

THE FORMATIVE RESEARCH OF ECUADORIAN UNIVERSITY TEACHING STAFF

Derling Mendoza Velazco

National University of Education, Ecuador

E-mail: derling.mendoza@unae.edu.ec

Irma Abrigo Córdova, Janela Romero Chávez, Fredy Cueva Bravo

International University of Ecuador, Ecuador

E-mail: irabrigoco@uide.edu.ec, karomeroch@uide.edu.ec, frcuevabr@uide.edu.ec

Magda Francisca Cejas

University of the Armed Forces, Ecuador

E-mail: mfcejas@espe.edu.ec

Abstract

University research is the way in which lecturers can perceive, analyze and be illustrated about unknown topics or something that has been omitted and that is why it is important and is the key in the academic researcher's life, the gathering of information, the analysis and the search for a solution to an existing or detected problem. This research includes three phases: the first, where the search, collection and data analysis is proposed; the second, where models of teacher formation and theorization are included and the third, where the final idea of formation of university researchers and lecturers is proposed. This research was developed from a qualitative perspective, since it is implemented in an epistemic conceptualization that corresponds to its nature, highlighting the interest of deepening the intuition of the object research. As key informants, the participation of 15 (fifteen) lecturers from different universities of Ecuador is highlighted. The constant comparison of theories and grounded theory was applied for the analysis of the subtracted data, in order to make a theoretical approach through the emerging categories and sub-categories, through the operating software Atlas.ti version 8; with the aim to contribute to the theoretical and methodological basis. The subcategories were derived: professional teaching function and novel teaching profile. The conclusions mention the idea or model of formation for higher education teaching staff. It also mentions the importance of improving the formation of lecturers through scientific research to promote knowledge and strategies that require the need to theorize, produce and increase the level of thinking.

Keywords: continuous research, complex thinking, educational innovation, educational theory, formation of teaching staff, university education.

Introduction

In the educational practice, the lecturer's participation in higher education is a dimension of special interest. The praxis is a complex and systemic action. It is demonstrated with a gallery of events that sometimes is far from strengthening the processes. In education there are strong barriers that are created by repetition. The fact in a culture is assumed as the norm in the organization and is impregnated by the novice teaching staff. The daily routine of the formation process becomes cyclical: moments with multiple nuances of weakness that become operational barriers in the professionalization of the students. What the teaching staff does or

does not do, their successes or failures in educational spaces are translated into levels of student formation (Cid, Pérez, & Zabalza, 2009).

It is necessary for the teaching staff to take possession of knowledge and apply it in their work, for the very nature of their practice. The didactic offers important contributions to the andragogy diversity in university education. There are important approaches with actions close to innovation, deepening and transforming the teaching process in relation to learning from the reality of the classroom and the events of daily formation. This situation requires processes of comprehension, creation, transformation and orientation of the educational practice (Martínez, Yániz, & Villardón, 2018).

Research Focus

The Theory of complex thinking

According to Peñaranda (2016) complexity is a network (complex: what is the network as a whole) of inseparable heterogeneous components associated: it presents the paradox of the one and the multiple. Complexity is, in fact, the events, actions, interactions, retroactions, determinations, chances, which constitute our phenomenological world. Morín (1998) emphasized that complex thinking has its essence in the lost tradition of approaching the world and the human being from a hermeneutic point of view, that is, interpretive and comprehensive. For the mentioned researcher, the complex thought is first of all a thought that relates and is conceived as a form of rationality in the approach of the world and of the human being. It consists of the union of the parts with the whole, through the establishment of relations between them, taking into account their differences.

The complex thought unites, gathers, relates and approaches the processes in their constant dynamism and change. Likewise, its difficulty of action lies in the fact that it must face the interweaving, the solidarity of the phenomena with each other, the fog, the uncertainty and the contradiction (Morín, 1999). Until the first half of the 20th century, most sciences had specialization and abstraction as a mode of knowledge; there was also the reduction of knowledge of a whole to the knowledge of the parties. The key concept was determinism, the application of mathematical logic to the problems of what was experienced and in the social life (Itzel, 2018). From there, that a reform of thoughts becomes possible, it is separated and has to be replaced by the thought that distinguishes and unites. The disjunctive and reductive thought must be replaced by a “complex thought” (Morín, 1999). This reform of thoughts is addressed and has a quite clear implication with education. Educational systems must begin this process of reform that transcends from simplicity to complexity (Maldonado & Gómez, 2011).

Consequently, the theory of complex thinking is relevant to the research, because it analyzes the process of formation of subjects who learn (university teaching staff). Both formation and society are a complex issue, which implies a multiplicity of factors in relation that make it a dynamic, varied and diverse issue. Rosario (2018) explained that in human formation there are multiple factors involved in different systemic relations: culture, society, institutions, community, subjects that learn. Therefore, the human formation of the lecturer cannot be seen from a single aspect. The formation must be seen from the relations of factors articulated from the subject, the individual and the social dimension.

University teaching staff require complex thoughts in education, according to Rodríguez, Gil, and García, (1999). Diversity and mobility of so much information is difficult to harmonize, because it jumps from simple to complex. Complexity informs reality and the resulting educational process is another. This process depends on many vicissitudes and diverse elements that disorient educational work.

