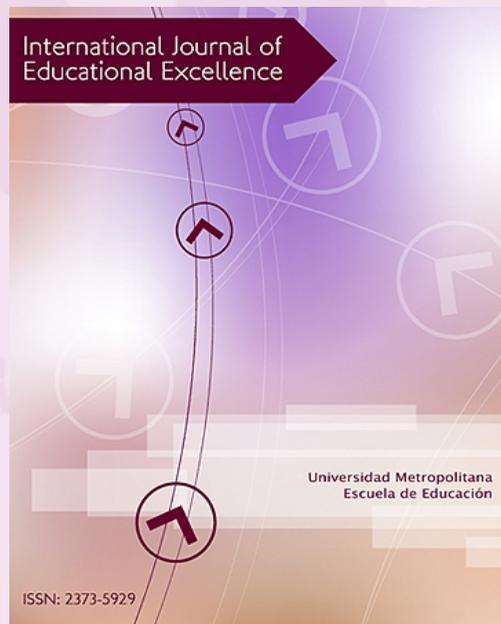


# International Journal of Educational Excellence

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# *International Journal of Educational Excellence*

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# International Journal of Educational Excellence

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## DESCRIPTION

The *International Journal of Educational Excellence* (ISSN 2373-5929) is a multidisciplinary scientific journal which main objective is the dissemination of studies that provide answers to the main educational scientific and social problems present in higher education, in order to achieve excellence quality in all their areas. Papers will be welcomed, regardless of the subject area to which they belong as long as they entailed a contribution, innovation or breakthrough in the development of models of teaching or scientific research in the scientific world which lead to a social improvement. Research work performed in other educational levels may also be considered, if they demonstrate a strong and justified relationship to higher education. All papers submitted for publication must be unpublished and originals, and should not be under any evaluation procedure for publication in other journals. Theoretical work as well as work based on field studies and empirical laboratory experiments are accepted. All kinds of strategies and methodological approaches may have been used for the study. They have to comply within the parameters of current scientific and technological research. The review criteria and selection process will take into account mainly the quality of the work under consideration: if it makes a significant contribution to the object of interest, main interests of the journal and if it offers a breakthrough or significant contribution to the current scientific knowledge and, ultimately, if it contributes to the progress of our society. This journal is of free and direct access (Open Access, OA), and it serves the international scientific community and open knowledge.

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# **Education and Narration in Intercultural Perspective: Theories and Interventions**

**Fabrizio Manuel Sirignano<sup>a</sup>, Pascal Perillo<sup>a</sup> and Stefania Maddalena<sup>a</sup>**

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**Abstract:** The article analyzes the issue of educational practices focusing on narration and autobiography. The theoretical and methodological framework used is that of intercultural education and action research in education. In this perspective, the authors present some approaches to narrative and autobiographical educational interventions and, finally, are presented the data related to a research on immigrant children in Italy.

**Key-Words:** Intercultural Education, Autobiography, Educational Theories, Narrative, Immigration.

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## **1. Introduction: Autobiographies and educational model in complex society**

In contemporary pedagogical research, the more suitable formative models favouring formation which is really “intercultural” seem to be those revealed by the train of thought which considers formation as a project of ones own life and process of meaning, with reference to the autobiography, the method of life history and action research, which in the last decade has assumed an important role as educative methodology as it allows for the achievement of important cognitive and formative objectives beginning with the evaluation of the subjectivity of the individual.

For years previously, the crisis of positive paradigms has conducted scholars of education towards an in-depth critical reflection on the finality of education and the prospect of providing the adult with an objectively valid definite framework with which to confront capability and competence.

In the study of the condition of mankind, the complexity and high number of variables interdependently present among them, have thwarted the

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<sup>a</sup> Università degli Studi Suor Orsola Benincasa (Italy). Correspondence: Fabrizio M. Sirignano, Corso Vittorio Emanuele n. 292, Naples (Italy). [fabrizio.sirignano@unisob.na.it](mailto:fabrizio.sirignano@unisob.na.it).

efforts of the application of a model of scientific investigations in the field of human sciences, founded on the method of experimental science; establishing a different approach, originating in the first half of the 19<sup>th</sup> century, based on the hermeneutical method, which privileges the comprehension of a phenomena compared to the explanation (Sirignano, 2002, 2003 and 2012).

The current tendency is to construct a more complex model, in which the two methods of research may complement each other, in the knowledge that it is not possible to explain without understanding neither to understand without explanation. It is understood that adult process education is managed as a dynamic process, which must accompany the evolution of the person favouring the possibility of growth, of knowledge and of self formation.

To comprehend that which an individual is able to apprehend, one should necessarily refer to the earlier stages of his educative biography. Life history allows for the evidencing of the dynamics which have contributed to the instruction of the individual, therefore introducing an illuminating cross-section on the learning paths of the same. The utility of the biographical method is twofold: on one hand it assists the educator to effectively gauge the educative status, adapting the models of learning characteristics which have arisen from the history of the individual in instruction, on the other hand it is useful for an adult in retracing his life history, to be acquainted with his own aspirations and to perhaps decide to attempt to go beyond the cultural borders relating to his position in the social structure.

Biological research has supplied an important contribution to adult instruction, demonstrating learning according to procedures strongly dependent on own life history and previous instruction. (Sirignano & Maddalena, 2012). Biographical stories evidence the intense pressure that a social group of belonging exercises on each individual, aimed at determining a behaviour compliant to unwritten yet binding rules: also evidencing how the paths of individual growth necessarily pass through a conflict rapport with such a system of rules and expectations, the natural outcome of which is the achievement of an autonomy of thought and therefore of development of adult individuality.

The instructor/educator by utilising the biographical procedure may therefore, through the knowledge of the individual's life framework of referral and his *liberating* paths, identify the most effective instruments of intervention complementary to the process of the individual's education.

The educational value of the biographical approach is confirmed by Dominicè, when reflecting on present day society, subject to sudden changes and dominated by the needs of economic globalisation, wonders which could possibly be the adult education guidelines to follow in the near future. The author sees the possible solution in a development of the biographical method which, initiating with the knowledge of the mechanisms of modification of the mental attitude of adults, is utilised to trace a path of education sufficient for

the individual to acquire an autonomous position compared to modernity (Dominicè, 1982 and 1990).

Viewed as such, autobiographical reflection is fully inserted within the educative panorama as a highly motivated value allowing the adult to acquire confidence in his own capabilities, to autonomously begin the process of creating a reflective sense of the events of his own life, retracing choices taken and rediscovering the determining motivations. The reflective and narrative techniques present in autobiography conduct the individual to process new ways of learning and knowledge, to discover the internal structures of processes of learning with strong implications in terms of personal growth.

Autobiographical recognition assists the individual in identifying the dynamic connections existing between the cognitive, affective, moral and emotional dimensions of knowledge. Reconstructing ones own educative history is an occasion of change as it occurs through a constant connection between experience/explanation and between experience/narration, producing processes of the research of sense and construction of theories. In fact, every story narrated involves the construction of a “theory” that is of a particular way of organizing a temporal sequence of events.

## **2. Life stories, narrations and educational interventions**

The possibility of change evidences the epistemological value underlying the practice of autobiography in adult education, which is viewed as persons capable of learning and changing. Autobiography, therefore, may represent a path of transformation of the individual by the recognition of his own life, mindful in the research of the sense of his own actions, of the connection existing between diverse aspects of reality, to the evaluation of the choices taken.

It appears evident how the autobiographical method, designed to garner the uniqueness of the individual and his trajectories of learning, of self expression and the attribution of meaning, may be usefully adopted as a technique in a path of intercultural information, where reciprocal recognition of human qualities is essential.

The autobiographical practice has in fact a deeply embedded emancipatory value as, through self reflection, it brings to light implicit knowledge held by everyone, making visible the intellectual capabilities of each single individual taking the initiative to learn and faithfully drawing from ones own patrimony of consciousness and revitalizing it.

The autobiographical approach, with the overwhelming emergence of the subjectivity of the learner, protagonist in a process of self learning, stands in sharp contrast to classic methodologies of adult education, centred on interventions of the tutorial kind designed at strengthening competences and

knowledge, considered fundamental by the teacher. This operates a reversal of the prospective creating a new situation in which the learner becomes the protagonist of his own instructive path, following the teacher who delegated with set guidelines, attentively yet discreetly guides and assists, no more as an *instructor*. The role of the teacher becomes essentially that of helping the individual to become fully aware of his own capabilities of change, therefore of learning.

Autobiographical recognition assists in localising the fundamental stages in one's own life, to evaluate the changes produced and establish the new acquired identity. Self narration other than leading to an understanding of awareness of one's own changes, is in itself a stimulation towards other changes in that it is a *laboratory* of the construction of significance and opportunities of growth.

