INTERNATIONAL SEVEN JOURNAL
OF HEALTH RESEARCH
ISSN: 2764-9415

Correspondence of the Honey-Alonso learning model with the VAK channel applied to higher level students

Correspondência do modelo de aprendizagem Honey-Alonso com o canal VAK aplicado a alunos do ensino superior

DOI: 10.56238/isevjhv2n4-007
Receiving the originals: 14/06/2023
Acceptance for publication: 05/07/2023

Marvel del Carmen Valencia Gutierrez
ORCID: 0000- 0002- 3671- 0296
Autonomous University of Campeche
E-mail: mcvalenc@uacam.mx

Naú Silverio Niño Gutiérrez
ORCID: 0000-0001-9250-0798
Autonomous University of Guerrero
E-mail: nsninog@uagro.mx

Magnolia del Rosario López Méndez
ORCID: 0000- 0002- 7919
Autonomous University of Campeche
E-mail: 894X.marlopez@uacam.mx

ABSTRACT:
The behavior of the Honey-Alonso model was analyzed with the Visual, Auditory and Kinesthetic (VAK) style applied to 196 new students in the 2013-2015 generations in the Biological Pharmaceutical Chemist Educational Program of the Faculty of Biological Chemical Sciences of the Autonomus University of Campeche. The results were that the predominant style in the students was Reflexive and the most preferred channel was Auditory, this analysis allows us to conclude that facilitators have the opportunity to design more appropriate strategies to achieve learning for their students.

Keywords: Learning Styles, VAK channel, Honey-Alonso model, Mexico.

1 INTRODUCTION

Higher education institutions have the need to offer quality education centered on the student, so the current challenge for teachers must begin with the recognition of the innate characteristics that each of their students has to learn and assimilate information from their environment; they must also know that all students can learn easily when they themselves recognize their learning styles, although the purpose of the teacher is to design and implement pedagogical activities according to these characteristics. This would in itself become a didactic innovation activity (Rodriguez et al.,2022).

Knowing the preferred learning style of students has advantages for both the teacher and the student. For teachers, it allows them to better guide their students' learning, to select more appropriate methodologies, to plan different strategies, to achieve a more effective teaching style and to enhance the development of individual capabilities. And for the student it allows to know in what condition he learns better, enables him to manage his own learning, to know how to overcome difficulties in a given learning process and to develop self-learning more easily (Marambio, 2019).

Although there is currently a great diversity of learning strategies and techniques, these are generally not used in the classroom. Therefore, the problems faced daily in the teaching and learning process are not so much focused on their formulation, but on raising awareness in both the facilitator and the student so that strategies are used on a daily basis in the classroom and thus the possibility of mediating knowledge through learning strategies for visual, auditory and kinesthetic learners is considered (Romero, 2016).

There are other important differences between human beings, referring to their behavior, preferences, capabilities and competencies of each individual. Dumont, Instance and Benavides (2010) explain that students learn differently when constructing prior knowledge, based on planned styles and strategies. Likewise, they differ in interests, motivation, beliefs and emotion, they also differ in their socio-environmental context both in linguistic, cultural and social terms (Dumont, Instance and Benavides 2010 cited in Montaluisa et al., 2019).

Human beings have different ways of understanding information, and it is from these that knowledge is fed through different channels of perception. The Visual, Auditory, Kinesthetic (VAK) model allows to identify the best of the three perception channels, identifying visual, auditory and kinesthetic profiles. The pedagogical process must recognize these differences, since the amount of information that the brain manages to retain depends directly on the identification of the perception channels and the didactic strategy that the facilitator employs (Reyes, Céspedes, & Molina, 2017).

This procedure requires more work from the facilitator to consider the learning styles of his or her students, deciding to use the strategies he or she considers and thereby strengthening the progress of the educational system. The notion of learning style overlaps with that of cognitive style, but is more comprehensive since it includes cognitive and affective behaviors that indicate the characteristics and ways of perceiving, interacting and responding to the learning context on the part of the learner. Therefore, in this research work the students' learning styles were determined so that teachers can consider them in the planning of the development of the Learning

Unit they teach.

