LEARNING OUTCOMES FOR A TECHNOLOGICAL ADMINISTRATIVE PROGRAM: ELEMNTOS, GUIDE FROM THE APPROACH OF CONCEPTUAL ELEMENTS

CUÉLLAR-SÁNCHEZDIANA MIREYA[1]; DUEÑAS-PEÑA, ÁLEX[2]; VELOZA-LANCHEROS CARLOS KENNEDY[3]

[1]Universidad Colegio Mayor de Cundinamarca. Programa Tecnología en Asistencia Gerencial.

dmcuellar@unicolmayor.edu.co. Orcid: 0000-0002-9500-1799

[2]Universidad Colegio Mayor de Cundinamarca. Programa Tecnología en Asistencia Gerencial.

aduenasp@unicolmayor.edu.co. Orcid: 0000-0002-3548-0775

[3]Universidad Militar Nueva Granada. Facultad de Ciencias Económicas Campos
carlos.veloza@unimilitar.edu.co. Orcid: 0000-0002-1866-6906

Abstract

The paper presents the theoretical foundations and proposed guidelines that can contribute to the formulation of Learning Outcomes from a series of conceptual elements related to the subject. It is considered that they are the results of a qualitative study of descriptive type. Thus, this is an article that presents a review of the literature in order to recognize aspects, actors, context, among others that contribute to the characterization of learning, and the dynamics and the various variables that revolve in their environment. The literature reviewed addresses different exposures, including public policies on learning outcomes, according to the Ministry of Higher Education. The proposal that will help to confront this need that higher education institutions currently experience, such as the coherent formulation of learning outcomes regardless of the program that requires them, was left to the consideration of the interested parties.

Keywords:-Learning outcomes, educational relevance, higher education.

INTRODUCTION

In Colombia, learning outcomes -R.A.- have become a subject of study based on what is expressed in public policies for education, especially in Decree 1330 of 2019, where it shows the R.A. as a factor to be taken into account within the culture of self-evaluation and quality assurance, since from the institutions of higher education -IES- a commitment to the community is established through the declaration of these, since they are the promise of what the student acquires once he makes his training process in the corresponding discipline. Therefore, these statements will allow interested parties to see that HEIs respond with people oriented in coherence to the needs of development and economic growth, with citizens trained in values and with the capacity and responsibility to build society from their professions.

The R.A. is a subject that requires its conceptualization from the elements that compose it, especially its essence, based on learning from the other, to understand what has been learned, as well as its understanding, so that, at some point, with the tools acquired, it impacts on the person and society in general, in challenging contexts (Martínez and Fernández, 2018). That is why, therefore, this paper provides a context on human learning where it is exposed, from authors specialized in the subject, how the environment influences learning, both appropriation

and the results of these. Next, the relevance of what is required and done with knowledge is exposed from the parameters of comparison that are in contexts, in such a way that it realizes the doing under criteria and standards established where it is reported on the requirement of the development of knowledge and learning, from the real spaces, because it is here where consequences of doing that leads us to adaptation are observed, it is in itself where we learn by doing, if we take into account that the feedback of the acts is fast (Senge, 2010).

It also illustrates the management of knowledge for learning in order to obtain the resources that generate value, the purpose of human actions. Based on the above elements, a guide is proposed on how to formulate the learning outcomes for an administrative technological program in order to contribute to the topic that is currently being addressed from the different programs regardless of their area of training.

METHODOLOGY

The article is the result of the review and analysis of specialized literature, in such a way that it is framed in the study of documentary type, since it is the execution and management of knowledge around the selection and compilation of information mediated by the objective reading of specialized materials that rest in databases, spaces dedicated to the classification of these (Baena, 2017). Thus, resources were reviewed in databases that allowed information from different approaches related to the subject under study in order to glimpse the perspective of learning and the changes they cause in society.

Based on the above, the paper reports the result of a documentary analysis, especially that it is based on the study of resources of libraries, databases, books, magazines, specialized government documents, all of them characteristic of a documentary research. Conveniently, Baena (2017, p.69) states, in the face of studies like this, that the first occupation of the individual who is concerned with inquiring about an object of study is to "collect news about books, files, laboratory reports or field work published in relation to the subject to be studied from two points of view: the general and the particular", situation that occurred for the achievement of what was intended to socialize in this article.

Among the databases that helped the achievement of the information are those of free access such as Google Scholar, MySQL, PostgreSQL, electronic resources of the Ministry of National Education, among others that guarantee information relevant to the subject under study such as learning and its results. Already with the sources of information the technique of hermeneutics was considered, since it is a procedure that seeks rigor based on argumentation in order to allow the approach to a knowledge framed in the understanding, interpretation and validation of this that allows the reader a reflection of the theorized (Morales, 2011).