According to Bruner (1984), the human mind possesses the capability to process a particular form of reasoning, *narrative thought*, through which it may construct stories finalised towards the interpretation of reality and the processing of the identity of the individual. Proceeding in narration, the mind links together the events which emerge in the memory, through a network of reports, seeking to insert a unified design endowed with meaning. Therefore, in the construction of a story, the facts are immersed in a dense fabric of intentionalism, cause, emotions, in which the warp is the subjectivity of the *Me* narrator.

The *Me* narrator already appears precociously in childhood, in the early years a child speaks to himself at length, inventing stories, beginning to construct narrative thought which consents to the acquisition and strengthening of a series of mental abilities.

*Narrative thought* proceeds along a complex path reorganising and inserting events into a pattern in which each memory has a sense of reference to the whole. A unified design appears at the end of the tale which is the interpretation given to their life. The autobiographical tale, is not a tale true to the past, it is instead a reconstruction of the life history filtered through interpretations which the narrator supplies in the telling. The experience of life matured reacts on memories modifying them, therefore in considering the past in the light of the present, the individual effects a process of reinterpretation of past events, occasionally creating, to produce a coherence between past and present, a sort of *prophetic* reading of his own history in which some past events seem to pre-announce facts which subsequently occurred. The autobiographical approach not only allows the collection of the individual's subjectivity in all its' complexity, but also through the activity of telling, consents to a re-elaboration of the personal past within their historic-social contexts. This could therefore represent a formidable instrument of investigation into the institutions of a society seen from within, and also on

the life conditions of individuals who, living on the margins of society, are often ignored by official sources.

There are diverse groups of study in Europe, which for some time have contributed by offering original propositions in processing the theoretical methods of research and concrete proposals of action in the field.

The act of self re-description implies the discovery and beginning of *another story*, or rather a personal secret story which flows in-depth, invisible and parallel to that experienced on the surface.

In the course of writing, the individual slowly sees the outlines of another self of which there was no clear perception emerging, as writing involves unaccustomed activities of introspection and reflection. Once the mechanism of self-reflection is set in motion, it proceeds according to its own course conducting towards diverse results in relation to the capability of the individual to question the grade of authenticity of which he is capable.

Parallely, the autobiographical method has been consolidating a diverse model of educative action, the course of *stories of life*, processed and developed over several years by a research group on the processes of adult learning, namely GRAPA founded in Geneva by Pierre Dominicè, Matthias Finger and Christine Josso, with the intention of unifying research and instruction (Josso, 1991).

The *stories of life* course is divided into four subsequent moments, the informative phase, spoken story phase, writing of the biographical text phase and the interpretative phase. The spoken story phase, that is to *take the floor*, represents the qualifying moment of the *course* as it primes an individual process of change which passes through a strong affirmation of one's own subjectivity, noting one's potentialities and limits, the beginning of a reflection on one's own willingness to actively and knowledgeably participate in the experience in act.

*Taking the floor* could, for the individual under instruction, be a moment of great emotional intensity, the breaching of isolation, the beginning of a course of strongly desired growth, above all if the individual is not in possession of adequate linguistic tools.

The listener has an important task in the construction of a history of life, which of establishing the right atmosphere and stimulating the conversation with questions and interventions aimed at helping the narrator to clarify the significance of the story to himself.

The listener has to have human sensitivity and knowledge of the mechanisms of defence which the individual may activate to be in emotional harmony with the narrator, has to establish a constructive sharing in the told experience. Only through concerned and critical participation on the path of the history of life, does the listener manage to aid the individual in progressively accomplishing an important passage, from speaking to thought, to then reconnect the fragments of the story and identify the plot. Dialogue

initiates a process of change and personal growth which involves both protagonists: the educator and the individual in formation.

An important contribution to the process of method in the history of life, has been offered by the German school, represented by Peter Alheit, by identifying the history of life, as the first basis of adult learning. The author views every course as a gymnasium of the mind, in which the individual exercises ability and competence to continually acquire new knowledge. To be aware of the meaning of the reconsideration of educative functions, aimed at favouring the full explanation of the adult's own potentiality. It actually deals with understanding the individual capabilities of self management, the creative potentiality inherent in each of us. By analysing a life story from within, it can be understood how it is directed and orientated in the dependent choices of the individual, as a *master of ones own destiny*.

Alheit stresses the fact that there does not exist a life story, isolated in the social context in which it takes place but a biography being the *ideal model* of an interlacement of a network of *structure* and *contingent events* of social life that is, it is both “a non-trivial sequence of contingent events of life, yet in some parts essential, it is a determined social structure set in motion by individuals” (Alheit & Bergamini, 1996, p. 26))

The structures which Alheit speaks of are those of any company of individuals and are definitely the substrate on which every person's story unwinds. The specific biographical experiences lived during the course of existence settle, forming latent structures which the individual uses as flexible and if necessary modifiable schemes, into which new knowledge is integrated.

Alheit views each biography as a *meeting point* between an *implicit and tactic* structure of the individual's knowledge and “a live and present emerging experience, which differently illuminates the past and beings the future biography” (Ibidem). The continual dialectical tension between structure, knowledge and events derive different outcomes depending on the choice of the individual. In a biography models of action acquired and latent structures, do not necessarily determine the course, an individual's autonomous choices produces changes of direction, sudden stops and new departures render every life story unique and peculiar.

However, at the same time, a life story is always the produce of a specific life course, strongly oriented by the relative structural conditions and a particular historical and social situation. Several conditions channel and limit the individual's life prospects, although even if within such limitations each individual operating choices, possesses substantial luggage of *life not lived* conserving intuitive latent knowledge.

An educative intervention capable of inducing a guided reflection on life not lived, on choices not taken, allow the individual to discover new meanings of his own life experience, which assist a knowledgeable modification of ones own mental attitude or even transform the structure of

referral. Once this occurs, a process of changes begins, interesting both the individual and the context in which they live. "Life not lived, in fact, possesses an explosive social strength" (Ibidem). The individual commences to be subject to critical analysis of certainties involved in his social surroundings and therefore the existing structures are demolished and substituted by others, thus setting in motion a new form of learning in which information is not incorporated in a pre-existing structure. A sort of *abducting* process of learning begins, capable of connecting together that which "we never dreamt it could have been connected" (Peirce, 1991, p. 181).

According to Alheit this process of *learning within changes* may only be primed by *biographical knowledge*. Knowledge which originating from a personal reflection on ones own life history, may conduct the individual to modify his own latent structures and re-design the contours of his own life in the contexts in which it unwinds, in a mental activity which Alheit calls *biographity*. The individual activating *biographity* manages to acquire knowledge of the potentialities of life not lived and decipher new meanings of his own biography.

In listening to a life story, the educative intervention could have emancipatory values, if successful in managing a self reflection, capable of priming a process of learning of the described type. However, the educative intervention cannot be limited to listening; this must be followed by the writing of the story recounted. Writing is fundamental, being the support which allows for the re-elaboration of memories and thoughts, the recuperation of important moments of ones own past, reflection on certain events, sentiments, emotions felt and choices made, following the long unravelled thread of ones own growth path.

When life history is transcribed, even if only by the listener, the marks made on paper remain, a palpating witness of experience, soliciting the mind's course in the sea of memories, in researching the attributions of meaning, of choices made, selecting events, operating connections, in an activity of construction of a unitary fabric, which is extremely self formative? The task of the educator is therefore that of stimulating spontaneous writing, or at least the transcription of the story of life, assisting the narrator in the process of self reflection and personal growth.

The educative biography, conceived as an instrument useful in identifying the processes of acquisition of knowledge by adults, is in reality a new way of considering adult education, an argument which offers multiple points of reflection. The autobiographical approach has, furthermore, contributed to revalue the epistemological experience point of view, confined to scholars of human sciences in a field of application, viewed solely as an instrument useful to facilitate the acquisition of theoretic knowledge. In fact autobiographical tales evidence the manner in which situations actually experienced are sources of knowledge, at times more precious than that

acquired in the classroom or from books. The multiplicity of learning experiences which mark a course of life and the amount of time necessary for the creation of an adult identity, emerge from stories. It is fundamental, for those dealing with adult formation, to bear in mind the role which experience plays in the pupils' patrimony of knowledge, to empathize with their needs and expectations, therefore effectively interacting with them.

In the field of human sciences, experience is not recognised as an epistemological status, even if in reality, it is often the key element to attain the solution of a problem; instead in the field of a formation programme, regardless of knowledge linked to that experience and where the approach to instruction is autobiographical, experience assumes a fundamental approach of support to reflections and analysis of the process of individual growth.