In terms of learning styles, the learning process consists of a cyclical process composed of four stages. It has been found that people concentrate more on a certain stage of the cycle, so that there are clear preferences for one stage or another. Depending on the dominant stage, one can speak of four learning styles: 1) living the experience: active style; 2) reflection: reflective style; 3) generalization, elaboration of hypotheses: theoretical style; and 4) application: pragmatic style (ANUIES, 2006).

The VAK model takes into account that human beings have three major systems for mentally representing information: a) visual; b) auditory; and c) kinesthetic. The visual representation system is used whenever abstract images (such as letters and numbers) and concrete images are remembered. The auditory channel is the one that allows hearing in the mind voices, sounds, music, while the kinesthetic representation refers to personal feelings when listening to a song, for example (Rosabal, 2000).

Students entering universities require orientation; therefore, it is essential to carry out a diagnosis to determine the predominant learning style among students so that the facilitator can support them for the benefit of the student body in order to achieve meaningful learning.

The *importance of* the essay lies in contributing to the extended use and management of the Honey-Alonso model and its interrelation with the visual-auditory-kinesthetic (VAK) system applied to learning, in this case in a public Higher Education Institution (HEI) such as the Autonomous University of Campeche (UACAM). Since the *research problem* addressed is minimally analyzed, this contribution will provide a local case to the dynamics of the appropriation of learning among undergraduate students in southeastern Mexico.

The *goal* to be achieved was to synthesize the dynamics of the correspondence of two learning models currently in vogue applied to students of the Bachelor's Degree in Pharmaceutical Chemistry and Biology of the UACAM of the 2013-2015 generations.

2 METHODOLOGY

The work method was based on the socio-formative approach, which allows the analysis and interrelation of classroom, extra-classroom, physical, geographical and even socioeconomic phenomena in order to offer real solutions to problems of the local, state or national context (Niño, 2014a). For this purpose, the research scope was exploratory-descriptive with a mixed methodological design. The mixed design employed comprised two stages. The first corresponded to the quantitative approach insofar as the numerical results were determined using the

questionnaire technique to the 196 new students entering the Educational Program (PE) of Bachelor's Degree in Pharmaceutical Chemical Biologist of the School of Chemical-Biological Sciences. The second stage was integrated by the qualitative approach in order to interpret the results of the questionnaires applied. This second stage was based on the first stage for its design and referential development.

The working universe was constituted by 196 higher level students of the public IES abbreviated as UACAM. The empirical research included the application of the questionnaire in person to each of the members of each incoming generation in the period 2013 (72); 2014 (41) and 2015 (83), hence, for the sample we resorted to the list of admission of the bachelor's degree in analysis. In order to achieve the main objective, the subject population of the study consisted of 196 students between 18 and 21 years of age at said IES.