The importance that is assumed in the research is based on complexity and complementarity. According to Morín (1998), “the aspiration to the totality is an aspiration to the truth. The recognition of the impossibility of the totality is a very important truth, for which the totality is, at the same time, the truth and not the truth” (p.137). The orientation of the andragogic practice carried out by university teaching staff, due to its practice, has little real reflection based on the elements that make up this complexity.

As a result, it is required a type of knowledge to understand that parties depend on the whole and vice versa. The present research was based on a complex theory that does not isolate phenomena, but integrates them into a single set (Ramírez, 2013). The andragogic practice should not focus only on an encyclopedia that transmits the cognitive where Machado (2018) claimed that true higher education is a meeting between human beings where life itself is the main actor.

It is necessary to question the traditional instances and to look for the complex perspective, since the contents treated in class must aim at the transformation of the educational subject, these are concretely presented with a certain degree of value. Consequently, each educational content must be proposed not only as objective knowledge, but also as the freedom of the subject to appreciate it as valuable to himself (Veytia, 2014). This brings with it the idea of change, since in the sciences and in the social disciplines the conceptions of man, knowledge, education and formation have to be continuously formed and transformed. The theories and concepts are transitory according to Chacón, (2012), educational conceptions and pedagogical practices do not anticipate or do not evolve simultaneously because they lose their meaning and reason of being.

Changes in teaching staff” thinking for their formation are a legitimate and necessary process that must be operated from the moment they are required, and not wait for that change to come from the highest governmental and institutional spheres. In the field of teacher formation, a rationality like that of complex thinking is required, in keeping with the constant and changing world. Martínez, (2018) and Ramírez, Suárez and Torres, (2017), emphasized that each country requires innovative subjects that adapt easily to changes with a flexible attitude, with capability to establish professional relations between processes and systems, teaching staff must have the ability to approach new possibilities, people with qualities present in complex thinking, which approach reality in all its complexity, to understand it and potentially transform it.

Orientation for teaching staff

Orientation is understood as the permanent process of acquiring, structuring and restructuring behaviors (knowledge, skills, values) for the performance of a certain function. In the case of educational action, orientation becomes an improvement of the teaching staff, where Sanchez (2017) defined orientation as a development in university teaching staff with the commitment, vocation and application of guidance in teaching. During the university career leading to the diploma and later on updating formation courses and graduate, the lecturer acquires and consolidates knowledge and specialized skills. Due to this, Jimenez and Montecinos (2018) established that higher education teacher’s formation high social relevance is a dynamic, permanent and continuous process, closely linked to the teaching practice.

The university lecturer is a professional whose daily practice is full of unknowns to which he does not respond with preconceived formulas. Lecturers structure their knowledge, skills and values so that they can solve the problems that arise in the educational space on a daily basis (Iglesias, Lozano, & Roldán, 2018). In other words, the reflection about their work in the institution allows the learning got by the orientation in a formal and informal way to take concrete forms and acquire a meaning that ensures its social transcendence.

In a modern cultural perspective, the teaching staff is the epicenter where action and programming are born. Currently, it focuses both on the transmission of values and on the stimulation of the student's personal development, so that the latter can be a culture builder and not a continuator of it (Tejada, 2008). In this way, it is perceived that the teaching staff's continuous formation relies on their preparation and professional emancipation so that, through a reflective criticism, lecturers can develop an effective teaching style that promotes meaningful learning in students. In this way, innovative action thinking is achieved by working as a team with colleagues to develop a common research project. Montero and Gewerc, (2018) stated that today's society imposes a challenge for teaching staff, where the path for lecturers whose work and mission are related to the demands of their social context.

Teaching staff formation is a complex, critical and constructivist perspective. It implies as a strategic objective, an investigative conception of the teaching work, for the integration and reconstruction of meanings coming from diverse epistemological sources. This includes phenomenological knowledge, ethical and ideological, disciplinary, didactic, socio-political related to school content and meta-disciplinary, as well as personal conceptions, according to what was expressed by Tejedor (2018) and Calle (2018).

Due to this, teaching staff formation allows the necessary conceptual tools so that the environment is analyzed and relevant knowledge to social needs is built. Imbernón, (2017) claimed that during the high education teacher orientation; the subject must become a researcher of the needs and the potentials of the community. The teaching staff must be able to work as a team in the realization of a shared task, he must reflect on its practice to transform or modify it, taking into account the educational knowledge he has, the set of knowledge that must be re-contextualized and the tools it has available to carry out its educational function.

Research Problem

The formation of the teaching staff is not a checking of the teaching formulas. Nor should it be formation in specific disciplines. It has to be the space that receives the higher education teacher's concern to transcend through reflection, to clarify his position regarding educational issues. The role must be the social dynamic to understand the world according to Enkvist, (2016). Therefore, there must be a space where the teacher in formation or in service can become aware of himself, aware of his work, of the world and confirm his commitment to his students and their learning process.

After analyzing different theoretical sources, the problem in the research arises because, Ecuadorian education does not give priority to the union between research and formation. In this way, researchers need to interpret a theoretical approach that demonstrated the importance of continuous research.

Research Aim

From there, the importance of current research aimed to make a theoretical approach to formation and continuous innovation of the Ecuadorian university teaching staff. For this, the research was developed based on qualitative paradigm. The purpose of research was to find a relevant data of the situations that occur during the development of the educational practice. The continuous theoretical comparative method and the application of the grounded theory were applied. Emphasis was placed on the individual and subjective aspects of the experience, a method suggested by Hernández, (2016). The phenomena were studied as they are experienced and perceived by the teaching staff of the research, describing the meaning of the experiences lived by the educational teaching staff who perform andragogic practices in the context of higher education. The phenomenology of everyday life was considered, because each social fact is only understandable in its context to intuit and give meaning, through the opinions of the informants.