CONCEPTUAL ASPECTS

Human learning

The individual and the interaction with his environment result in learning. Therefore, it is a process that begins from the birth of the person, where experiences caused by the different relationships with the environment are involved (Martínez and Fernández, 2018). In itself, "it is a natural process that begins in the family context and over time leaves evidence not only of skills and knowledge, but also values, attitudes and emotional reactions achieved in diverse social spaces" (Ormrod, 2005, p.5); manifesting changes and results of these in the people who use them, responding to demands in an appropriate way to contexts that demand compliance with established standards or criteria (Velásquez, 2001). In this way, Gagné (1985) in this regard affirms that learning undoubtedly lies in a change of disposition or capacity of the person who develops it. It is a lasting change that defines the person to behave in a certain way in the face

of their own requirements or those of their environment (Shuell, 1991). Learning, according to Ortiz (1997) is definitely a process since it makes a step through different stages that accompany the individual as time passes and occurs internally in the person who makes it subjective, but evidences it on the external plane.

There are several concepts regarding learning, however, a common denominator is glimpsed in them, the change of behavior in the face of problematic situations of the individual in a context that forces him to interact with multiple elements that make it up, assuming responsibility for learning (Cera-Cera and Morales-Narváez, 2022). Not surprisingly, Ormrod (2005) referred that learning requires a complex participation of external elements and internal resources that stimulate it to occur in different parts of the brain, and that have been the object of the two theoretical perspectives that observe it. From the dynamics with which the different elements that are part of the learning equation interact and from this context, the ability to analyze the information obtained is developed in order to use it once there is one, deliberately, assuming critical thinking (Morales, 2018).

Doing in context or under established criteria and standards

The learning results of the continuous process of the individual become evident if they are exposed to requirements framed by standards and / or criteria that make them understandable and functional (Bredo, 2006) thus realizing that doing involves a mutual relationship with one or more contexts (Tapia, 2022) that can be: historical, social, economic, communicative, business, training, theoretical, family, among others that are characterized by criteria or standards that serve as a reference and / or evaluation of the intentional work of the individual (González, 2009). In education, the term "standard" for Meckes (2013) is approached on the one hand from what should be known and done by an individual who has been preparing voluntarily in a profession based on its articulation in certain contexts that identify it. On the other hand, from that fragment of the context that verifies the performance defined by "the observable actions of the person that can be described and evaluated and that express their competence, it is related to the achievement of expected learning and the execution of assigned tasks" (Vázquez, Cordero and Leyva, 2014, p. 10) and the level of requirements that determines it as competent.

The context is what requires the development of knowledge and learning. It is through this that human beings learn and compare what they have learned, since experiences are given in real spaces, consequences of doing that leads us to adaptation are observed. It is in itself where you learn by doing, if you take into account that the feedback of the acts is fast (Senge, 2010). In this way, it is called to take into account that contexts no matter what they are are changing. This, obeying the flexibility required by the globalizing process, in such a way that the responses to the demands in the same way must be of the same dynamic, which leads the training centers at their different levels to promote and complement their traditional themes of education to respond correctly to the needs of the new "contexts" (Martín and Rodríguez, 2012) especially in the one left by the COVID19 pandemic that not only changed the commercial dynamics and supply chain, but also happened in the value chain (Macías, and Zamora, 2020).

The challenge left by the aforementioned panorama is that the effective training of professionals faces a model with multiple variables that calls for the recognition of strategies that lead to learning based on current realities that are results of processes that are being updated because of the same dynamic needs of society (Lion, 2022).

Knowledge management for learning

Knowledge has come over time acquiring an important value. This is how it has been widely recognized as one of the most influential assets in both personal and business potential. This implies a look towards the best management of this (Gao, Chai and Liu, 2018), if we take into account that globalization in its dynamics is involving society in general and organizations in particular in contexts with increasingly high levels of competitiveness, and the way to face them

is an efficient knowledge management that leads to new discernments (Zaim, Muhammed and Tarim, 2019). It is through these that significant changes are implemented in the product, development, marketing or organization of the company and thus improve the results of the processes (OECD, 2005); that would ultimately impact society through relevant services and products, generating in turn shared value. Understood this, as the proposal that responds to the business environment in the face of dynamics, result of the needs for change in order to manifest itself with innovations in the processes that lead to the benefit of their businesses without ignoring the social context that surrounds it with which it keeps interacting for the achievement of corporate objectives (Porter and Kramer, 2011).

Knowledge management accelerates learning in people who by nature feed it through the voluntary and involuntary transfer of other individuals; allowing to ratify that man as a social being acquires knowledge of his environment and his relationships with other people (Sánchez et al., 2019). This is why where people with common goals converge, as is the case of organizations, learning will be the product of human interactions (Paredes and Salerno, 2015). Companies are societies that are transformed because it is the people who compose it, those who do so in order to provide practical solutions to organizational challenges, which makes it intelligent before society (Senge, 2010). Thus, according to Sánchez, et al., "the main mission of Knowledge Management is to create an environment in which the knowledge and information available in an organization are accessible and can be used to stimulate innovation and improve decision making" (2019, p.3). In corroboration, Estrada and Febles (2008) refer that for this it is important to take into account that it is extremely necessary to create a culture that values information and knowledge, both in the training institutions and in the organizations themselves.