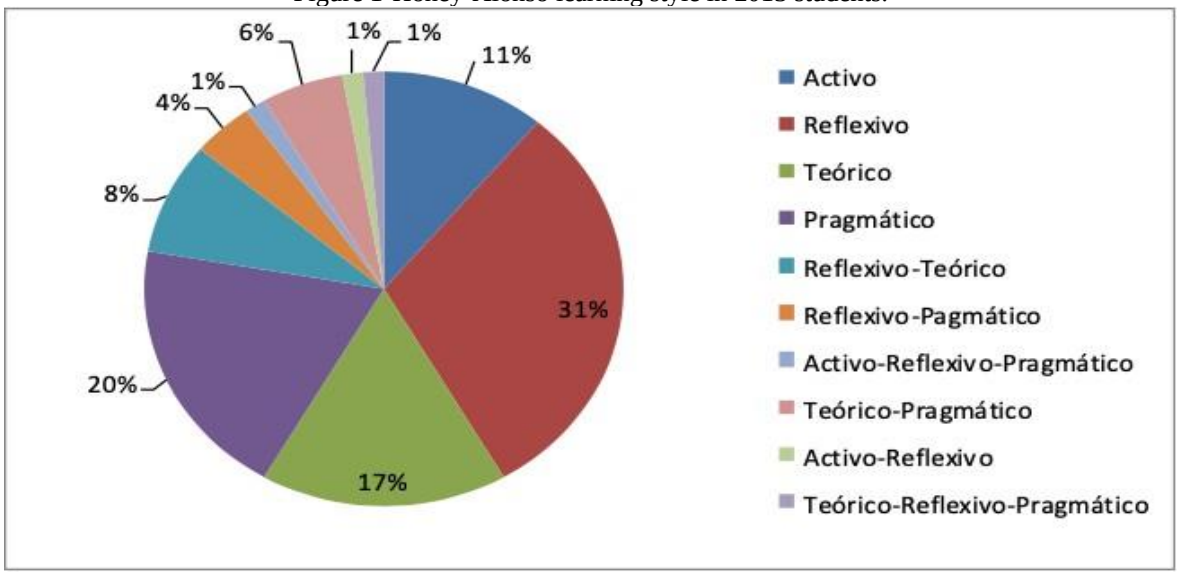
To gather information, printed and digital literature was consulted on topics such as learning styles, variables of competitiveness in a university in consolidation (Niño, 2018a and Niño, 2018b); as for the instruments used were the learning styles questionnaire of the author P. Honey and A. Mumford (CHAEA) (Alonso, 1994), in correspondence with the Favorite Representation System Test (according to the Neuro Linguistic Programming Model: NLP) of the Author Ana Robles. This Visual, Auditory, Kinesthetic (VAK) test is useful to discover each student's preferred way of learning because each person has a preferred way of learning. Recognizing preferences will help to understand the strategies to promote in any learning situation (Robles, 2000).

3 RESULTS

The interdisciplinary investigative approach that includes the human factor correlated with the natural environment (Niño, 2014a and Niño, 2014b), is the one that best matches the way students perceive knowledge in the classroom.

The students who entered in 2013 presented the following percentage dynamics:

Figure 1-Honey-Alonso learning style in 2013 students.