Research Methodology

General Background

This research was based on the qualitative interpretive paradigm. Yuni and Urbano (2005) pointed out that this qualitative interpretive paradigm “obeys the philosophical conception from which it is nourished, and which provides the foundations on what is real and the possibilities of knowing it”. (p.107) The researchers carried out the data collection in the universities where the informants perform their daily teaching tasks. It was made with the intention of being able to observe directly without the presence and influence of other elements that could distort the information provided.

Due to the nature of the qualitative research, interviews were conducted, recommended by Caldach (2014) to obtain information from the informants at the time of expressing their opinions on the issues raised for the research. Each teaching staff answered in a pleasant and measured way to the topics, using the knowledge they possess according to their area of academic preparation. Once the required information was compiled, the researchers proceeded to show their own interpretations, taking into account the opinions obtained. The time determined for the total development of the investigation was six months. The research started on October 1st, 2018, until the 29th of March 2019.

Informants

For the selection of the informants of this research, the researchers took the criteria recommended by Mendieta (2015), where there is no need for a statistical selection because it is a study with a qualitative approach. After an analysis of the best universities working in the city of Quito, Ecuador. Eight (8) universities were selected according to different criteria. First, for the amount of research and scientific publications published. Second, because of the number of students and teaching staff enrollment. Finally, for the diversity of careers offered by each of the universities. The universities chosen were San Francisco University of Quito, Pontifical Catholic University of Ecuador, University of the Armed Forces, National polytechnic school, Central University of Ecuador, University of the Americas, National University of Education, and UTE University.

One (1) letter of invitation was written for each chosen university, requesting the participation of 2 (two) lecturers who possessed the following qualities: experience in scientific research and possession of an academic degree superior or equal to the master’s degree. It was also written that the lecturer would be interviewed in no more than 20 (twenty) minutes. In 1 (one) university only one professor did not agree to participate. Thus, the total number of participants was 15 (fifteen) university informants.

Techniques and Instruments

In order to collect the necessary information that would respond to the emerging concerns of this research about educational research, the collection of information was carried out in a first phase. The researchers applied a semi-structured interview to the informants (view table 1). Roth (2016) pointed out that this type of qualitative interviews should be simple, understandable and opened, without pre-established categorizations. Based on this, the informants expressed in the best way the data required by the researchers without any influence from the perspectives at the time of performing the analysis.

Table 1. Interview questions applied to research informants.

Universidad UTE	Data:
Interview No.:	Informant:
Question's	
1. How can teachers update themselves professionally?	
2. Does the university allow you continuous formation?	
3. Is research development important?	

The interviews were recorded in Moving Picture Experts Group (MPEG) format. For the transcription of the audios the researchers used Dragon Natural Speaking software version 12. Later, the texts were coded. The coding complies with the researcher's ethical standards for the production and dissemination of data, a method recommended by Márquez (2001). Each testimony was presented as: First informant interview (I.1). Sequentially, every last informant was coded (I.15).

Subsequently, it was proceeded to analyze the data obtained by contrasting the information. A contrast was made between the data obtained by the informants and the theoretical foundations investigated. The operating system of qualitative analysis Atlas.ti current version, recommended by Charmaz (2010), for qualitative research was run. From the contrast or triangulation of the information, categorizations came out and were analyzed by the researchers. Emerging categories, theoretical underpinnings, and researcher analyses were triangulated. In this way, the theoretical approach was established that gave an answer to the proposed objective. This research method was recommended by Kohlbacher (2006) to make a theoretical approach.

Research Results

Category Educational Innovation

Figure 1 shows the category as innovation educational. The results were described through a structural network.

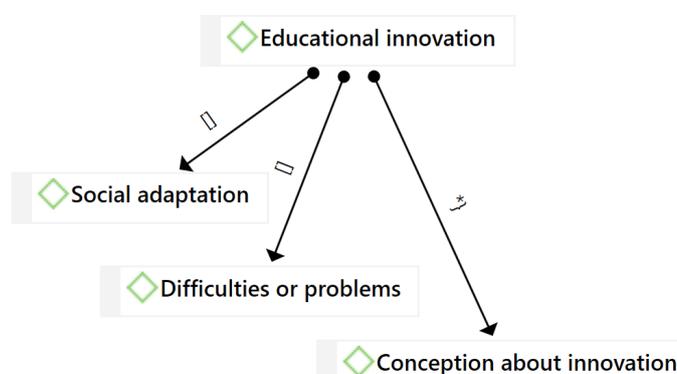


Figure 1. Structural network of the educational innovation category issued by the Atlas.ti operating system.

Based on the testimonies, the subcategory “Social Adaptation” emerges. For the interviewees, “adaptation” has always prevailed as a topic of interest imposed by the university. The informant (I.2) expressed “in my university they always want there to be a link with society”, in the same way for (I.5), “A teacher must adapt to changes in society as well as to needs”.