At present in the field of formation and business activities, experience is not recognised if separated from the acknowledgement of formal knowledge which in turn, acquires consideration and value only "if coupled with experience" (Dominicè, 2000, pp. 148-149). To attribute experience to the position it deserves in the field of knowledge signifies recognizing the active role of the individual in constructing his own wisdom.

The autobiographical approach, without exceptions to one form or another of knowledge, seeks to identify the knowledge of referral of the individual assisting in the reflection of experiential courses, through which he has learned what he knows, making him aware of having actively participated in constructing his own wisdom, his own view of life, his own personality. Through the revisiting of qualifying moments of his existence, the individual may reflect on his models of learning, on the difficulties met and the personal capabilities which emerged.

As the tale proceeds, the narrator can recognise, better still, observe himself from an absolutely new angle, allowing for the discovery of a detail of himself otherwise denied. In fact, the autobiographical tale consents, beyond the events told, to the launch of an illuminating glimpse on the personality of the narrator, his way of being, and his attitude in the face of the hardships of life, of his weaknesses, qualities and humanity.

Every autobiography is a text on a life (Alheit & Bergamini, 1996) and as such maintains the traces of a story of formation of a *bildung* and therefore its decoding is a task specific to pedagogy as it possesses the appropriate investigative instruments to effect an interpretative *formation* reading.

The pedagogical approach to the study of the story of life, tends to select and analysis the qualifying events from an *educational* point of view by moving on three levels. The first level regards the individualisation of events which have significantly determined the quantity and quality of the knowledge learnt and therefore the reconstruction of the *educational* experience of the individual. The second level of analysis aims at evaluating the grade of re-elaboration that the individual has achieved with respect to

knowledge acquired and the contribution supplied by such achievements of appropriation of the personal patrimony of competence, skills and the consolidation of self esteem.

Finally the third level concerns the recognition of what the individual considers to have managed to transmit to others from his personal achievements in terms of knowledge, capabilities and values.

Josso in collaboration with Dominicè has drawn up a formative biographical approach (Josso, 1991, pp. 75-99), to the research of mechanisms according to which the processes of learning and knowledge take form. Emerging strongly from her experiences is the dialectical existing in all educative activities between a level of collective will and a level of individual will, namely between the needs of the organisation of a second course determining formative objectives and the needs, difficulties and individual questions which follow. According to Josso, generally those dealing in formation tend to resolve such a contrast by measuring the effects of collective needs on individual behaviour which reveal the efforts made by the individual to adapt to the course to acquire determined conceptual mechanisms.

Altogether lacking however is any form of attention to the levels of the innermost mental mechanisms which the individual sets in motion to learn, and the difficulties encountered within the group of which he forms part. Many aspects of individual and collective behaviour and on the effects produced by learning, have been brought to light by human sciences, although these do not allow access to the mechanisms of learning, to the manner in which each person registers and connects knowledge. It is important then to speculate on which processes contribute to the formation of each single individual, irreducible by others and in what way a collective action of formation reacts on an individual inducing self reflection. It is perhaps necessary to inverse the prospectives, to consider formation as a relation between one part and the whole, dialectically organised in the contrast autonomy-conformity, where evolution together with the permanence of the collective level are based on the existence of the individual level within which coexist the creativity of individuals (tendency towards autonomy) and homogenizing forces (tendency towards conformity). In such a manner the collective level appears as a system open to change by virtue of the individual taking part, seen as a self poietic system.

Such a dialectic is the engine of every educative activity which has to join the need to refer to a system of knowledge acquired with the need to open to change, innovation and exploration of new means. At the same time, the individualities in formation have needed to comply with given social and cultural structures and to seek courses of autonomy which emerge clearly from each life history.

In fact through course of life stories, this dialectic game, which opposes not only the individual of the group, but also the individual himself, results as being an essential component of each learning process and of the construction of any subjectivity.

For some time educative sciences have been aware of the cultural differences detected in pedagogical situations of migration phenomenon's, which nowadays involve the movement of large masses from one country to another for political or economical reasons, rendering current approaches mindful of already existing social and cultural differences, aiming at the realisation of integration between diverse cultures while respecting the characteristics of each one.

Yet in the moment of dealing with adult education Dominicè (1995) queries the meaning of the idea of adulthood in the epoch of post modernity; questioning whether evoking eternal principles and values in a society without certainty, traversed by rapid change, is not an expression of an immature attachment to a bygone system of referral curbing future development, and whether the official state of adulthood is not a useful guise providing an appearance of respectability in the social comedy. The author retains that is a specific task of the sciences of education to begin an in-depth reflection on the ideas of adulthood to be able to process effective educative strategies with the aim of actualizing a project of permanent formation.

An age limit could be established to define adulthood although it would be extremely variable in relation to social and cultural situations. It could then be attempted to associate such a state by determining the level of maturity and stability, although psycho analysis warns of the possibility of adult regressing and fluctuating wildly when faced with the difficulties of life. The adult, from a social point of view, has a well defined role qualified role, however during life continues to wander, searching for destinations dreamt of and not implemented, in a continual mental process of re-discussion of choices taken, mental paths are determined in equal measures by past schooling and concrete experiences, sources of unforeseen developments, of changes of direction, of sudden stops and starts in new directions. It is in the unravelling of daily life that each adult reaches his own knowledge of which an integral part is experiential and formal. Therefore recounting life history is also an itinerary of a course of appropriation of knowledge, so life history assumes the connotations of an educative biography and allows for the observance of how, for the adult, the activity of formation represents the occasion to acquire knowledge which goes beyond that transmitted by programmes, by virtue of strong interaction which is established between the contents of formation and pre-existing luggage of experience and personal paths of learning.

It is important, according to Dominicè (1990) to reflect on the significance the expression *formation of adults* has in today's social reality, which originates an increasing number of courses directed at an adult public,

aimed at adequately covering the needs for new knowledge requested in a world in continual evolution. In a reality as described below, there is a tendency to assign pedagogy with the task of providing useful instruments to guarantee the proper functioning of the formation activities offered.

Yet in such a way the same objective of pedagogy is lost, that of being able to elicit a critical reflection which allows the construction of an individual educative project, aimed on the real needs of adults being formed. In such a perspective the biographical approach presents the advantage of connecting the question of formation in the context of a personal story, rather than juxtapose to an educative offer already available. Formation thus understood is able to activate a process of self-formation which, as affirmed by Pineau (1983), occupies a central position in adult existence as is able to modify and enrich the transmitted contents through educative formation. When formation is activated through the telling of the individual's story of life, it reaches a particularly high level of self-formation. As put by Pineau: "Personal effort to explain educational life history is extremely conscientious and involving. This exercise participates at creating self-formation and at the same time discloses" (Pineau, 1980).

Dominicè (1990) considers it appropriate to revisit the stages of emerging courses in life history from the shadow in which contemporary empirical sociology had confined it, accusing it of scant reliability as it relates to the field of qualitative research. In 1976 Bertaux was the first to vision the course of life history already laid out by the School of Chicago as a possibility for pedagogical research to evade the quantitative type of logic and process a methodology more adequate for specific objectives (Bertaux, 1980).

In line with such a position, Catani & Mazé (1982) evidenced the methodological peculiarities of life history which requires a new kind of rapport between researchers and research objects. Furthermore, Ferrarotti (1981) addressed the methodological question demonstrating the epistemological implications thus providing a fundamental contribution to the theoretic debate produced in the field of social sciences by the recovery of this approach. Pineau (1980) conducted a systematic study of the use of biography in human sciences finding that with exception to the work of *awareness* inspired by Freire in Latin America, autobiography has never been utilised as an instrument of research in the science of education.

Nevertheless, autobiographical reflection may be a fundamental means in a fragmented society such as the present, to assist the adult in re-composing the broken fragments of personal identity in a unified framework in which every piece makes sense in relation to the whole.

This is necessary in our society as each of us at work, in the family and socially, even in the span of the same day, covers diverse roles, assuming in turn attitudes, behaviour, ways of expression requested by social convention often unknowingly. Quantitative methodology of contemporary empirical

sociology of the studies inherent to the formation of adults, utilises categories of inappropriate analysis to decode the concrete experiences of people. Conversely autobiographical practice places subjectivity at the base of its own processes, that is, the personal contribution of the individual being thus object and also subject to the educative intervention, subjectivity therefore, long a negative value, is a qualifying element of the educative intervention as it is a bearer of meaning.

Life history, being founded on the principles of subjectivity, is always original, expressions of a particular way of telling by the author who freely selects, connects and organises memories according to an absolutely personal order, expressing itself in its own language, not bound by rules externally imposed. The order used for the story consents to clearly reading the individual dynamics of the process of formation providing elements of awareness which surprise first and foremost the speaking individual, who, while remembering, discovers new aspects in himself and better understands his own conception of formation.