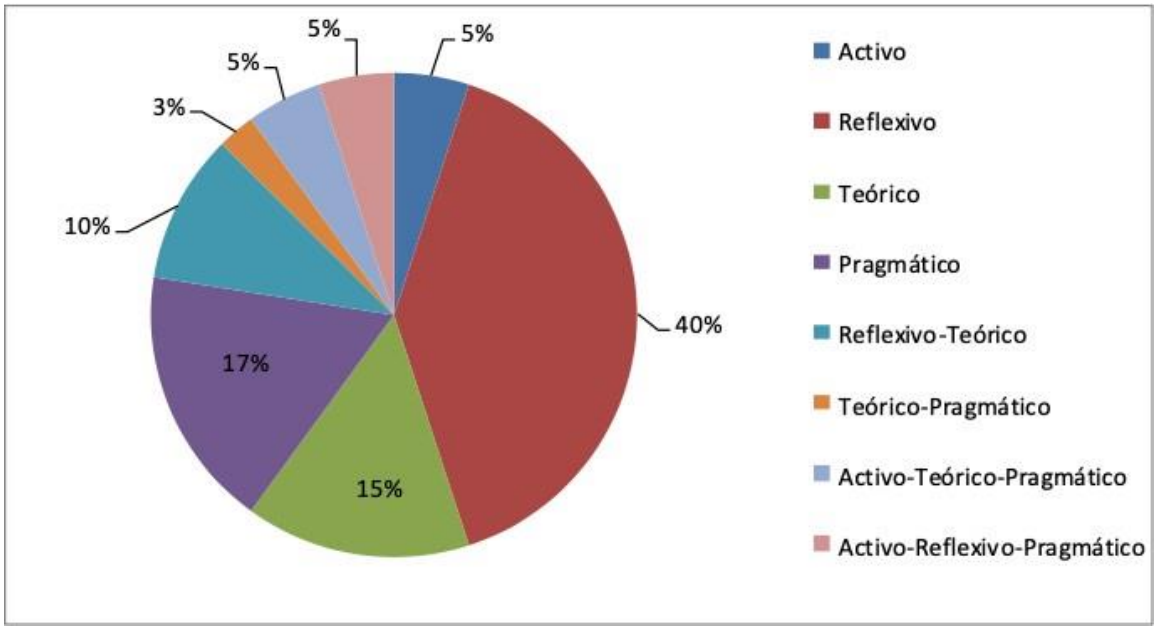


Source: own elaboration

Figure 1 shows the percentages of the students of Pharmaceutical Chemistry and Biology with respect to their learning style. The highest percentage is 31%, which represents reflective students, who collect data and analyze them before reaching a conclusion. This is followed by 20% of pragmatic students, whose strength is the practical application of ideas, since they discover the positive aspect and take advantage of the first opportunity to put them into practice (Alonso, Gallego and Honey, 1994).

The students who entered in 2014 present the following results:

Figure 2-Honey-Alonso learning style in 2014 students.

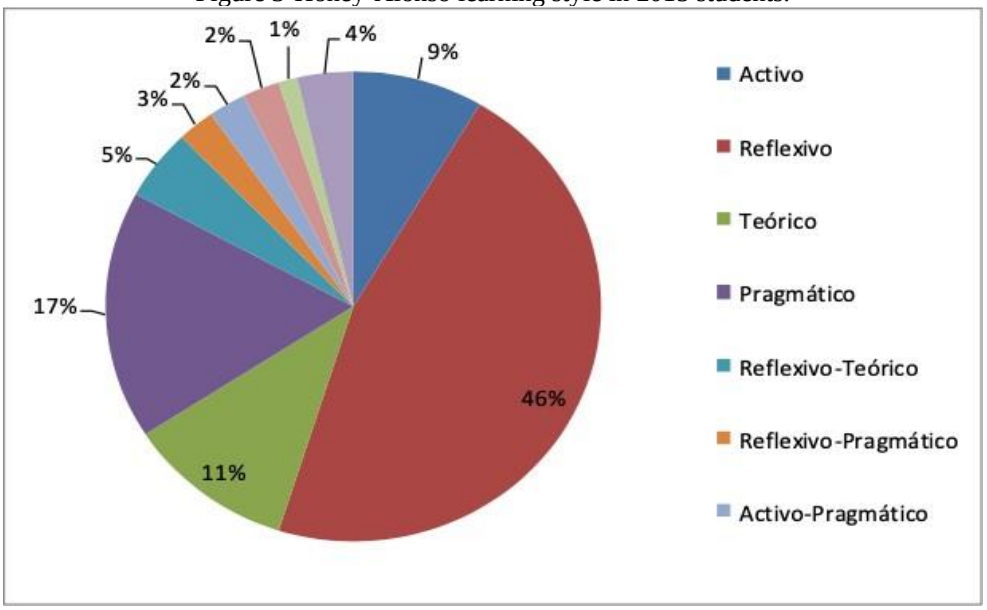


Source: own elaboration

Figure 2 represents the percentage of students of the Bachelor's degree in analysis with respect to their learning style, where 40% are reflective students, who enjoy observing the performance of others, while the opposite pole is made up of 15% who are theoretical students and tend to be perfectionists. In general, these people document, adapt and integrate the characteristics of facts and phenomena into coherent theories. They approach problems in a vertical stepwise manner, by logical stages and seek objectivity at all times (Cabrera, 2014).

The students who entered in 2015 presented the following characteristics:

Figure 3-Honey-Alonso learning style in 2015 students.