Most of the narratives presented by the informants consider that educational innovation is an adaptation to the demands of today’s society. It is necessary for teaching staff to be prepared to train a student who knows how to respond to social demands, which are advancing more rapidly every day. In agreement on the theme of adaptation according to (I.12), “is of sum importance... it is necessary to reflect on teaching practice in order to modify that which is no longer necessary”, in this way, according to the interviewee, educational reflection makes it possible to speed up changes in the search for improvement. But for (I.14), there is “methodological innovation... supposes a motivation for the teaching staff since it implies facing new challenges”, these challenges are presented as the subcategory “Difficulties or problems”. Also, according to (I.15) “Innovation must be an essential part, if we do not want to continue giving master classes where the student does not feel protagonist of it”. Motivation and creativity are fundamental axes of educational innovation, as an aspect highlighted in the manifestos, where teaching staff should not fall into routine and therefore should motivate students.

In the narratives, it was identified that educational innovation is related to sub-codes that emerge from didactic implementation. According to (I.1) “I should have updated myself for my students, because, I use a lot of visual material to make learning more meaningful”. Other significant aspects identified in the informants’ manifestos is the development of methods used to innovate in the classroom. (I.3) said, “I learned to use the materials provided by digital networks and many materials I have found on the Internet”. The acquisition of new methods is easy to adapt for teaching staff who have their work motivation. According to (I.6) there are emotional obstacles when he said, “sometimes I am afraid to ask, but I have to go to my classmates for advice on new methods or I use formation innovation courses”. The fear is expressed of being catalogued as a teaching staff not updated in the use of digital tools. For this reason, informants are forced to resort to personal and professional updating.

The informants reported a meaningful knowledge, so stressing that learning and formation are part of innovation in the classroom. It also depends on the shared experiences of other colleagues, especially by the working groups they have formed. Among the difficulties or problems raised is spontaneous learning. For (I.10), “the best way of updating is to design a parallel formation program, but the university considers that we are all prepared”, simultaneously according to (I.8), “the digital whiteboard is an attractive innovation, I should have learned spontaneously, because we were not oriented to the use of these resources”. For the informants, the need for an orientation design or project is fundamental.

As a factor of difficulty time emerges, manifested by (I.11), “basically time... passes very quickly and does not provide for learning and putting into practice what I would like”. The same is true for (I.6), which states: “I am completely in favor of updating teaching staff, but although family life and such formation are not very compatible”. According to the teaching staff interviewed, the universities invest money in material resources, but it is not orientation programs or formative updating, considered as a difficulty to develop innovations in the activities.

Category Curricular Aspect

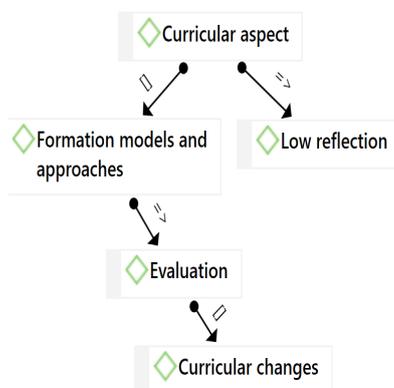


Figure 2. Structural network of the curricular aspect category issued by the Atlas.ti operating system.

Figure 2 (two) demonstrates the structural network of the category “curricular aspects”. This category is supported by the sub-categories “scarce reflection and “formation models and approaches”. The second category is based on key testimonies from teacher formation universities and universities where teaching staff work. For (I.4), “the university requires personnel with a doctorate degree, but when I request time to begin enrollment, I was told that I did not have one”. According to the informant (I.9), “curricular changes in current Ecuadorian higher education do not allow for a teaching staff with a master’s degree; we must all have a PhD”. The participants manifest the need to carry out academic studies of professional superior, as a requirement of the institution where they work.

On the contrary, for the informant (I.12), who stated that “the university always forces us to carry out formation courses” and for (I.13) who stressed, “When we have vacations or weekends we are summoned for orientation workshops, oh is our time respected”. The informants highlight in a not very pleasant way the university invitations to the constant update. Considered general updating workshops and those that are offered on a mandatory basis. The free time is not valued or respected by the institutions according to the teaching staff. The informant (I.15), who attends these formation courses states, “I have to go to have a good curriculum”, also (I.7) stressed “we have to take advantage of these seminars, they are the help of our university, because personally they have a high price”. Two aspects of formative reception are presented in this way: the teaching staff who accept and participate in the formation offered by the university and those who reject it. From the point of view (I.5), confessed “I start to think and say to myself, if we do not have updating and formation. What would become of us?”

An evaluation of the effectiveness of the courses or workshops applied by the universities is established, according to (I.1) when expressed “Our university institute facilitates the formation, the problem is in the lack of content”. The lack of clarity or purposes of these are not stipulated from the beginning of the courses, which cause discomfort for the activities carried out. The discomfort of necessary courses or not, is exposed by (I.3), when expressed “the last workshop we had, consider it useless, if we had been asked what we needed, everything would be different”. The teaching staff perception of the opportunities offered by universities for continuing education is not very well accepted. Demonstrating that participation or autonomy is not promoted, the development of capacities for reflection, innovation, research, especially debate, is not allowed.

For (I.14). “In this way, informants can identify the needs and the type of skills required, responding that they negatively justify the university’s obligation to only comply with a curricular requirement”. Similarly, for (I.10), “the department of human talent does not request a consultation on our formation, it does so in an authoritarian manner”, the arguments expressed demonstrate that the courses do not consider the context or the social reality in which the university educational practice is developed, since this influences it in a decisive manner. From the perspective of teaching staff, opinion is not taken into account in the design of study plans and programs.