The passage from oral history to the drafting of a written text is fundamental in the process of adult formation as the effort to translate emotions and strong sentiments into written words is a source of ulterior reflection and could create frustration in those not in possession of the lexical instruments and adequate syntactic. It is a specific task of the educator to support the adult in this difficult task and elicit the representation using own words, in the most liberal way possible, the moments of life which elicit him, to still remember the excitement. Dominicè (1995) claims that the language of the biography associates to reasoning and affection and that the traditional dichotomy between the logic of speech is the irrationality of sentiments, here falls into defect.

### **3. Action Research in education**

Narrative and autobiographical methodologies are connected to the courses of action research which provide essential instruments and indications. Action Research (hereafter A-R) represents, in fact, the privileged model through which to consider and realise the educative practice and relative courses of formation mainly aimed at an adult audience, but may also be utilised for investigation into infancy and adolescence.

In the European pedagogical debate A-R-has been introduced thanks to the circulation of Deweyan pragmatism and the original formulation of this type of investigation proposed by Lewin (2005) in the psychological social field.

The “field theories” expressed by Lewin, based on the application of the theory of Gestalt, refuses fact finding approaches of a dichotomous type, focusing attention on groups and the individual's working environments and

the problematical situations demonstrated. It derives that the priorities of A-R are those of comprehending the power to do something.

From this point of view, Pourtois (1986) for example, holds that studying a problem means to be interested and therefore refer to a specific expectation which determines the object of study. It is therefore to develop a form of participatory research which, as noted by Trincherio is “accomplished by people directly engaged in the action within the structure or institution, in order to resolve a specific difficulty” (Trincherio, 2004, p. 142).

A-R is a compound verb which reinstates the real sense of the action of education, an action which is “trans-active” (Dewey, 1938; Dewey and Bentley 1974 -[1949]) focusing on the measure which is “action thought” and “thought in action”, combining the cognitive moment, finalised to produce knowledge on a given reality, with the active moment of the action, aimed at realising an adequate plan of formative intervention, the A-R is configured as a strategy of educative action and therefore as empirical research of a qualitative kind, proceeding by reinforcing diagnosis developed from a constant investigation giving “an efficient practical capability” (Baldacci 2001, p. 141) to thought and the action of the educator.

This form of research adopts qualitative models of investigation and action by the educator according to precise coordinates of the methodological rigours.

Adopting the constructs of the “linguistic game” (Wittgenstein, 1983 [1953]) inviting the reading of research as a social practice governed by rules, it can be stated that it is rules which guarantee the rigours of research in this sense, at least three meanings of the concept of methodological rigour of the A-R could be identified.

1. 'Scrupulosity' in following rules;
- 2 'Severity' of the rules of procedure;
- 3 'Adequacy' of the method of the problem.

In education there is a loss of scrupulosity when the rules of one scheme are used in another scheme. In the contest of the educative practice, the response to these criteria is fundamental, precisely in terms of comprehension of problematical situations and in the adequacy of the rules of the problematical situations identified. An educator who studies the “field” has to act, has to have clear rules of the defined scheme, of the method of investigation chosen to adopt and construct a design of research coherent with the problem, utilising, in the course of the research the investigative rules foreseen by the chosen method.

It is not enough to scrupulously follow rules, it is necessary that these rules are reliable to achieve results. It is on this point that the *controversy* between supporters of quantitative research and those of qualitative research

still seem to be unable to find a solution, at least until oppositional logic does make way for those which are authentically democratic, to critical comparison and dialogue. The question requires diffused investigation and argumentation which this seat does not allow us to address. It is evident however that in our case, severity invites the educator to adopt a method of the qualitative type which allows empirical research to be carried out in a severe manner as the procedures followed are founded on devices of destination-investigation functional for the constant realisation of a process of internal self correction, guaranteed by the exercise of reflection.

In order to be valid a method has to be adequate for the problem. The method of A-R is particularly adequate in the nature of educative problems. If a confused manner is given at the beginning of the problem, it is unthinkable to adopt any method whatsoever; the choice of the method depends on the definition of the problem. The educator who has defined the problem clearly and thoroughly, is able to have a compass which allows the choice of an adequate method or methods of investigation.

It is therefore the adequacy of the method which guides the choice of same. And it will be the adequacy to justify the hypothesis of action by means of a process of negotiation which accompanies all the course of the A-R: the hypothesis that the research group processes are appraised not certainly on the number of consents received (according to a *ratio* of a statistical type) but from the consistency of the congruency of ideas considered more valid in operative terms.

These methodological criteria are immediately attributable to a model of processed educative planning beginning from no education-action-research. A project of educative intervention by historic and psycho-social comprehension of the educative situation and the relative definition of the characterising problems: A-R is situated partly in real educative situations and in 'field research' for which the definition of the problem cannot prescind from intellectual analysis of the situation. Once the problem is defined it is rationally repositioned and "placed in the light of certain antinomy allowing a rational comprehension" (Baldacci, 2012, p. 293) aimed at the processing of a model of referral. There follows the moment of "justice and the choice of the educative solution (...) according to the criteria of the adhesion to reason (...) and to the continuity of growth, on one hand and to the adherence to the reality of the educative situation on the other" (Ibidem).

In this way the educator succeeds in the formulation of a plan, that is to say to the rigorous construction of a design intended for educative action which will be evaluated *ongoing*, based on its capabilities to significantly influence problematical situations in terms of production of change.

Thus achieving the following sequence in the process of educative A-R of the transactional type:

- Identification of the problematical situation;
- Development of the research group;
- Planning of the intervention;
- Action for implementation of the intervention;
- Detection of the effects of the intervention;
- Reflection on the effects and the eventual re-planning of the intervention.

As noted by Orefice “dismantling the conceptual barriers of modern philosophical traditions, Dewey paves the way for inter disciplinary methodologies of social research: these adopt the investigative process of the mind to explore the components of the problematical situation with inter communicating knowledge to realise changes of the action” (Orefice, 1913, p. 45). Moreover interdiscipline represents the “matrix” (Striano, 2013, p. 63) of Dewey an epistemology.

For Dewey the end of the investigation is not the attainment of truth, i.e. correspondence between and idea and reality, but the solution of a problematical situation. In this sense, educative action has the practical purpose of a trans-formative type, in that it is aimed to modify the existing conditions relying on human learning. Transactional A-R in the “logics” of its own inspirational model, finds a model which has the advantage of allowing the educator to mitigate the risk of transcendence, relativism and hermeneutic subjectivity inherent in some anarchist tendencies of the A-R risking distortion, as happens, according to Baldacci, in some research oriented to an exclusively hermeneutic sense: “The risks are those of falling into an anarchist methodology which can determine the relativistic tendency of the action -research, and consequently a loss of the anchorage of educative reality (as there would not be facts only interpretation), and is of an authentic cognitive value of such a form of research (it would also be improper to define as such: as it would be mere action)” (Baldacci, 2013, p. 84).

The Dewey kind of logic is a form of reflection on the investigation and the experimental method suitable to identify the actions which the researcher performs in the actual course of research, a course which obviously, cannot be given in the terms of concreteness in that logical forms originate from research workings. This proposal, according to Dewey: “1) educative practices provide data and contents which form the problems of the investigation. Being the only source of the problems which must be explored and 2) that educative practices are also the last sounding board of the conclusions of all research” (Dewey, cit in Striano, 2013, p. 75).

Every educative practice is also cognitive investigation and this type of investigation assumes an important trans-formative function: transforming the initial situation is the main interest of the educator which, for this reason, cannot renounce compromise with reality. Therefore the use of the reflexive

procedure of research, set in motion by the educator through the representation and the interpretation of the situations in the course of the intervention realised on it, allow the thinking of the reality of the situation (Perillo, 2010).

Beginning with the consideration that in education the solution of the problem is part of a more ample experiment in the positioning of the problem, the action of the situation implemented by the educator is an integral part of the decision and in this sense, the use of A-R in the management of the educative practice is a real instrument of action which produces, in time, transformation of the problematical situation and the possibility of reconsideration of ones own professional action. This second option allows the educator to revise their own professional practice in its fundamental theoretical – practical and ideological, constantly focusing on knowledge and *workers*, to retrograde, interconnecting, rethinking the articulation, ordering, co-ordering and re-ordering.

In A-R the individual, while operative and self assessing, is engaged in resolving the problem, is not an individual having the self delusion of mirroring reality, and representing it an ideal manner as a spectator. According to de Mennato, this is the reason knowledge is considered as “the history of an individual – of every individual – and his being in the world” (de Mennato, 2003, p. 19).