It is then established that in a knowledge society there are the different contexts that complement each other and need to compete in the face of economic, social and political changes. For UNESCO (2005), knowledge societies articulate four pillars: freedom of expression, universal access to information and knowledge, respect for cultural and linguistic diversity, and quality education for all. In addition, it refers that learning within these contexts is a universe beyond that of educators that has covered all levels of social and economic life. Every organization, regardless of whether it has commercial purposes or not, "will have to increase its 'learning dimension', with which the centers and means of knowledge are destined to multiply in both the countries of the North and those of the South" (p.25).

Value as a purpose of human actions

The generation of value from the learning of individuals is related to the perceived change once specific activities are activated. It is an expected influenced by the motivation exercised from the management in organizations, which seeks to impact employees towards the efficient achievement of objectives that will be reflected in their competitive advantages in different ways, such as economic, environmental, trust, credibility, in itself, in the strengthening of the brand. In such a way that the added value generated by the actions is what allows us to observe the difference between what was there and what was achieved (Torres-Flórez, 2020).

What organizations are most looking for with the work of employees, in the first instance, is the economic value reflected in financial performance, which translates into the maximization of the wealth of the partners or owners (Arroyave-Puerta and Marulanda-Valencia, 2019). However, the other forms of value, which coexist with the economic, are committed to intrapreneurships, associated with the solution of problems related to the same productive processes that correspond to ecological and environmental that when integrated into the economic generate a benefit around these three variables (Belz and Binder, 2017).

For Arroyave-Puerta and Marulanda-Valencia (2019), the generation of value of companies must be committed to the generation of changes that *positively impact*, both in the economic benefit of the owners and in the quality of life of individuals, actions that can be inspired from each link in the value chain of the organization. It is then that the actions developed in companies must

have the purpose of contributing to the value of the organization from each process on a permanent basis, since the change to which they undergo is at the pace of the globalizing process, which is permanent and "this makes both organizations and people must look for ways to be at the forefront and maintain an attitude of constant learning, with the aim of strengthening those key skills to assume the new challenges of change" (Canizales, 2020, p. 50).

The commitment to the generation of value of production processes is related to factors that guarantee the survival of the organization, including the use, in the good sense of the word, of the knowledge of its employees for the innovation of products or processes through significant transformations in techniques and materials, respect for regulations, efficient administrative and financial management, responsibility with the environment and the generation of shared value all at the pace that calls for change (Shapiro, 2005). That is, the generation of value is linked to a permanent ethical behavior, where both individuals and companies "contribute to economic development, while improving the quality of life of workers, their families, local community and society" (World Business Council for Sustainable Development, 2000). The generation of value is then a system of change (Garzón & Ibarra, 2013), where all individuals contribute from their knowledge and experience to shared creation, so that organizations are versatile, flexible and this allows them to prevail over time.

<u>Learning outcomes</u>

The learning outcomes are related to the effect or consequence that results because of the application of the knowledge that invests an individual or professional who has gone through a teaching and learning process in a certain time of his life. It is therefore what the person does from combining his attitude with certain knowledge: the quality of what he does is homologated before standards and / or criteria that are around a certain field (Harden, 2002). In the academic context, the concept of "learning outcomes" has been working on thinking about what the institution, program, subject and / or teacher expect to achieve in the student once he has gone through the entire training program he studied or by this. In this regard, Nava-Rodríguez, et al., (2014) explains that these, in academics, refer to the conviction that is held from the training establishment against the ability with which students would respond integrally with the doing, through the knowledge acquired, within a context providing value to it, so "the learning results and the competences developed focus on the requirements of both the discipline and the society in terms of preparation for labor insertion and the exercise of citizenship" (Montaño, 2013, p.25), then the efficient application of learning outcomes in a correct context, whether at work, personal or professional, is linked to the individual's ability to carry out actions to solve problems from their acquired training. In this way, it is appropriate to think that for the academic context they are "statements of what a student knows, understands and is able to do at the end of a learning process" (Cedefop, 2010, p.15), a statement corroborated from the final report of the Tuning Latin America project when it says that "Learning outcomes are formulations of what the student should know, understand, or be able to demonstrate after the completion of the learning process" (Beneitone, 2007, p.332).

For its part, the Ministry of National Education -MEN- requests, from its public policies, that institutions that train professionals at different levels, inform society through publicly expressed commitments where they realize the training response and its coherence with the needs of society. This is how the MEN conceives learning outcomes as "the express statements of what a student is expected to know and demonstrate at the time of completing their academic program" (Decree 1330 of 2019). According to the context reported in the previous paragraphs, the subject under study in its enunciation must contain in its statement: the action that circumscribes the student's doing, a detonation of the knowledge that will be used, the context or standards that empower it and as a fourth element its purpose (ANECA, 2013). Thus, the learning results can be seen as more direct statements, more precise in front of the possible applications of knowledge and skills or in what can be done by the student, clearer in the

knowledge and skills to be applied and therefore must acquire in their learning process, establish life situations where they will be tested (Ballesteros-Ballesteros, 2020).

Work guide for the formulation of learning outcomes: case of a Technological Administrative Program.