According to (I.13), “I believe that these opportunities provided by the formation institution are ambiguous, because they only think of the evaluation of the ministry of higher education. For the teaching staff, there is no congruence between what is proposed and what is done on the part of the university authorities. For the lecturers, their main interest is to safeguard the academic evaluation score. The evaluations are described by (I.11) when he stated that “I only hope that this year, when carrying out evaluations and categorizations, they do not make radical changes in the programs like the previous time”. The participants emphasize that the programs can be improved, but adaptation requires a new curricular orientation design. Other informants, as (I.8) expressed “when evaluations are carried out, there are modifications in the system, everything deteriorates and we have to learn again”, so it was emphasized that constant changing of university programs, the result of implicit evaluations, then more updating is needed to know the legal support of the existing reforms. Some informants stated that everything arises from incompetent policies and, therefore, not even the system itself has a clear idea of what type of teaching staff is in demand in Ecuadorian society.

Category Teaching Staff Formation

The category “teaching staff formation” is generated in relation to cause and effect (see image 3). The relationship between teaching staff formation, consecutive changes due to educational innovation and curricular changes. In this scheme, formation is an external mechanism that acts outside of practice. This practice is stigmatized and devalued, for the informant (I.12), that said “in spite of having updated the curriculum, the practice, activities and strategies in force in my university are traditional”. Emphasis is placed on the informant’s oral presentation, that the frontal teaching methods are of an academic type.

Universities of the traditional type propose academic models of a pedagogical order, however, for (I.11), “I think that the university has a great influence on the formation of a teacher”, just as for (I.2), “in the university where I studied my pre-grade degree we were not infused with research”. These testimonies represented that the practices of teaching staff face diverse situations and problems. In order to solve them, they turn to their theoretical knowledge as well as to their incipient practical skills, to articulate the demands and characteristics of the university context. The lack of an educational-research system generates a negative impact for university graduates who expose, (I.1), “In truth, in undergraduate they always gave me practical lessons, but in research they were only theoretical”. In this way, the sub-category “new profile of the teaching staff” emerges, where the new university lecturers must build their “knowledge of the trade”. This arises from the interaction between theoretical knowledge and direct experience in the university environment with the students. The intellectual entry profile of educational praxis is constituted by (I.15), when stated “I learned by teaching my students”.

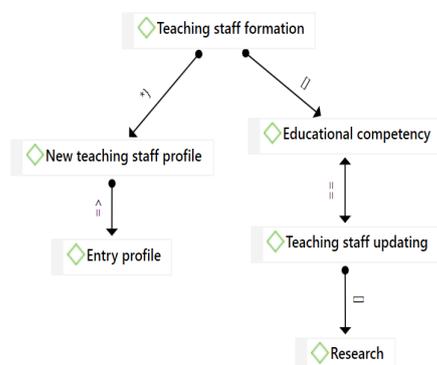


Figure 3. Structural network of the teaching staff formation category issued by the Atlas.ti operating system.

Due to limited practical experience, beginning teaching staff rely on formally acquired models in their formation to understand, analyze and cope with practice situations, or on their first learning matrices. The possibility of recognizing the components that interact in a given educational situation, depends in part on whether these elements have been previously presented to them during their formation. In this sense, the formation of university teaching staff is presented as a preparation and professional emancipation. This preparation is considered as the profiles of the teaching staff, according to (I.1). “We have to increase the capacity to elaborate, criticize, reflect and create an effective teaching style”. The teaching and learning styles are upgraded thanks to research according to (I.3), when expressing, “by doing good research we can give meaning to learning, change, strengthen and improve our teaching system”. In the same way, the informant emphasizes that meaningful learning must be promoted in the students and an innovative reflection-action must be achieved, working in team with colleagues to develop a common educational project.

Faced with these assertions, according to (I.10) “teaching staff not only continue to be trained, they must also reflect on whether research is important or not”, the results issued by the informants demonstrated the need for a reflective and innovative teaching staff, an ideal lecturer whose formation is developed in the context of his or her research work. With regard to research work, (I.6) stated that “teaching staff formation is a field of knowledge and research focused on the study of the processes by which teaching staff learn and develop their professional skills for the formation of other subjects”. For this, according to the informant, teaching staff formation is fundamental, through a model focused on the immediate context of the work, where they are trained to analyze the educational system and develop their practice as innovation work.

In the aspect of educational work, lecturers expressed the fear of change, according to (I.14) when indicated “I see that new and old professionals are always differentiated by practice and evaluation, it would be comforting to create a project for the exchange of ideas or strategies. Thus, the informants expressed the timely need for innovation. The informant raised a new model of continuous professional formation in education. This formation model focuses on the recognition that is experienced and novice teachers provide prior knowledge and experiences. These experiences that are put into play in new learning situations are: knowledge is also considered as an entry profile.

As for the testimonies of informant on the importance of research, for (I. 3), “research application is required, but the coordination of research only requires projects...they do not share their methodological design strategies, they have material and they do not cooperate”. From this point of view, there is a need for an organizational change in the distribution of educational research models that facilitate teaching staff updating, that is, access to comprehensive and participatory formation. These actions should be supported by a reflection on the daily work of teaching staff, since the lack of research models is a weakness expressed by informants.