Therefore A-R is never neutral and the educator reacting according to this methodological definition cannot self-assume as a learning individual transforming while acting. Regarding this proposal Mariani warns that in education “it is important to be careful of reflexivity as even when we believe that our research is useful or even emancipated, we are 'objectifying', speaking for others. We are tempted to shape subjectivity in a modern mode, attempting to bring around changes in the name of 'progress', individual, social, cultural, political, economical, etc.” (Mariani, 2008, p. 72).

On the basis of reflective knowledge, the educator manages his own educative practice in the terms of A-R during constant reflective employment passing through the following interpretative plans.

1. *Con-text* (the connection [of the educator], personification, immersion as genre, ethnicity, class, biography);
2. *Pre-text* (or rather that which is 'first' in the text, as textual strategies, culture and interpretative traditions.
3. *Sub-text* (or that which is 'beneath' the text, such as professional paradigms and influential) knowledge” (Ibidem)

This heuristic and transformative operation is fruit of the adoption of a research *habitus* which refuses every possibility of repeatability and replicability of the achieved results of ones own 'professional career', that

does not limit to the ascertainment of the unvarying elements of processes which from time to time are analysed but which, instead investigates the contests to identify real, social, and therefore formative needs, of individuals which these contests contribute to construct.

A problematical situation lends itself to diverse possible interpretations: it is enough to think at how many interpretations may be given to the same phenomena according to the *framework* and the research methodology adopted by each educator. It is not only this which invites the reflection on the fragility of the concept of scientific knowledge, but above all requires us to completely review the courses of formation of educators and to review in an A-R perspective.

The formative courses on offer are strongly focused on experience and on the comparison with the Professions' answer to the adoption of a pedagogical formulation aimed at the evaluation of dialogue between academic knowledge and knowledge expressed by the practical world and is concrete in the proposal of a varied panorama of experience organised in collaboration with professionalism distributed over diverse contests.

In the case of educator's formation for example, it is fundamental to set, as a formative goal, the adoption of a systemic perusal, allowing the educator to approach the reality in which the profession practices, reasoning as a network of events and phenomena constantly (and amicably) interconnected. Learning, therefore, to "think as educators" (Perillo, 2012), and assume every description and interpretation of reality as partial and never definitive, yet not for this without significance, avoiding that the processes of elaboration of experience crystallize in units of rigid knowledge, as the complexity of the field of action which refers to educative action requires knowledge of experience and contingency.

Conducting ones own profession from the A-R point of view signifies the adoption of a reflective *mindset* suitable for considering agitated daily educative practice in heuristic terms: an educator encountering a new problematical situation (every educative situation is unique and unrepeatable) for which it is not possible to depend on procedure, techniques and standard, ordinary and useful model actions, has to perforce initiate a course of investigation.

A-R intervenes offering a model of execution of the investigation which is not predetermined but is given in the recursive progression of reflection in construction and in cyclic evolution: the educator, in this case, does not assume the knowledge as already given; it is considered a predefined normative action. This characteristic case renders the heuristic procedure of A-R open to modifications in the course of application and appropriate functional revision of the transformative teleology of educative action. It is therefore an empirical ideographic research (Trincherò 2004, p. 151) which

has action as its own object and is validated by experience in which it circumstances.

Professional educative practices could not be managed responsibly unless in terms of constant research of the best possible solutions. An educator omitting to set the problem, deludes to change the situation before having rigorously interpreted it, concentrating on the work in hand and not using devices which would allow an intentional control and constant evaluation, is destined to failure. Where the finality of an A-R consists in the improvement of the educative reality, the effectiveness and efficiency of the same are directly proportional to the acquisition of knowledge by the educator, with respect to the risk of working according to procedure dictated by “implicit theories” (Polanyi, 1967), consequence of mental models underlying its vision of the world or that which Mezirow defines “meaning perspectives” and “meaning schemes” (Mezirow, 2003 [1991]).

It is therefore evident, that in education the speculative moment cannot be given without the practical, therefore quality formation cannot prescind from a clear epistemology of professional practice (Schön, 1993 [1983]; 2006 [1987] which animates courses of adult formation with reflective and transformative competences. Only in this way such courses may result responding to the real demand for formation and education emerging from the territory.

#### **4. Educational interventions in intercultural perspective**

Attention for spoken sources begins in different investigative contexts although it particularly develops in some moments of common reflection and of collaboration between historical and anthropological investigations. Currently their importance is also widely recognised in the field of pedagogy, in fact listening and dialogue represent two moments unavoidable for the construction of identity, development of numerous cognitive skills as well as for the comprehension and integration of diverse cultures.

Provided below are the results of a quantitative investigation realised through a narrative workshop of action-research conducted with a group of ten foreign children, originating from Romania, Albania, Latin America and Central America, aged between seven and eleven years old, immigrated in Italy mainly due to their parents' employment.

The life history of these immigrant children has been collected on the island of Elba during a project begun by the group of research of Pedagogy in the Faculty of Science of Formation of the University of Studies of Suor Orsola Benincasa of Naples, Italy.

The choice of the territory in which the research was conducted was purely casual: the island of Elba has always been a land of encounter and (confrontation) of peoples and culture, first the Phocaeans (VI century BC)

followed by the Etruscans, Greeks, Romans, Ligurians, Pisans and finally the English, Spanish and French. In the course of centuries all these populations were attracted to this area both for its' strategic geographical position, and also for its' immense subsoil mineral wealth. Recently, with the development of tourism, it continues to be a chosen destination for those wanting to enjoy natural beauty, and also by those finding in the tourist market a new inexhaustible and ecological mine.

The research aimed at investigating emotional, cognitive and motivating experiences of the foreign pupils interviewed and the modality of perception and construction of their identity.

Contrarily to rationalistic traditions which considered the individual as an autonomous and rational centre founded on immediate self knowledge prior to any social or cultural rapport, we are at present aware of the fact that it establishes within inter subjectivity communication, through the intercession of cultural forms available, from time to time, in determined social contests (Crespi, 1997).

Hence the methodology of life history, the narrative self, results to be the more adequate mode to pursue the finalization of our investigation, which configures not just as a simple collection of information but as an in-depth analysis of the dynamics existing in the cognitive and emotional evolution of the foreign children interviewed, at the moment of comparison with a historical-social reality completely different to their own.

During the course of research two models of interviewing were utilised, the first was easier to apply and aimed at the reconstruction of a life history on "the surface", the second was more complex and structured to reconstruct some life histories aiming to analyse "in-depth" the individual in question, referring above all to *time* and the *contest* of origin, also seeking to bring to the surface their emotions, sentiments and ideas.

The life history of these migrant children, identified following the same investigative methodology but utilising two diverse protocols of interview, other than provide useful information to pick up the threads of the existential novel of the individual in question, offering an interesting insight on the social situations of the various countries of origin, leading us to reflect on the fact that educative intervention inter-culturally cannot be efficient if not supported by knowledge of the historical -social contests origin of recipient of the same intervention.

Autobiography is a process of writing about ones self and ones own life, giving the story not only something modifiable or interpretable but a real tale and subjectivity true, inconvertible and un changeable for anyone. The "truth" regarding the individual is either placed in the active autobiography, an expression direct by author/individual, or the passive autobiography, written by a second individual, extraneous, taken out of context for the exclusive prerogative of the individual. The autobiography is a valid method of

recognizant didactics which poses the individual in a dual position with respect to “me present” and “me past”, developing an amnesia which allows self removal without however losing sight with respect to the “me past” which instead is detailed and better known through memories and influenced by lived experiences, nor with respect to the “me present” which is the meter of comparison with past experiences and represents the certainty of the present: both contribute to the formation of the personality which is strengthened by their encounter with the autobiographical individual.

The autobiography is therefore configured as an important instrument of evaluation and personal emancipation by the speaking individual and through the same narration establishing an active contact and participation with the surrounding social reality.

#### *Nathan's Story*

My name is Nathan and I was born in Romania, I'm seven and a half years old and attend the second year of elementary school, I know that many of my schoolmates coming from other countries are put into different classes from those that they should attend, but I attended the first year as I should have, because I learnt Italian when I was still in Romania. My mother had already moved to Italy three years ago leaving me with my grandmother and my father but he had another wife and did not want me to come to Italy to be with my mum.

When I was in Romania I went to the kindergarten then stayed a lot of time with my grandmother and we watched Italian programmes (with Sky) so I felt a little closer to my mum and that's how I learnt Italian. Then one day after my father had shouted on the telephone with my mum they told me that the next day we would have to go to the office to get the documents, so my mum could come and get me. It took two months, then one night my mum phoned me and told me that she would come and get me the next day.