Based on the needs of the program before the directions of public policies emanated by the MEN and based on the references exposed in the previous pages, the proposal of a methodology is made with which "the express statements of what a student is expected to know and demonstrate at the time of completing his academic program" can be formulated. It is to allow the community to have a tool that helps to confront this need that higher education institutions currently live. Although it is for an administrative program, it leaves no doubt that the planned methodology serves for programs in any area of knowledge once they have defined the professional profiles and academic activities with which they will strengthen it. The proposal that guides the formulation of learning outcomes contemplates 4 aspects: formulation of the profile that the **graduate is expected to have in coherence with the name** of the program, formulation of the respective competences to the program itself from the areas of knowledge, as well as the respective subjects that integrate them, **declaration of the learning results in their different scopes** ; Program, areas and subjects from what is proposed in the competences.

Figure 1. *Considerations for formulating learning outcomes*
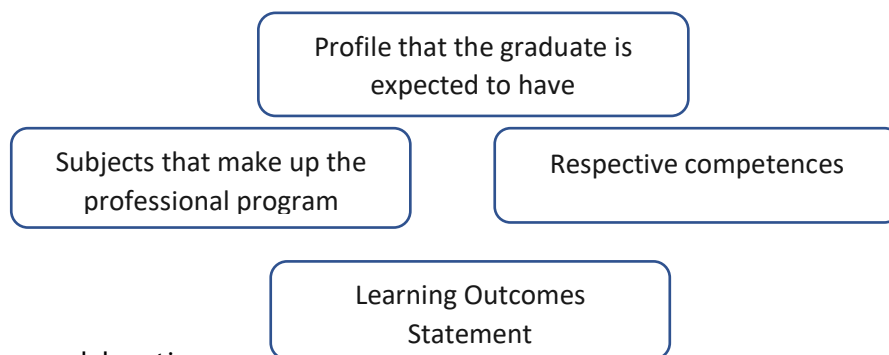
Note: own elaboration

As the intention of the writing is to guide on the R.A., we will not pay attention to the issues of profile, subjects and competences, taking into account that they are topics that are possibly already defined in the professional programs and that the literature on the subject is vast, in such a way that it will work around the R.A. from what was reviewed in the bibliography found in the databases on the subject, in particular attention to the work of ANECA.

1. Learning outcomes statement

Moment 1.1 Identification in students of the categories of thought in which they can be subscribed from specific knowledge. According to Nava-Rodríguez, et al. (2014), from Bloom's taxonomy, the lower and upper categories are established, each with three categories of thought. The development of the lower categories allows that of the higher ones. That is, the pyramid must be observed taking into account that the upper ones are supported in the lower ones.

Table 1. Categories and verbs according to the level of complexity of the knowledge that are taken into account in the statement of Learning Outcomes.

Category of thought	Concept	Verbs that imply actions	N. Com.
Create-Evaluate	The student can make judgments and evaluate something. It is the highest category because it implies the development of the rest	attach, support, appreciate, argue, compare, conclude, contrast, convince, correct, criticize, decide, defend, determine, discriminate, choose, estimate, stipulate, evaluate, explain, interpret, justify, judge, measure, predict, score, recommend, relate, resolve, summarize, review, validate, value	High
Evaluate-synthesis	The student creates new knowledge through the compendium and the sum of its parts and its analysis	argue, categorize, combine, compile, compose, build, create, develop, design, establish, explain, formulate, generalize, generate, make, install, integrate, invent, manage, modify, organize, originate, plan, prepare, propose, rebuild, collect, rewrite, relate, reorder, rearrange, gather, revise, synthesize, trace.	High
Analyze-Analysis	The student distinguishes and separates the information into its components, being able to look for new interrelationships	analyze, calculate, categorize, classify, compare, connect, contrast, criticize, question, debate, deduce, disaggregate, determine, differentiate, discriminate, distinguish, divide, subdivide, examine, experiment, identify, illustrate, infer, inspect, investigate, show, order, organize, relate, summarize, separate, test, evaluate.	High
Apply-Application	The student is able to use what he has learned to solve problems and new situations	adapt, apply, sketch, calculate, change, complete, compute, build, demonstrate, develop, discover, choose, employ, find, examine, experiment, illustrate, interpret, manipulate, modify, show, operate, organize, practice, predict, prepare, produce, program, report, select, solve, transfer, use, value.	Low
Understand-Comprehension	The student reasons and understands the information he knows	associate, change, clarify, classify, construct, contrast, convert, deduce, defend, decode, describe, differentiate, discriminate, discuss, distinguish, estimate, explain, express, extend, generalize, identify, illustrate, indicate, inform, interpret, modify, paraphrase, predict, recognize, rewrite, solve, revise, select, situate, translate.	Low
Remember-Knowledge	The student remembers and memorizes the information, without	quote, say, define, describe, duplicate, find, enumerate, enunciate, examine, identify, list,	Low

	necessarily being understood and reasoned	mark, memorize, display, name, order, organize, present, collect, remember, relate, repeat, reproduce, summarize, tabulate.	

Note: the table is based on ANECA (2013), Nava-Rodríguez, et al. (2014) and Bloom's taxonomy. The acronym N.Com. refers to Level of Complexity.