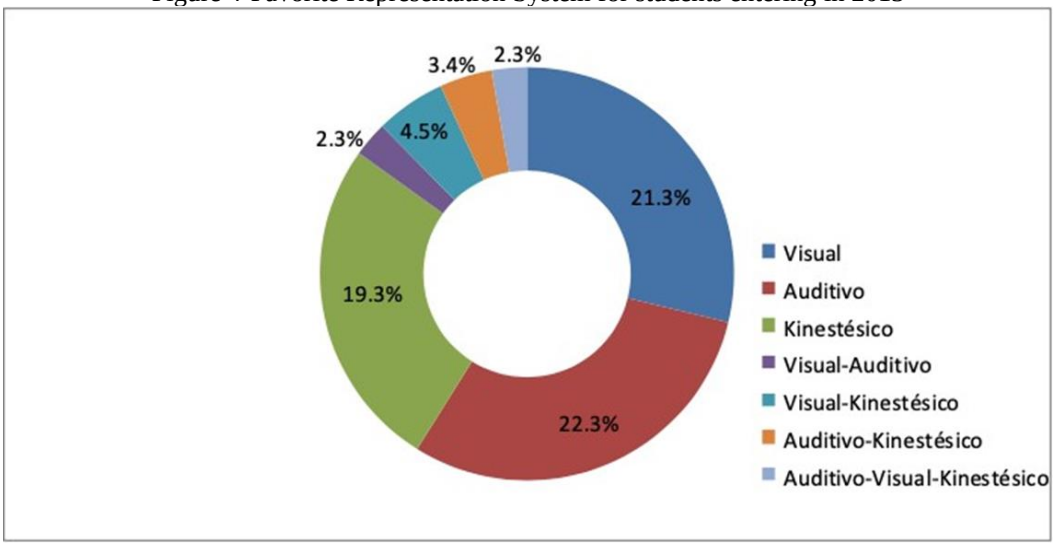


Source: own elaboration

Figure 3 shows the percentages with respect to the learning style of the students of the Bachelor's degree in analysis. The highest percentage is 46% and represents reflective students, who enjoy observing the performance of others. Meanwhile, 9% are active, that is, students with an open mind, scarcely skeptical, who enthusiastically undertake new teaching and research tasks. They enjoy the academic challenges they share with their peers (Cazau, 2001).

Students who entered in 2013 present the following results:

Figure 4-Favorite Representation System for students entering in 2013

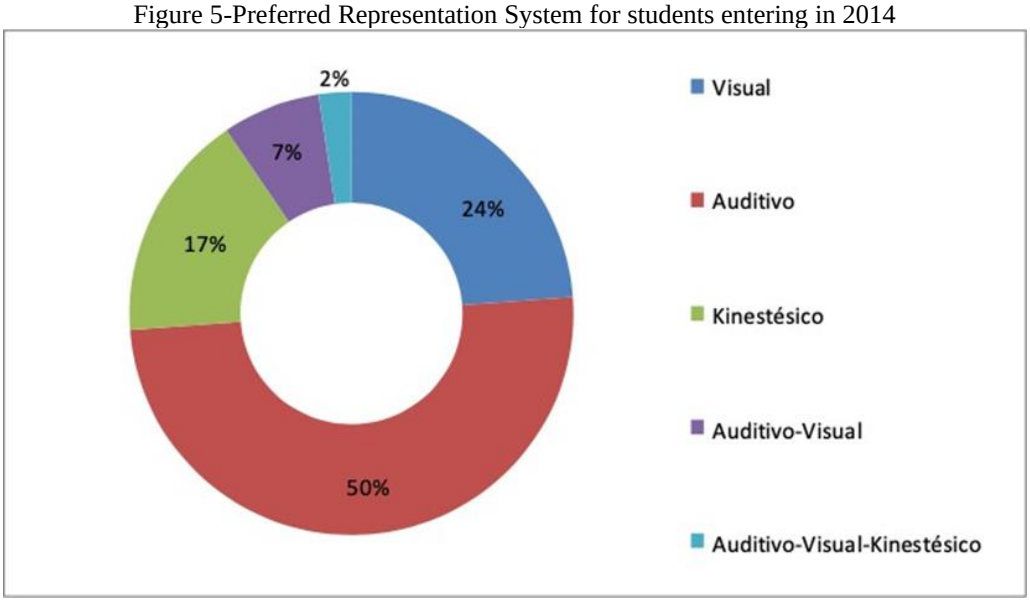


Source: own elaboration

As shown in Figure 4, the style that predominated with 22.30% was the auditory perception channel, which is when it tends to memories in which the auditory representation system is used, so it proceeds in a sequential and orderly manner (Neira, 2015). In this order of ideas, Castillo and Mendoza (2015) also conducted a study of the dynamics of learning styles in university students with similar results.