We left early in the morning in the van of my mother's new husband, I slept for almost all the journey, I didn't see anything when we passed through Romania, I woke up when we were in Italy. When we arrived at the port of Piombino and I saw the sea close by for the first time I was very frightened, my mum told me not to be afraid.

I like living here, I made friends quickly with my classmates and I also play with many of them after school, the people in the country are a little different from the Italians that I watched on TV, not as elegant and speak a type of Italian a little different but they are kind to me and my mum.

I miss my grandmother a little but don't think that I want to live in Romania, I would like to be a lawyer and got to one of those Italian cities with skyscrapers and buildings that I see on television, but not to Romania.

*Table 1. Example of a collected “life history” below*

### **5. Autobiographies of immigrant children in Italy. Data analysis**

From the analysis of the contents of the stories told by foreign children involved in the investigation it could be inferred that it deals with children

tending to be well integrated in the scholastic and social network. This very probably, also depends on the fact that the inhabitants of the island of Elba are used to the presence of foreigners (those who choose it as a holiday destination and those who have chosen it for reasons of employment), beginning with the antique Romans and Etruscans settlers due to the immense wealth of its mines, up to times more or less recent, attracting a colony of fishermen originating from the islands of Ponza and Sicily. All the above has taught the inhabitants of Elba, to accept “the foreigners” and consider diversity an actual resource, so much so that it was them “the others” to decree the tourist and productive development of their island. Hence explaining the fact that our foreign pupils did not find it hard to be accepted by friends as they often in turn had parents and grandparents emigrated from other Italian regions.

In order to have objective evidence and a clearer and more complete framework of what emerges from the listening and lexical analysis of the textual corpus of the ten stories of life told in the context of research, a brief questionnaire has been added, not based on significant features.

Hereunder are pie charts of the more significant answers provided by the children.

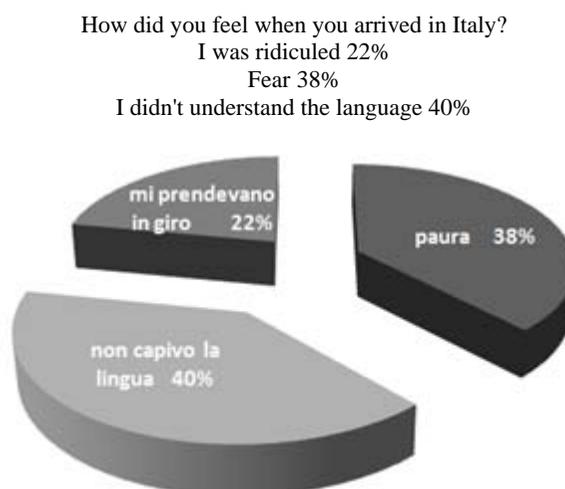


Figure 1. Question A

The meeting between the “new” the “unknown” and the “others”, always raises huge concerns exceeding which is not always painless.

As foreseen, the first sensations on the children's arrival in Italy were not very positive. It is clearly noted the strongest figure of emotion felt by the children was fear generalised against the unknown who they were confronting, mainly due to the fact of not understanding the language well and the

frustrations resulting from fear, not always founded, of being ridiculed for being different.

Very probably it is a sensation of inadequacy caused by the fact of “not feeling at home any more”. The people, places, habits and sensations which have been part of their existence until that moment representing key points for them are suddenly missing. Although having been advised of their parents' decision regarding the desire to go and live in a place far away, in order to have a better lifestyle, and to have had the possibility of 'metabolising' such a decision (it emerges from the stories that on average at least two or three months pass prior to departure), however once the project is materialized and revealed by their parents, they discover that not everything is as promising as they had been told. In addition there are reasons, which are not always thoroughly understood given the young age.

The second question shows (see pie chart below) that the children are nostalgic above all for established affections which have been left in their country, grandparents and friends, rather than places. This type of type of answer was also rather predictable: given the young age sentiments of roots in their country of origin were not yet felt very strongly, while it was unable to assert the same regarding the emotional and affections -relations components. This, in our opinion, probably depends on the fact that almost all of them came from villages and/or rural villages and therefore the network of relations and neighbours has not suffered the breakdown of a more advanced urban society characterised by mechanical and impersonal rapports.

Are you homesick for your country and your relations?  
Friends 32%  
Country 20%  
Grandparents 48%

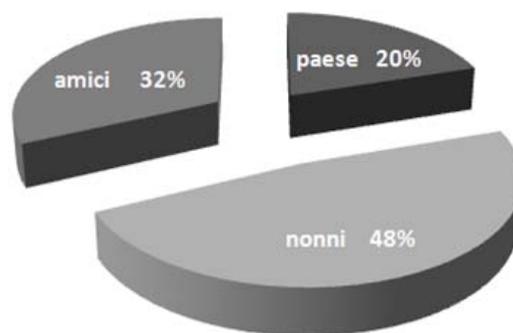


Figure 2. Question B

Would you like to return to your Country?  
Only on holiday 50%  
Yes I want to return 15%  
No I don't want to return 35%

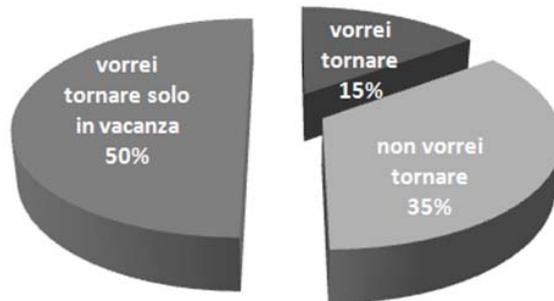


Figure 3. Question C

Almost all the children interviewed would not like to return to live in their country of origin or rather would like to go on holiday, as they are still a little homesick for what they left behind however perhaps they realise, more or less knowingly, that Italy can offer the prospect of a better life.

How do you find living in Italy now?  
I speak Italian well 25%  
I have many friends 21%  
They don't ridicule me any more 28%  
I'm fine 26%

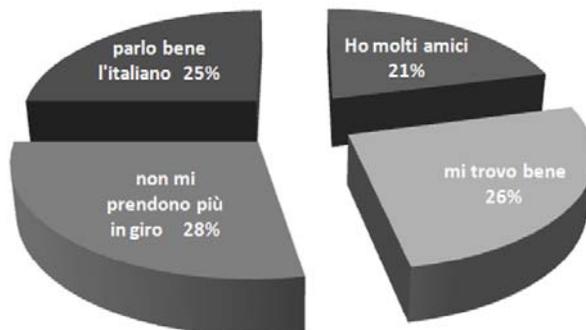


Figure 4. Question D

Regarding integration, figures show that in respect to the initial sensation of disorientation shown on arrival, the current appraisal is very positive.

The young immigrants state to be well, to have made many friends and above all their confidence arises from the fact that they have now learnt the language well and are able to have better relationships, particularly with their peers and in general with adults of their host country.

It is clear, at this point, that the confrontation and interaction with *the other*, the new, formed a fundamental moment for these children, for their self development and self esteem. Through dialogue and listening they have had the chance of reflecting on their experiences and to begin a sort of self reconstruction and self evaluation which in conditions of isolation would remain “unknown” and incomplete.

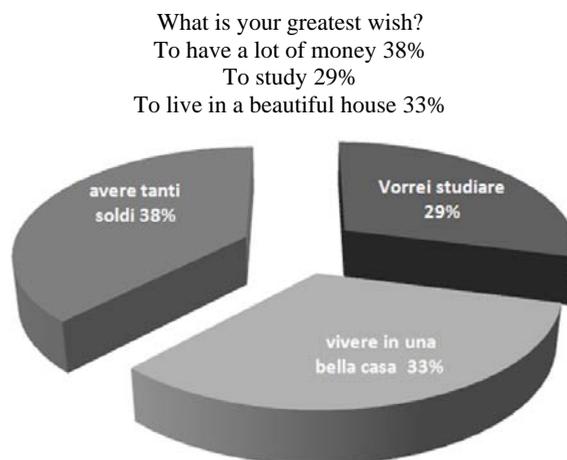


Figure 5. Question E

The desires of the young foreigners, as shown in the pie chart, are not dis-similar to those of their Italian peers: the majority of them would like a lot of money and live in a beautiful house. Many of them declared the wish of working as a doctor, teacher, engineer; for analysis convenience same answers have been recoded and incorporated in the definition “To study” which is then the simplest underlying variable response provided by the children.

Such answers, apparently easy and superficial, really hide a deeper way of feeling: in the meanwhile it is clear that regardless of their youth they have understood the formative value of school and the importance of instruction to be able to aspire to the conditions of a better lifestyle from all points of view and also the professions which the children declare to follow when they are adult (doctor, teacher, engineer) are those which in a certain way positions them in a privileged position and close contact with the social community in which they are inserted. Therefore the type of answer provided reveals other than a strong feeling of social liberation (to have a lot of money and live in a

beautiful house) is also the desire of integration in a definite and complete manner in the social-cultural composition of the host country.