The study projects requested by the university coordinators according to (I.5), “require a technical methodological character”. Based on the diversity of elements that make up the research models, the formation of the Ecuadorian teaching staff obeys fundamentals associated with systems theory. According to (I.13) “when developing a research project, I am always asked to make changes, which I have to fix or correct, but I am never told what to do”. This is established with a logical and pragmatic approach, in which many teaching staff universities expressed their reluctance to become academically professional because they are considered to have absolute knowledge, especially in the technical field, but not in the educational field.

For the purposes to be promoted professional formation, according to (I.9), he stated “my colleagues do not accept a postgraduate degree, for fear of designing a doctoral thesis”. From a critical point of view, there is a need for professional incentive and intellectual promotion by universities. In the same way (I.4) he stated, “I can professionalize myself, cover my expenses, I would do all academic development, everything but thesis”, there is a latent fear to carry out a research, project, research, degree work or doctoral thesis, which hinders the objectives of the higher education system, under which the commitment of professional formation must be assumed, in order to address the learning needs that educational practice demands.

Discussion

The purpose of research was to determine the different contexts that make up the formation and continuous innovation of Ecuadorian university teaching staff. With the theoretical support of different researchers who support the complex educational thought as an essential model in the educational role. This model makes it possible to mobilize thought, generate reflective actions and produce spaces of multicultural and pluralist convergence.

Teaching staff formation becomes much more pertinent when subjects reflect on their existing and necessary capacities (Escobar & Escobar 2016; Calvo, 2019), in the same way with the application of meaningful learning. Developing research as a theoretical construct between formation and innovation, however it is underlying several theories that are of a domain of the faculty at various levels according to Contreras, (2016). The theoretical contribution mentioned above and the participation of 15 (fifteen) informants made it possible to identify the three categories that respond to the objective set at the beginning of the research.

In the first place, the category “Educational Innovation”, considered by teaching staff as a constant update in their formation to adapt to changes in society (Iglesias, Lozano & Roldán 2018). Likewise, the participants stated that innovation in their universities is a great opportunity for professional improvement. The narratives extracted from the participants show the need for formation through courses offered by the university administration. On the other hand, other informants prefer to acquire strategies through self-learning.

After analyzing the textual testimonies that constitute the category “curricular aspects”, it was possible to determine that the university and curricular evaluations are not disseminated from a methodological or investigative vision of advisory or participatory depth, only from a political aspect that is compliant with the norms or laws pre-established (Freire et al., 2018). All the emergent changes affect in a considerate way the formation of the university teaching staff. The models and approaches to formation are still based on abstract paradigms with knowledge that changes rapidly and in increasingly diverse and difficult contexts.

Finally, the third category was “teaching staff formation”. According to the results presented by the informants, it was revealed that there were barriers that prevented professional formation. Like the informants for García, Cerdas and Torres (2018), there must be an effective mediation with the different educational agents, which allows the development of a formation process that corresponds to the important social work that takes place in the universities. For this, it is essential that, at a general level, universities introduce a process of reflection, in order to approach a real knowledge of this formation task. Teaching staff formation is part of the research. This is the starting point of a profound change with strategic characteristics that allow an epistemological and methodological reconstruction in the formation of each subject, whose role is formation through research. Therefore, the Ecuadorian universities of teaching staff formation in their model of formative philosophy must instill in their curriculum the requirements of research, where continuous research is established from the beginning of their future role.

Conclusions

It is established a theoretical approach based on the categories described in the previous section, where Ecuadorian university education requires changes and innovative adaptations on higher education teachers. The curricular models are the product of constant evaluations that slow down the professionalization of the teaching staff. These adaptations and emerging changes require an extra-academic effort on the part of the faculty for their understanding and application. In this way, a model of teaching staff formation is required that effectively contributes to the optimization of research practice and knowledge.

The investigative thought is a form of knowledge or skill derived from the university educational praxis. Their formation is consolidated with knowledge that is confirmed or restructured as a result of the experiences that take place in the educational context and in the daily work of education. In this way, the experience should be contributed with an accumulation of events that strengthen the professional maturity of the teaching staff and progressively their formation.

Ecuadorian universities should include research in conjunction with educational theories and academic philosophy. So, there is a systematic search for knowledge, in order to induce solutions to different problems. By introducing research as a formation approach, this becomes a standard practice from the andragogical point of view. To do this, the research allows lecturers to approach methodologically different realities of the educational field. The continuous research on the teaching staff is one of the pillars of significant re-orientation, allowing to conceptualize with a theoretical-practical approach, the existence of weaknesses that can be improved with the research of formative type.

References

- Calduch, R. (2014). *Métodos y técnicas de investigación internacional* [International research methods and techniques]. Madrid: Universidad Complutense de Madrid.
- Calle, L. (2018). Educación Superior: la alfabetización en géneros discursivos [Higher education: Literacy in discursive genres]. *Educação & Realidade*, 43(2), 629-651. doi: 10.1590/2175-623665114.
- Calvo, M. (2019). Pensamiento complejo y transdisciplina [Complex thinking and transdiscipline]. *Sophia, colección de Filosofía de la Educación*, 26(1), 307-326. doi: <http://doi.org/10.17163/soph.n26.2019.09>.
- Chacón, A. (2012). Andragogy as a discipline propelling knowledge in higher education. *Educare*, 16(1), 15-26. Retrieved from: <http://www.revistas.una.ac.cr/index.php/EDUCARE/article/view/3729>.
- Charmaz, K. (2010). *Constructing Grounded Theory. A practical guide through qualitative analysis*. Washington DC: Sage.