Students who entered in 2014 present the following results:

Figure 5-Preferred Representation System for students entering in 2014



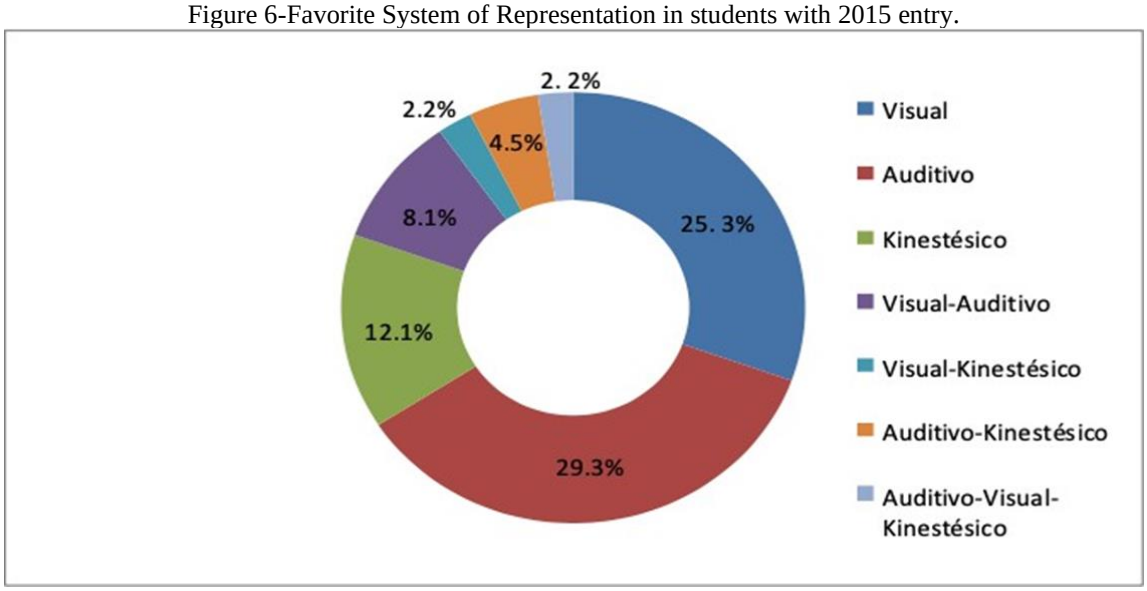
Source: own elaboration

Figure 5, shows the total number of students who entered in 2014 whose predominant learning style with 50% was the auditory perception channel which, translates as follows, students

prefer to listen and even memorize the learning sequences and procedures to perform an activity (Gamboa, Briceño and Camacho, 2015). Therefore, it is important that facilitators encourage the use of documentaries and films of real cases that may occur in their environment in order to know what to do to immediately support the solution of a given phenomenon.

Students who entered in 2015 present the following results:

Figure 6-Favorite System of Representation in students with 2015 entry.



Source: own elaboration

Figure 6, shows that the predominant learning style of the total number of students who entered in 2015 with 29.35% was the auditory perception channel that allows hearing voices, sounds and music (Rosabal, 2000).

4 CONCLUSIONS

The applied methodology allowed to satisfactorily fulfill the general objective through the characterization, quantification and analysis of the Honey-Alonso learning models interrelated with the VAK style among the 196 new students of the Bachelor's Degree in Pharmaceutical Chemistry and Biology of the School of Chemical and Biological Sciences of the UACAM. It is concluded that their preferred learning style is "Reflective", characterized by being thoughtful, conscientious, receptive, analytical and exhaustive. These students like to consider learning experiences, analyzing them from different perspectives, they put reflection before action, they are prudent, observe and listen to others before making judgments.

Regarding the VAK learning style, it was found in the four generations that the students' preferred learning style is "Auditory", which is characterized by remembering information

sequentially and they learn better when they receive explanations orally.

The information obtained in this research was provided to the teachers of the groups under study, so that they have elements for the design of strategies that favor their teaching and learning processes. These strategies should include varied activities that involve the three learning styles: Auditory, Visual, Kinesthetic, as well as the Active, Reflective, Theoretical and Pragmatic styles, and thus encourage the use of the different styles in the teaching and learning process in the classroom, in order to contribute to increase the level of scholastic achievement at the Higher Level.

REFERENCES

Alonso, C.; Gallego, D. & Honey P. (1994). *Learning styles. Diagnostic and improvement procedures*. Bilbao: Ed. Mensajero.

ANUIES. (2006). *Antología del curso estilos de aprendizaje y estrategias de enseñanza*. Campeche: Universidad Autónoma de Campeche. Cabrera, J. (2014). Learning styles in students of the school of human movement sciences and quality of life. *Educar Electronic Journal*, 18(3), 159-171. Retrieved from: http://www.revistas.una.ac.cr/index.php/EDUCARE/article/viewFile/6096/6054

Cazau, P. (2001). *Learning styles*. Retrieved from http:// http://www.galeon.com/pcazau/guia_esti01.htm

Castillo, M. & Mendoza, J. (2015). Learning styles in university students: computer resources as a strategy for their evaluation. *Revista UNAH INNNOV* 1(4), 33- 39.

Gamboa, M. C.; Briceño, J. J. & Camacho, J. P. (2015). Characterization of learning styles and perception channels of university students. *Opción*, 31(3), 509-527.

Marambio G, Juan, Becerra S, Diego, Cardemil M, Felipe, & Carrasco M, Loreto (2019). Learning style according to information entry route in residents of otolaryngology postgraduate programs. *Journal of otolaryngology and head and neck surgery*, *79*(4), 404-413. https://dx.doi.org/10.4067/S0718-48162019000400404

Montaluisa-Vivas, A.; Salas-Jaramillo, E.; Garcés-Cobos, L. (2019) Learning styles according to Honey and Mumford and their relationship with didactic strategies for Mathematics. REIRE Journal. Universitat de Barcelona. Institut de Desenvolupament Professional. ICE

Neira, J. (2015). *Visual, Auditory or kinesthetic. Los alumnos*. Spain: Orientación Andújar. Retrieved from https://www.orientacionandujar.es/2015/09/02/test-de-estilos-de- aprendizaje-de-vak-escolar-infantil-primaria-y-secundaria/visual-auditivo.

Niño, N. (2014a). *Environmental planning applied to the case of La Roqueta*. Mexico: Eón. Niño, N. (2014b). *Parque Natural El Fondo: geography and tourism*. Mexico: Eón.

Niño, N. (2018a). Competitiveness variables in a university in consolidation.

Markets and Business. 1(37), 137-150. Retrieved from https://www.revistascientificas.udg.mx/index.php/MYN/article/view/7070

Niño, N. (2018b). *Program of the Learning Unit: Research Workshop II*. Acapulco: Unpublished.

Rodríguez Betanzos, A., Sánchez Islas, M. and Constantino Serrato, I. (2022). A description on VAK learning styles of students at the Autonomous University of Quintana Roo. Cuaderno de Pedagogía Universitaria, 19 (38), 162-170.

Reyes, L.; Céspedes, G. & Molina, J. (2017). Learning types and tendency according to VAK model. *TIA*, 5(2), 237-242.

Rosabal G. (2000). Learning Styles Guide. Retrieved from www.pcazau.galeon.com/guia_esti.html

Robles, A. (2000). *Learning styles: how we select and represent information.* Retrieved from http://www.galeon.com/aprenderaaprender/general/indice.html

Romero, J. M. (2016). Learning strategies for visual, auditory and kinesthetic learners. *Atlante Journal*. Retrieved from http://www.eumed.net/rev/atlante/2016/05/kinestesicos.html