The three domains in which the way of learning of individuals is divided according to Bloom (1956) cited by Fowler (2002) are: cognitive, affective and psychomotor; Thus respectively we speak of mental abilities that concern knowledge, the development of attitude, emotions and feelings; Third, it refers to skills that involve physical aspects. What is worked on according to the present instruction that seeks to establish the student's abilities to do with certain knowledge in a context with a specific purpose. It is based on the student's behaviors after incurring in a learning process. It is assumed that, from this, the individual must have managed to strengthen or acquire a new skill, knowledge and / or attitude. In other words, the cognitive domain of the student from the results of the process experienced (Fowler, 2002).

Bloom (1956) states that the cognitive domain involves knowledge and intellectual skills developed from the learning processes experienced by the individual. Thus, there must be recognition of facts from the recall of these guiding schemes that support the procedures to be carried out, as well as certain perceptions that support decisions. Table 1 shows the categories in which the cognitive processes exposed by Bloom are involved. The six categories of the table wanting to be outlined as a pyramid would show that at its base is the category knowledge and that from here begins a process to advance based on levels of complexity to achieve the "highest", such as analysis, synthesis and evaluation, where different knowledge can be integrated depending on solutions to problems more effectively (Osorio, 2012). The table is the part of the guide that provides the overview where the student's abilities can be located, according to the themes or programmatic contents of the subject, with which the learning outcomes can be declared. The clarity of these is subordinated to some of the levels of complexity, which must be assumed objectively from the person who makes the corresponding statement, since it must not be outside the contents worked by the students within their independent, face-to-face or autonomous times.

Moment 1.2 identification of the articulating elements of the Learning Outcomes planned for the program.

It is reiterative that the learning outcomes, in its statement, must be defined and clear if they are to be perceived without vagueness by the stakeholders: students, teachers, employers and society in general. Well, these are the ones who will evaluate the relevance of the training against their interests, taking these, as criteria, among others, of its relevance (Gómez, et al., 2019).

Table 2. Elements to take into account in the statement of Learning Outcomes.

Element	Concept
(1) What to do?	The verb that is chosen, in a single word describes the action that the student will do from the knowledge developed and / or strengthened in the teaching-learning process in the face of the thematic contents worked within certain credits.
(2) With what?	The phrase that is exhibited per se associates knowledge, skills and abilities developed and / or strengthened in the teaching-learning process, didactic strategies worked around the thematic contents worked.

(3) How or where?	The context associates the required add-in based on specifying **how** it is done. If it is aspects related to regulations, theories, business or public policies, etc., and **where** if it is a special place.
(4) For what purpose?	The content, in what refers to the consequence that is expected to give birth of the action, with the knowledge, skills and abilities, must correspond to the context where it is homologated.

Note: the table is based on ANECA, 2013.

Therefore, the key elements that minimize their mistake in front of the formulation must be clarified so that from here what students know, understand and are able to do in a certain context when completing the learning process is defined. As Urquizo (2018) refers, elements that ANECA (2013) considers already defined and to be taken into account in the declaration of Learning Outcomes.

From the knowledge that allows to identify the doing contained in a (1) verb, (2) the knowledge that must be had, (3) the contexts or circumstances that support its expansion and (4) the expected result from the action, we proceed to declare "what a student is expected to know and demonstrate at the time of completing his academic program". In short, it should be considered that it is the opportunity to inform the interested parties what the graduate of the training process is learning, is able and can do from conditions: space or place, historical, political, cultural and economic, which guarantee its relevance to the cognitive, attitudinal and procedural respectively.

Moment 1.3 Formulation of the express statements of what a student is expected to know and demonstrate at the time of completing the learning process around the programmatic contents of the subjects.

Table 3. Learning outcomes from the articulation of elements.

What to do?	With what?	How or where?	For what purpose?	Category of thought
The practical form is through the respective verb	It should be noted that the action informed through the verb is supported by certain knowledge.	The action mediated by knowledge must have a space or context that allows its confirmation: place, normative, historical, etc.	Realizes the impact of the action in the given context: the value it can generate	It is identified in which of the six categories the action undertaken may be
(1) Action verb	(2) with knowledge about an area	(3) The complementary context for development	(4) What is expected of the action	(the level of knowledge)
Employ	Management strategies	in accordance with company policies	that guarantee accompaniment and assurance to corporate objectives	Application

Note: authors based on the needs of the Technology in Administrative and Technological Management program.

Table 4 gives an account of a proposal of learning outcomes for the subject *principles of administration,* for its statements the contents proposed in the corresponding micro curriculum were taken into account, the academic credits considered sufficient for its development, as well as that the verb helps to identify which is the category of thought in which the individual must

incur when activating their learning in a given context, It is clear that the higher, the more complex is your thinking for the effective achievement of the application and solution of needs in the context.

Table 4. Learning outcomes from the thematic contents of the subject introduction to administration.