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# **A Phenomenological Study of Adult College Student Experience in Nontraditional Education Programmes**

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**Abstract:** Since the early 1980's, many universities in Puerto Rico developed programmes focused on the adult student, but did not take into consideration if they appealed to this population. For that reason, the new curricula offered were not in accord with the reality of the students they were intended for. The study was done with the purpose of knowing this reality from the perspective of the students themselves.

Three universities and nine adult students (three from each university) were selected to take part in this study. The subjects were required to complete a brief questionnaire, in addition to answering 13 guide questions in individualized interviews. The researcher brought forward suggestions, based on the outcome of the study that might be able to improve and transform nontraditional education programmes in Puerto Rico. One outcome was that the subjects expressed having felt fear and anxiety prior to deciding if entering these programmes. They were worried about people's reactions knowing they would be college students and thinking that they could have lost their learning capacity. These feelings changed when assured that in college, all students are considered equals in terms of their pursued objectives, regardless of age, so long as they are confident in their capacities and the desire to complete their degree. The study also showed that the subjects perceived the academic goals as the peak of their self realization, this being to complete the degree that were not able to complete by lack of economic resources among other reasons. The researcher understands that adult programmes may provide that population the learning experiences that will capacitate them as professionals, as well as human beings.

**Key-Words:** Andragogy, Adult Student, Advanced Adult, Senior Education, Programme

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## 1. Introduction

Education is strongly linked to social, psychological and moral development of a human being. This continuous and permanent process is not exclusive to a determined stage of growth and development, but independent of the peer group, one that is made up of older adults. In accord to this task, there is a marked increase in the number of older adults that show interest and join universities, in Puerto Rico as well as in other parts of the world. This was foreseen by the father of adult education, Malcolm S. Knowles (1969, p. 3): “The university alumni, that is now mixed,[...] will change drastically in the next 35 years [...] They will aspire something different than that that is now known as continued education”. This constitutes a phenomenon that has sparked worldwide interest in all sectors of society: governments, organizations and individuals (Longworth, 2003).

It is understood that deeper understanding about this phenomenon enriches the educational context in which it occurs, allows for different perspectives and fortifies the learning process of the aforementioned groups. Because of this, it is important to ponder about several elements that are considered important in the adult education phenomenon. They are: the inflow of people fifty and over into the universities; their participation in the labor market; tendencies reflected on the different census concerning adults fifty and over; life expectancy; and the new perspectives regarding “education for adults”, that are proposed by international organizations and scholars. Tables I through IV and Figure A reflect that in Puerto Rico there had been a marked increase in the first four elements mentioned.

Academic year	Students 50 years of age or over
1999 – 2000	972
2001 – 2002	2,040
2002 – 2003	1,482
2003 – 2004	2,569
2004 – 2005	2,887
2005 – 2006	3,416
2006 – 2007	3,807
2007 – 2008	3,939
2011 – 2012	4,546

*Table 1. Students 50 years of age or over in the universities in Puerto Rico: Academic years 1999 to 2000 and 2011 to 2012*

The data was collected in periods of two years, since that date. Source: Education Counsel of Puerto Rico. Evaluation, Planification, Statistics and Research Area. Data from Fall Enrollment, data base: Integrated Postsecondary Education Data System (IPEDS), 2013.

Years	Total of Persons Employed	Persons Employed 45 Years of Age or More*	Percent from the Total
1980	760,000	221,000	29.1
1990	972,000	308,000	32.1
2000	1,162,000	386,000	33.0
2010	1,089,000	447,000	41.0

*Table 2. Employment in Puerto Rico: Years 1980, 1990, 2000 and 2010*

The Division of Labor Statistics groups the total of people of fifty years of age or over, in the following groups: 45 to 54, 55 to 64, and 65 or over. Source: Department of Labor and Human Resources, Government of Puerto Rico, Division of Labor Statistics, Historical Data of Employment and Unemployment, Puerto Rico. Average years 1970 to 2010, Revision, 2010 Census. Table 10.

Census	Total Population	People 50 Years of Age or Over*	Percent of the Total	Life Expect.
1940	1,869,255			46.01
1950	2,210,073	252,446	11.42	60.85
1960	2,349,544	321,358	1.68	69.36
1970	2,712,033	460,685	16.99	71.97
1980	3,196,520	606,828	18.98	73.11
1990	3,522,037	768,562	20.82	74.05
2000	3,808,610	1,004,500	26.37	76.12
2010	3,725,789	1,223,503	33.10	79.09

*Table 3. Total population of Puerto Rico and people 50 years of age or over: 1950 through 2010 Census*

Obtaining the data for the decade of 1940 was not possible. Source for data 1940: Truesdel, L. E. (1942). Population, Bulletin No. 1, Amount of Population Puerto Rico. Washington: United States Government Printing Office. Sources for data of 1950 to 2010: Federal Bureau of Census, Population Census of Puerto Rico: 1950 – 2010. Planification, Social and Economic Program, Office of the Census, San Juan, PR. Department of Health of Puerto Rico, Office of Planification and Development. Yearly Report of Vital Statistics, San Juan, PR.

Years	Male	Female	Both Genders
1902	29.82	31.00	30.36
1910	37.72	38.64	38.17
1920	38.18	38.85	38.46
1930	40.07	41.46	40.65
1940	45.07	45.11	46.01
1950	59.45	62.43	60.85
1955	65.96	69.58	67.71
1960	67.14	71.88	69.36
1961	67.18	72.48	69.76
1962	66.68	72.37	69.45
1963	66.86	72.59	69.90
1966	67.49	73.11	70.18
1968	68.25	73.79	71.15
1972	68.92	76.05	72.10
1973	69.03	75.63	72.24
1975	69.74	76.98	72.32
1976	70.21	77.11	73.52
1977	70.45	77.42	73.80
1978	70.91	77.59	74.06
1979	69.60	76.07	73.12
1980	69.88	76.87	73.11
1981	70.29	77.52	73.90
1982	70.53	77.39	73.91
1983	70.45	77.25	73.11
1984	70.26	77.28	73.64
1985	72.07	79.01	75.28
1986	70.70	78.94	74.74
1987	71.12	79.44	75.28
1988	70.14	79.57	74.21
1989	70.17	78.53	74.24
1990	69.74	78.50	74.05
1991	69.60	78.50	73.96
1992	69.33	78.80	75.18
1993	69.07	78.09	73.49
1994	68.83	77.87	73.27
1995	69.33	78.39	73.96
1996	69.57	78.29	74.04
1998	71.41	79.34	75.17
1999	71.46	77.02	75.49
2000	72.28	79.90	76.12
2001	73.02	80.89	76.87
2002	73.22	80.88	77.08
2003	73.73	81.14	77.48
2004	73.67	80.90	77.16

*Table 4. Life Expectancy in Puerto Rico: Years 1902 through 2004*

Source: Department of Health of the Government of Puerto Rico, Office of Planification and Development, Division of Statistics Analysis, San Juan, PR.

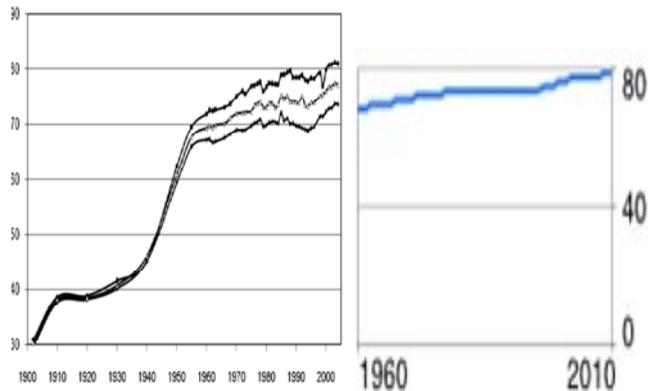


Figure A. Graphics regarding life expectancy in Puerto Rico: Years 1902 through 2004 and 1960 through 2010 Census

First graphic: Legend (from top to bottom): first line- female population; second line- female and male populations; third line- male population Source: Federal Census, Population Census of Puerto Rico, 1902 through 2010, Center of Census Data, San Juan, PR. Second graphic: Legend: Blue line – female and male populations Source: World Bank, 2012, Bureau of Census of the United States, 2012.

The mentioned data has changed the usual panorama in the universities in Puerto Rico, according to the needs of the older adults. This also proves the need for governmental entities, in charge of providing educational services to the older adult population, to focus their attention on the aforementioned aspects. It is of vital importance that they keep up with the new tendencies and educational needs of this population. This will allow them better efficiency and sensibility at the moment of planning strategies for the present and develop new projects for the future.

### *Problem*

The problem that was addressed in this investigation is the following: Even when universities in Puerto Rico establish nontraditional educational programmes targeted to older adults, studies show that that these programmes were developed without having explored in a deep level several aspects such as: feelings, life experiences, perceptions, beliefs, descriptions and opinions of the older adult population, regarding what it means to them to be a university student. Due to this, in the universities in Puerto Rico, there are curriculum and educational services for the older adult student, which does not

correspond to the reality of those experiences. (Bowman y Burden, 2002; Torres Nazario, 2003; Rivera Claudio, 2008; Fernández, 2008).

## **2. Objectives of the study**

Understand the aforementioned experiences at a deeper level, would allow the following objectives: a) to understand the reality behind the experience, by comprehending and discovering its meaning, by the feelings, life experiences, perceptions, beliefs, descriptions and opinions coming directly from the adult student, as the main character of the experience; b) to know how the factors that motivate the people 50 years of age and over to study a bachelor degree in Puerto Rico, gives meaning to the experience; c) to interpret how that people perceive the academic challenges; and, d) to make recommendations, which will contribute to the transformation and betterment of the nontraditional programmes focused on older adults in three participating institutions.

Below are the terminology and their definitions that will be used for the purpose of this study: a) experience = all living incident had by an adult 50 years of age and older as a university student in Puerto Rico, b) andragogy = art and science of educating an adult, c) adult student = a person who forms part of a nontraditional educational programme targeted to older adults in a university in Puerto Rico, or a person who has all the requirement to participate in a similar programme, d) mature adult = person whose age is between 50 and 59 years old, e) older or advanced adult = person whose age is 60 or above, f) participant or best informant = adult student chosen for this study, g) Programme = curriculum or nontraditional study targeted to persons 25 years of age or older, in a university in Puerto Rico.

The literature used as a reference and analyzed for the better understanding of the education of older adults was demarked in three main aspects: conceptual, historical and methodological. The conceptual aspect focuses on two schools of thought: education as an activity that extends throughout life and andragogy, as the art and science of educating an adult. There are several additional concepts being explored in this study, among them: “vital cycle”, “life expectancy in Puerto Rico” and “motivation”, because these are considered to be closely related to this study. In regards to the historical aspect, the revised literature exposes the way that adult education has developed in Puerto Rico, as well as in the rest of the world. Regarding research methods, studies about adult education in Puerto Rico and internationally, are analyzed; likes and differences are established among these and the research at hand. In terms of the methodological aspect, the design of the investigation and the concepts related to the design are exposed. As part of this aspect, the researcher present facts related to education for

older adults in Puerto Rico and in other places of the world, as well as likeness and differences among these and the research.

### **3. Methodology**

The purpose of this study was to get to know, from the phenomenological perspective, the experience of the university student 50 years of age and older, that is admitted in a university in Puerto Rico to start or to continue a bachelor degree in a nontraditional programme targeted for adult students. This phenomenon was explored using the following research questions:

1. What is the learning experience for the university student 50 years of age or older, in Puerto Rico, in bachelor level?
2. How do the motivational factors in the people 50 years of age or over bring meaning to the decision of starting university studies oriented to finish a bachelor degree, in Puerto Rico?
3. How the students 50 years of age or over, in Puerto Rico, perceive the academic challenges in bachelor degree?

The design of this research was qualitative, focused on the interpretative hermeneutical phenomenology, based in the inductive method of investigation and demarked in the constructivist paradigm. The research was done in three universities in Puerto Rico that offer bachelor degrees targeted to older adults. The selection of these universities was made at random, from a list of universities provided in the document: "Institutions of Higher Education in Puerto Rico and its Carnegie Classification", published by the Carnegie Institute. All the requirements established by the participating institutions for developing the research in their campuses were followed. The population of the study was made up of the total amount of students enrolled in the first semester of the academic year 2011 to 2012, who filled all the requirements to participate in the study. The nine participants or best informants were selected by invitation, through a bulletin posted in each of the three campuses; there were three students of each institution. The criteria for the selection was as follows: a) being at least 50 years of age at the time of enrolment or returning to university; b) be enrolled in a bachelor degree in any major; and, c) be enrolled in a nontraditional program targeted to older adults, during the first semester of the 2011 to 2012 academic year.

The main data base for the research was obtained through the individual interviews to the best informants, which added to the phenomenological character of the study from its primary source. The instrument of investigation was a document called: "Guide questions contained in the technique of deep investigation". This document contained a total of 13 questions, and was the

final product of the rigorous evaluation by the Panel of Experts, out of the first draft that was submitted to them, to determine if through the responses to these, the purpose and objectives of the study were achieved. This was attained by organizing the guide questions in three groups, so that by answering the 13 guide questions, the 3 research questions would be answered.

The interviews were semi structured, as each guide question was followed by follow up questions, according to how these flowed. The qualitative methodology allows for the use of these types of questions with the purpose of obtaining answers with rich and profound content, until reaching the level of saturation (Rubin y Rubin, 2005). A question that did not correspond to any of the three main research questions was formulated: “Express an anecdote, comment, and/or suggestion related to one of the topics exposed in the interview that you wish to share”. At the time of the questioning, the participant had the opportunity to share experiences, opinions, thoughts, perceptions and/or feelings that were not related to the previous questions. The saturation required to achieve the purpose of the interview, and therefore know that it was finished, was confirmed through this question. All the questions were formulated in a way that they would recall experiences had as adult students, which allowed for a more vivid narration of the experiences through fresh and clear responses (Rubin y Rubin, 2005).

Informants were asked to complete a short questionnaire with sociodemographic data. In addition, there was a diary where details about the atmosphere in which the interviews took place (before, during and after the interviews), and the nonverbal expressions of the best informants were registered. These documents served as a valuable resource for the researcher, at the time of the analysis of the answers of each best informant. Each 90 minute interview took place in the campus where each participant studied, it was audio recorded, transcribed in a literal manner and sent through e-mail to each informant for revision and approval. When this process was done with each interview, the answers were added to the study data base.

Three categories and 13 subcategories were established, according to the 3 research questions, and corresponding to the 13 guide questions respectively, in order to analyze the data that was collected from the interviews. It was attempted to capture the way in which the participants experimented the aforementioned phenomenon through the analysis of the results of the study. The researcher explored perceptions, descriptions, feelings and memories of the best informants, as well as the meaning to their experiences, how they judged them and how they expressed these. This allowed for the description of the essential relations of the phenomenon, directly through their experiences; not through the physical aspect of it. According to the analysis of the answers, two tables were made: one to group the similar answers and one for the diverging answers.

In accordance with the credibility of this study, Rubin and Rubin (2005) express that a study acquires credibility when it provides solid evidence for each argument that exposes the discussion of the results, when the interviewees are quoted in a literal manner, and through the meticulous description of the design of the research. The authors express that there is added credibility when the way that there was access to the data and the way in which the participants were selected are exposed and when the style and tone of the results of the study are precise and as desired. They relate credibility with meticulousness and propose that this is demonstrated when aspects such as the researching method, the people interviewed and the period spent on each interview are described. Castillo and Vásquez (2003) on the other hand, propose that the credibility of a qualitative study is achieved when the researcher gathers information through prolonged conversations and when it generates discoveries that can be recognized by best participants as that that they feel and think.

In this study, the credibility was established first and foremost through the “membercheck”. According to Leech and Onwuegbuzie (2007) this “membercheck” helps the participants, as they can confirm if their responses were expressed with precision. An issue that can add to the credibility of the results of the study, according to Rubin and Rubin, is that the researcher makes sure that he/she interviews a person that represent diverse perspectives of the topics at hand, aspect that was also addressed in this study. This is furthermore observable through the multiple divergent responses that were described and analyzed. According to the exposed, it is understood that the study completely fulfilled with all the elements of credibility.

The presentation of the results was realized in a descriptive way, in accordance with the 3 investigation questions and the 13 guide questions of the interview. As part of the discussion of the results, the grade of accordance is established between these and the results of the revised studies, as well as the literature that was used as a reference. The likenesses and differences in the responses to the questions of each best informant were established. The triangulation needed for the analysis of the findings of the study from diverse aspects was achieved, when the particularities of each revised study, especially the ones done in Puerto Rico, were considered (Hernández Sampieri, Fernández Collado, Baptista Lucío, 2006). With the purpose of solidifying the credibility of the study, the researcher contrasted the aspects of the development of each interview, registered in her diary, which included the nonverbal communication that she observed in each participant (Rubin y Rubin; