analyzed under the resear-
In accordance with the current requirements and the approaches that entities such as the Ministry of National Education in Colombia has been promoting with Higher Education Institutions (IES), the following are the results of an instrument that inspected several components related to higher education, and which are the following: use of ICT, university social responsibility and innovation. The participants were selected taking into account their participation in the design of the academic programs of each institution, with the purpose of reviewing if the components indicated are taken into account when building the academic meshes for each higher education program.

The first aspect that was consulted with the participants was their position and activity within the IES. As shown in figure 1, the largest number of participants are currently responsible for the Academic Coordination and management related to the structure of the current educational programmes.

Fig. 1: What is your position within the IES
Afterwards, we inspected the time in the current position, finding that the rectors have more than 10 years in that position, while the academic coordinators have more than 5 years on average. This is considered important because it allows us to visualize the domain and broad knowledge of the interviewees on the subject to be consulted as part of the research designed. Once the management time had been verified, the technological component was consulted and it was verified whether this element is currently taken into account for the planning of the different educational programs, finding the results illustrated in figure 2.

Fig. 2: ICTs are taken into account in the design of academic programmes

The responses from the participants indicate that 50% of the participating IES are considering ICT aspects in a comprehensive and global manner in their current programmes, defining both disciplinary aspects and complementary training to support the classroom process and promoting various channels to encourage the student to adopt ICT dynamics throughout their training process. According to the interviewees, this is reflected in the transformation that the classrooms have undergone, which today have state-of-the-art audiovisual equipment, unlimited internet access during the class for all students and the insertion of support material for the development of fully virtualized classes.

On the other hand, 30% of the IES interviewed said that the process has already started, but more needs to be done, as the transition requires investment in equipment, facilities and programmes, which are already in progress. Finally, only 20% of IES acknowledge that the dynamic is still incipient and suggest that it is an aspect that should be strengthened in the short term. Moving on to the next component,
the question of University Social Responsibility (RSU) was asked, and as this element is being inserted into the training of the future professional, the importance of this factor lies in the need to promote more committed profiles with the environment, to which the responses presented in figure 3 were compiled.

**Fig. 3: University Social Responsibility in training programmes**

As can be seen, only 40% of the participating HEIs have integrated USR into the design of their academic programmes, inserting topics directly related to the subject and also leading motivation programmes that allow students to participate in activities related to the social management of the environment. The rest of the HEIs state that MSW has already been partly taken up (20%); that some elements have been inserted (20%) and that they should ultimately initiate the process and strengthen it (20%). The foregoing suggests a panorama that needs improvement, as it is a differentiating factor for today’s society.

The last section of the interview dealt with innovation, consulting on the orientation of the IES with this important element. It is necessary to clarify that this is one of the topics where different answers were found, since the concept of innovation is broad and each HEI has its own idea in this regard, the common aspects were grouped and categorized in figure 4.
When asked about the innovation component, the answers were broader, since for each HEI this aspect can be analyzed from different points of view. For 30% (n=3), entrepreneurship has been promoted in order to give course to innovation; an equal percentage (30%) has focused on ICT to stimulate creativity and the generation of novelties in the programmes; on the other hand, 20% (n=2) has inclined towards the design of products and services, while 10% (n=1) has concentrated on external agreements and an equal percentage (10%) has opted for internal processes with external support.

4 Discussion

A reflective analysis of the aspects collected during the interview can provide important contrasts with the contributions of recent research, which has provided a previous position on the subject cited in this study. Thus, when addressing the first component that was linked to ICT, it is found to be the most developed at the time of the research, which shows a marked interest on the part of HEIs to respond decisively to a current demand, as expressed by authors such as Niebles et al. If higher education is to respond adequately to current demands, it must promote not only the use of particular ICT tools [8] but also global instruments [9], since today professional practice must be directed in a universal direction [10] in such a way that everyone can develop in any part of the world [11]; this is one of the characteristics of the knowledge society, which is defined by allowing all people of all latitudes access to the same information [12], thus enabling aspects such as
entrepreneurship, innovation, creativity and progress to take place anywhere on the planet [13].

De forma complementaria y al observar los componentes de RSU e innovación es pertinente sugerir que se requiere de mayor dinámica en los mismos pues, aunque ya se iniciaron procesos de incorporación de estas temáticas en los programas, todavía algunos aspectos no se encuentran bien establecidos, lo que podría incidir en la percepción de calidad de las partes de interés. Promover la RSU es algo muy necesario en el ámbito universitario, pues el profesional que hoy se requiere debe ser integral y amigo de su medio ambiente para poder responder a las necesidades particulares de forma oportuna [14]. Con referencia a la innovación, se puede afirmar que es un elemento también vital, si se forjan procesos novedosos los profesionales podrán destacarse de manera diferencial lo que también contribuye con el crecimiento económico, facilitando además otros beneficios para la sociedad [15].

5 Conclusions

The challenges of higher education are many, however, the elements that promote the quality of programmes and professional future such as the use of ICT, RSU and innovation are now significant factors. A review of the experience of the HEIs interviewed in this research shows that aspects such as ICT have been developing dynamically, while MSW and innovation still need to be strengthened. According to the supporting literature, it is necessary for IES to include these essential aspects in their programmes, since they can influence the perception of quality of the stakeholders, and at the same time can lead to recognition and good name for IES in the country.

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