(Subject)	Learning Outcome Subject:	Level of Knowledge	Academic Period	CR.	THs. T.I	THs. T.D	THs. Without.
INTRODUCTION TO ADMINISTRATION	(1) Propose (2) management actions (3) within a productive process of services, transformation or commercial (4) depending on the efficient development of the company's processes	Application					
	(1) Adapt (2) planning proposals in different functional areas of the company (3) according to corporate objectives (4) that guarantee their relevance to the guidelines	Application	I	3	96	48	144
	(1) Identify (2) the characteristics of each stage of the administrative process (3) from the theory built around this (4) in order to differentiate the task in each of them.	Comprehension					
	(1) Describe (2) the role of the stages of the administrative process (3) based on managerial needs (4) in order to contribute to the design of each in the organization.	Comprehension					
	(1) Relate (2) positions, principles and approaches related to the administration (3) from moments related to epochs, economic and historical events of humanity (4) in order to contextualize the bases of the current administration.	Knowledge					

	(1) Describe (2) different positions, principles and approaches related to administration (3) from acts developed within the management of resources in the company over time (4) that allow an approach to the understanding of the development of administration and its importance for the functioning of modern organizations.	Knowledge						

Note. CR.= Academic credits of the subject; THs TI= Total hours covered for indirect work (independent and autonomous); THs TD= Total hours contemplated for direct work (teacher accompaniment).

Then, it is established that at least the student once he has taken the subject in mention will have the eight results described and that in order to comply with what is formulated he must have worked independently and with the accompaniment of the assigned teacher, the topics that allow the management of knowledge around positions, principles and approaches related to the administration with which he will achieve the knowledge category. Likewise, to have the category of knowledge comprehension we work in support of the corresponding strategies in order to ensure that it is possible to establish both the characteristics and the role of the stages of the administrative process and in guarantee of the development of the competences that allow the category application the contents developed, as well as the strategies worked must be in function of promoting different management actions and planning proposals in the Production processes of goods and services. In short, the what must be sufficiently understandable for students, teachers and other interested parties, so that, to guarantee the task, proposed in the verb, and from here the profile of the graduate is realized.

In the same way, learning requires a complement that makes them see relevance within a given context, for example, for our case: a productive process of services, transformation or commercial; corporate objectives; the existing theory it supports; the managerial needs epochs, economic and historical events of humanity; The management of resources in the company.

The results of learning, in addition to generating behavioral changes in individuals, add value or characteristics to a process or product where they fall, thus giving differentiation from how they were, for example: better understanding of management and importance for the functioning of modern organizations; recognition of the foundations of modern administration; contribute to the organization in the design of planning; strengthen the relevance of the guidelines to administrative actions; contribute to the efficiency of the company's processes, among others.

 It is to take into account that what is done are statements that are verifiable of what as an educational institution from the discipline that is worked is expected to know, understand and apply students once they have gone through those topics that are taught and mediated by their respective strategies.

DISCUSSION

Guidelines are developed that contribute to the formulation of Learning Outcomes -RA.- from a series of conceptual elements related to the subject, in such a way that it is thought that

elements and tools are being offered for the formulation of AR, from the concept exposed by different educational authorities, as they are a statement of what students know, understand and are able to do or apply depending on the solution of situations that arise in society and in the business world (Beneitone, 2007). In the same way, it is a proposal that is articulated with what is referred to by Toohey (1999) against the fact that it is necessary to clarify from the purpose of the program its belonging in the context for which it was intended. That is why it is important that there is from the expected profile of the graduate, the formulation of competencies and R.A. from the different subjects of the curriculum.

The instructions presented seek to guide university academic programs and their teachers to guide their students to the development of learning and the generation of value and changes that positively impact (Arrollave and Marulanda, 2019), in this way, they contribute to the real social and business context. Likewise, through the R.A. declaration, clear information is provided to society in general and especially to employers regarding the achievements and characteristics associated with the program in particular (Adam, 2004). In this way, the educational institution, the program and its graduates will have greater credibility and transparency in accordance with the requirements and standards that organizations require from their employees to achieve a competitive advantage.

The statement of R.A. from the knowledge categories of Bloom's taxonomy helps guide the learning process more effectively (Jenkins and Unwin, 2001). Because when the curriculum and its contents are more explicit, through the specification of what they are going to do, with what, how or where, and the purpose of this process, intellectual skills are developed through the learning lived by the individual. In other words, they allow cognitive mastery, since students know what the course offers and what is expected of them after the academic program is finished. In other words, the R.A. help students to concentrate on what is important in the discipline (Toohey, 1999) and thus be able to meet the necessary requirements for the exercise of citizenship and insertion into working life (Montaño, 2013).

In summary, the declaration of R.A. is linked to the educational purpose of the program so that its graduates develop and apply knowledge when doing in various scenarios. Therefore, they are a guide for the teacher to select the appropriate teaching strategy and design more effectively their materials (Toohey, 1999) for the achievement of certain objectives of the subjects, explicit in terms of R.A. As specified by Adams (2004), guide in a precise way the essential purposes of the course through the categories of thought and its level of complexity. That is, starting from the base or the knowledge category and from there advancing in the different levels of complexity until being able to achieve the analysis, synthesis and evaluation, where students integrate different knowledge (Osorio, 2012) to the solution of situations more effectively.

CONCLUSIONS AND RECOMMENDATIONS

This guide aims to strengthen the student-based approach, through the declaration of R.A. where the design and contents of the subjects are based with greater precision and clarity on the dynamics of society. That is, an A.R. understandable and clear to all members of the academic community and employers, which allows a university program transparent in the capabilities, values and practices of its graduates.

The declaration of R.A. requires a consistent and conscious process to ensure that the student knows, understands and is able to demonstrate what has been acquired throughout the study process. In other words, those in charge of these statements must identify in the students the categories of thought according to their specific knowledge, and the levels of complexity of the contents according to Bloom's taxonomy for the design of activities and study material.

In this order of ideas, as the learning outcomes focus on what the student can demonstrate at the end of a learning activity, when formulating the statement, (1) what is going to be done, (2) the knowledge that must be had, (3) the contexts to develop and (4) the expected result must be taken into account in its content. This allows, in some way, to verify the relationship between the contents, the consistency of what is taught in the subjects, and the progress of learning.

In particular, the moments described through this instruction are intended to give guidance to administrative technology programs so that, at the end of the academic period, future graduates are able to support the transformation and contribute to the generation of differential characteristics to a process or product, and in this way contribute to the value chain of organizations through learning; All this, giving differentiation to how it was. That is, the orientations described here of the R.A. not only originate value to an academic program, but also participate in the creation of a culture where the student acquires and values both the information and the knowledge he obtains from his environment and his personal relationships to cooperate in the development of a country.

Finally, although this instruction focuses on an administrative program, this process is extensible to other technical, technological and professional degrees in public and private universities in Colombia.

Bibliography

[1] Adam, S. (2004), Using Learning Outcomes: A consideration of the nature, role, application and implications for European education of employing learning outcomes at the local, national and international levels. Report on United Kingdom Bologna Seminar, July 2004, Herriot-Watt University

[2] ANECA. (2013). Support Guide for Writing, Implementing and Assessing Learning Outcomes Version 1.0. Cyan, Proyectos Editoriales, S.A.

[3] Araya-Pizarro, S.C.,yEspinoza Pastén, L. (2020). Contributions from neurosciences to the understanding of processesoflearningintheContextsEducational. *Purposes and Representations, 8*(1), e312. two: http://dx.doi.org/10.20511/pyr2020.v8n1.312

[4] Arroyave-Puerta, A.M., and Marulanda-Valencia, F.Á. (2019). Ecoemprendimiento, sustainability and value generation. *EAN Magazine*, (87), 155-172.

[5] Ballesteros-Ballesteros, V.A. (2020). An initial approach to learning outcomes in higher education. *Scientific Review*, (39), 259-261.

[6] Belz, F. Binder, J. (2017). Sustainable entrepreneurship: a convergent process model. Business Strategy and the Environment, 26(1), 1-17. DOI: https://doi.org/10.1002/bse.1887

[7] Beneitone, P., Esquetini, C., González, J., Maletá, M.M., Siufi, G., yWagenaar, R. (2007). Reflections and perspectives of Higher Education in Latin America. Final Report– Project Tits–Latin America 2004-2007. University of Deusto/University of Deusto Groningen.

[8] Bloom, B.S. (1956). Taxonomy of educational objectives. Handbook 1: Cognitive domain. *McKay*.

[9] Bredo, E. (2006). Conceptual confusion and educational psychology. In P. A. Alexander y P. H. Winne (Eds.), Handbook of educational psychology (pp. 43-57). Erlbaum.

[10] Cedefop, A. (2010). Learning outcomes approaches in VET curricula. A comparative analysis of nine european countries. Research paper, (6). http://www.cedefop.europa.eu/EN/Files/5506_en.pdf

[11]   Cera-Cera, D., y Morales-Narváez, A. (2022). Problem-based learning as a strategy to develop reading skills in primary school students [Unpublished doctoral thesis]. Corporación Universidad de la Costa.

[12]   Decree 1330 of 2019 [with force of law]. "By which Chapter 2 is replaced and Chapter 7 of Title 3 of Part 5 of Book 2 of Decree 1075 of 2015 - Sole Regulatory of the Education Sector is deleted". July 25, 2019.

[13]   Estrada-Sentí, V., Febles-Rodríguez, J.P. (2008). Methodological aspects of Knowledge Management in organizations. *Management Brochures Magazine*.

[14]   Fowler, B. (2002). Bloom's taxonomy and critical thinking. Gabriel Piedrahita U. Foundation Published on September, 1-4.

[15]   Gagné, R. (1987). The conditions of learning. Inter-American

[16]   Gao, T., Chai, Y. & Liu, Y. (2018). A review of knowledge management about theoretical conception and designing approaches. *International Journal of Crowd Science, 2*(1), 42–51. https://doi.org/10.1108/ijcs-08-2017-0023

[17]   Gómez, M. A., La Rivera, F. M., & Atencio, E. (2019). Evaluation of management competencies for the training of civil engineers. *Revista Iberoamericana de Educación en Ingeniería (RIEI), 1*.

[18]   Gonzalez, P. (2009). Economic, social and cultural rights. Gerardo Molina Chair. Kimpres, Universidad Libre de Colombia.

[19]   Harden, R. M. (2002). Learning outcomes and instructional objectives: is there a difference?. *Medical Teacher, 24*(2), 151-155.

[20]   Jenkins, A. & Unwin, D. (2001), How to write learning outcomes.

[21]   Lion, C. (2022). Learning and technologies: Skills of the present, projections of the future. Noveduc.

[22]   Macias, P. G., y Zamora, R. G. (2020). 2020: the capital pandemicwe are global. MachdohnilLimited.

[23]   Martín Galán, B., y Rodríguez Mateos, D. (2012). The evaluation of blended and online university training in the context of the EHEA through the use of the activity reports of the Moodle platform. ITEN-Revista Iberoamericana de Educación a Distancia, 15(1), 159–178. https://doi.org/10.5944/ried.1.15.782

[24]   Martínez, J. and Fernández, And.(2018). Learning ecologies: Expanded education in multiple contexts. Morata Editions.

[25]   Meckes, L. (2013). Standards and initial teacher training. Draft for discussion. http://politicasdocentesalc.com/index.php/documentos

[26]   Montaño, A. M. (2013). Higher Education in Latin America: reflections and perspectives in Education. Tuning Latin America Project. Publications of the University of Deusto.

[27]   Morales Bueno, P. (2018). Problem-based learning (PBL) and critical thinking skills: a binding relationship? *Revista Electrónica Interuniversitaria de Formación del Profesorado, 21*(2), 91-108.

[28]   Muñoz, L. D. C. (2020). Key elements of business innovation. A review from contemporary trends. *Innova ITFIP Magazine, 6*(1), 50-69.

[29]   Nava-Rodríguez, T. and Pazos-Lopez, wing. and Cruz-Redondo, To. and Sanchez-Gold, J.J. (2014). *Manual for the Renewal of Teaching Guides. Writing, review and evaluation of Learning Outcomes.* Manual. Faculty of Geography and history, UCM.

[30]   OECD. (2005). Oslo Handbook: A Guide to the Collection and Interpretation of Innovation Data. http://www.itq.edu.mx/convocatorias/manualdeoslo.pdf

[31]   Olivera, S.W. (2011). Taxonomy of bloom. Universidad Cesar Vallejo, 4.

[32]   Ormrod, J. (2005). Human learning. (4th ed.). Pearson Education

[33] Ortiz-Torres, E. (1997). Pedagogical communication and school learning.

[34] Osorio, N. (2012). Complex thinking and transdisciplinarity emerge phenomena of a new rationality. In: Revista de la Facultad de Ciencias Económicas de la Universidad Militar Nueva Granada. rev.fac.cienc.econ, XX (1).

[35] Paredes, M.D., y Salerno, M.L. (2015). Towards managed learning from the perspective of knowledge. University of Córdoba.

[36] Porter, M. & Kramer, M. (2011). The creation of Shared Value. Harvard Business Review.

[37] Roces, C., Touron, J., and González-Torres, M.C. (1995). Preliminary validation of CEAM II (Questionnaire of Learning Strategies and Motivation II).

[38] Sanchez, F.M., Santos, C., y Sentí, V.E. (2019). Knowledge management and learning. Methodological aspects. UCE Science. *Graduate Journal, 7*(2).

[39] Schunk, D. (1991). Learning theories. An educational perspective. McMillan

[40] Senge, P. (2010). The fifth discipline: art and the practice of organization open to learning. Ed. Granica.

[41] Shapiro, S. (2005). Innovate to be Competitive.

[42] Tapia, H. (2022). Cognitive learning driving self-regulation in the construction of knowledge. Journal of Social Sciences (Ve), XXVIII (Special 5), 172-183.

[43] Toohey, S. (1999), *Designing Courses for Higher Education.* Buckingham: SRHE and OU Press.

[44] Torres-Flórez, D. (2020). The generation of value between people and organizations. GEON Journal (Management, Organizations and Business), 7(1), 4-8.

[45] UNESCO. (2005). UNESCO World Report: Towards Knowledge Societies. Unesco Editions.

[46] Urquizo, H.G. (2018). Proposal for measurement and evaluation of Learning Outcomes according to ABET and ASIIN criteria. In Proceedings of the 16th LACCEI International Multi-Conference for Engineering, Education, and Technology, Lima, Peru. 19-21.

[47] Vázquez-Cruz, M.D.Á., Cordero-Arroyo, G., and Leyva-Barajas, Y.E. (2014). Comparative analysis of professional performance criteria for teaching in four countries of the Americas. *Research News in Education, 14*(3), 434-455.

[48] Velasquez, F.R. (2001). Approaches to human learning. Department of Behavioral Science and Technology. Simon Bolivar University.

[49] Zaim, H., Muhammed, S. &Tarim, M. (2019). Relationship between knowledge management processes and performance: critical role of knowledge utilization in organizations. *Knowledge Management Research and Practice, 17*(1), 24–38.

[50] Morales, J. T. (2011). Phenomenology and hermeneutics as the epistemology of research. *Paradigm, 32*(2), 007-022.

[51] UNIVERSITY COLLEGE OF CUNDINAMARCA (2019). Pedagogical, communicational and technological guidelines to guide the design of academic programs in distance and virtual mode.