- Cid, A., Pérez, A., & Zabalza, M. (2009). Las prácticas de enseñanza declaradas de los “mejores profesores” de la universidad de Vigo [The declared teaching practices of the “best teaching staff” at the University of Vigo]. *Revista Electrónica de Investigación y Evaluación Educativa*, 15(2), 1-29. Retrieved from: http://www.uv.es/RELIEVE/v15n2/RELIEVEv15n2_7.htm.
- Contreras, F. (2016). El aprendizaje significativo y su relación con otras estrategias [Meaningful learning and its relationship with other strategies]. *Horizonte de la Ciencia*, 6(19), 130-140. doi: 10.26490/uncp.horizonteciencia.2016.10.210.
- Enkvist, I. (2016). *El complejo oficio del profesor* [The complex office of the teacher]. Madrid: Fineo Editorial.
- Escobar, R., & Escobar, M. (2016). La relación entre el pensamiento complejo, la educación y la pedagogía [Relation among complex thinking, education and pedagogy]. *Administración y Desarrollo*, 46(1), 88-99. doi: <https://doi.org/10.22431/25005227.62>.
- Freire, J., Páez, M., Núñez, M., Narváez, M. & Infante, R. (2018). El diseño curricular, una herramienta para el logro educativo [Curriculum design, a tool for educational Achievement]. *Revista de Comunicación de la SEECI*, 45(15), 75-86. doi: <http://doi.org/10.15198/seeci.2018.45.75-86>.
- García, J., Cerdas, V. & Torres, N. (2018). Curriculum management in Costa Rican Schools: An analysis from teaching staff and administration team’s perception. *Educare Electronic Journal*, 22(1), 1-28. doi: <http://dx.doi.org/10.15359/ree.22-1.11>.
- Hernández, R. (2016). *Metodología de la investigación* [Research Methodology]. México: McGraw Hill.
- Iglesias, M., Lozano, I. & Roldán, I. (2018). La calidad e innovación educativa en la formación continua docente: un estudio cualitativo en dos centros educativos [Educational quality and innovation in continuous teacher formation: a qualitative study in two schools]. *Revista Iberoamericana de Educación*, 77(1), 13-34. Retrieved From: <https://rieoei.org/RIE/article/download/3090/3952>.
- Imbernón, F. (2017). *Ser docente en una sociedad compleja. La difícil tarea de enseñar* [Being a teacher in a complex society. The Difficult Task of Teaching]. Barcelona: Graó.
- Itzel, Á. (2018). Enseñanza y aprendizaje en el siglo XXI Metas, políticas educativas y currículo en seis países [Teaching and learning in the 21st century. Metas, políticas educativas y currículo en seis países, by Fernando M. Reimers and Connie K. Chung (editors)]. *Perfiles Educativos*, 11(159), 212-217. Retrieved from: http://perfileseducativos.unam.mx/iissue_pe/index.php/perfiles/article/view/58776/51594.
- Jiménez, F. and Montecinos, C. (2018). Diversity, management models and initial teacher formation: formative challenges from a social justice perspective. *Revista Brasileira de Educação*, 23(e230005), 1-21. doi: <http://dx.doi.org/10.1590/s1413-24782018230005>.
- Kohlbacher, F. (2006). The use of qualitative content analysis in case study research. *Forum Qualitative Sozialforschung. Forum: Qualitative Social Research*, 7(1). doi: <http://dx.doi.org/10.17169/fqs-7.1.75>
- Machado, J. (2018). El modelo andragógico: una concepción epistémica para los estudios de prosecución en las Universidades politécnicas territoriales [The andragogical model: an epistemic conception for further studies in territorial polytechnic universities]. *Centro de investigación y estudios gerenciales*, 32, 36-56. Retrieved from: [http://www.grupocieg.org/archivos_revista/Ed.%2032\(36-56\)-Machado%20Jos%C3%A9_articulo_id369.pdf](http://www.grupocieg.org/archivos_revista/Ed.%2032(36-56)-Machado%20Jos%C3%A9_articulo_id369.pdf).
- Maldonado, C. & Gómez, N. (2011). *El Mundo de las Ciencias de la Complejidad: Una Investigación sobre Qué Son, Su Desarrollo y Sus Posibilidades* [The world of complexity sciences: An investigation into what they are, their development and their possibilities]. Bogotá: Editorial Universidad del Rosario.
- Martínez, D. (2018). Evaluar el pensamiento crítico en Educación para la Ciudadanía: Propuesta para contextos masificados. Proposal for Mass Contexts [Evaluate critical thinking in Education for Citizenship]. *Didacticae*, 3, 131-144. doi: 10.1344/did.2018.3.131-144.
- Martínez, M., Yániz, C. & Villardón, L. (2018). Self-evaluation and teaching reflection for the improvement of the professional competence of teaching staff in the knowledge society. *Revista de Educación a Distancia*, 56(10), 2-30.
- Márquez, A. (2001). La ética del investigador en la producción y difusión del conocimiento científico [The ethic of the researcher in the production and diffusion of scientific knowledge]. *Revista Venezolana de Gerencia*, 6(16), 632-650. Retrieved from: <https://www.redalyc.org/pdf/290/29061608.pdf>.

- Mendieta, G. (2015). Informantes y muestreo en investigación cualitativa [Informants and sampling in qualitative research]. *Investigaciones Andina*, 17, 1148-1150. Retrieved from: <http://www.redalyc.org/pdf/2390/239035878001.pdf>.
- Mendoza, D. (2018). Estrategias de enseñanza y su efectividad en los procesos de aprendizaje en los estudiantes de turismo de la Universidad Iberoamericana de Ecuador [Teaching strategies and their effectiveness in the processes of learning in the students of tourism of the Iberoamerican University of Ecuador]. *Espacios*, 39(43), 25-39. Retrieved from: <http://www.revistaespacios.com/a18v39n43/a18v39n43p25.pdf>.
- Montero, L. and Gewerc, A. (2018). La profesión docente en la sociedad del conocimiento. Una mirada a través de la revisión de investigaciones de los últimos 10 años [The teaching profession in the knowledge society. A look through the review of research from the last 10 years]. *Revista de Educación a Distancia*, 56(3), 1-22. doi: <http://dx.doi.org/10.6018/red/56/3>.
- Morín, E. (1998). *Introducción al pensamiento complejo* [Introduction to complex thinking]. Barcelona: Gedisa Editorial.
- Morín, E. (1999). *La cabeza bien puesta* [The head well placed]. Buenos Aires: Buena visión.
- Peñaranda, J. (2016). Pensamiento complejo de edgar morin: nueva visión del conocimiento [Edgar Morín's complex thought: a new vision of knowledge]. *Revista Ingenio*, 11(1), 129-137. Retrieved from: <http://revistas.ufpso.edu.co/index.php/ringenio/article/view/332/227>.
- Ramírez, J. (2013). Humanización del aprendizaje en la era de la Información: una arista andragógica [Humanizing Learning in the Information Age: An Andragogical Edge]. *Actualidades investigativas en educación*, 13(3), 1-18. doi: 10.15517/aie.v13i3.12029.
- Ramírez, M., Suárez, L. and Torres, J. (2017). El docente y su relación con la investigación e innovación educativa: estudio con docentes del Instituto Politécnico Nacional [The teacher and his relationship with research and educational innovation: study with teaching staff of the Instituto Politécnico Nacional]. *Investigação Qualitativa em Educação*, 1, 930-939. Retrieved from: <https://proceedings.ciaiq.org/index.php/ciaiq2017/article/view/1414/1371>.
- Rodríguez, G., Gil, J. & García, E. (1999). *Metodología de la investigación educativa* [Methodology of educational research]. España: Aljibe.
- Rosario, A. (2018). La propuesta de Newman para una formación humanista [Newman's proposal for a humanist formation]. *Iglesia, Comunicación y Cultura*, 3(1), 22-35. doi: 10.1080 / 23753234.2018.1426994.
- Roth, W. (2016). Analyzing the qualitative data analyst: A naturalistic investigation of data interpretation. *Forum: Qualitative Social Research*, 16(3), 1-19. doi: <http://dx.doi.org/10.17169/fqs-16.3.2415>.
- Sanchez, P. (2017). The educational orientation in the university from the perspective of teaching staff. *Universidad y Sociedad*, 9(2), 39-45. Retrieved from: <http://rus.ucf.edu.cu/index.php/rus>
- Tejada, J. (2008). *Perfil docente y modelos de formación. Estrategias didácticas innovadoras. Recursos para la formación y el cambio* [Teacher profile and formation models. Innovative teaching strategies. Resources for formation and change]. Barcelona: Octaedro.
- Tejedor, F. (2018). Investigación educativa: la utilidad como criterio social de calidad [Educational research: Usefulness as a social criterion of quality]. *Revista de Investigación Educativa*, 36(2), 315-330. doi: <https://doi.org/10.6018/rie.36.2.326311>.
- Veytia, M. (2014). La andragogía y la competencia en el manejo de herramientas tecnológicas, dos pilares clave para el estudiante de posgrado en modalidad virtual [Andragogy and competence in the handling of technological tools, two key pillars for the postgraduate student in virtual modality]. *Revista Iberoamericana de Producción Académica y Gestión Educativa*, 1, 1-16.
- Yuni, J., & Urbano, C. (2005). *Investigación etnográfica. Acción de investigación* [Ethnographic Research. Investigation action]. Argentina: Brujas.

Received: *April 21, 2019*

Accepted: *June 12, 2019*

Derling Mendoza Velazco (Corresponding author)	Doctor in Education, Research Professor, National University of Education, Ecuador. E-mail: derling.mendoza@unae.edu.ec Website: https://orcid.org/0000-0001-8275-3687
Irma Abrigo Córdova	Doctor in Accounting and Business Sciences, Research Professor, International University of Ecuador, Loja, Ecuador. E-mail: irabrigoco@uide.edu.ec
Janela Romero Chávez	Master in International Business and Foreign Trade Management, Professor, International University of Ecuador, Ecuador. E-mail: karomeroch@uide.edu.ec
Fredy Cueva Bravo	Master of Business, Educational Research, International University of Ecuador, Ecuador. E-mail: frcuevabr@uide.edu.ec
Magda Francisca Cejas	Researcher and Teacher of the Department of Economic, Administrative and Trade Sciences, University of the Armed Forces (ESPE), Ecuador. E-mail: mfcejas@espe.edu.ec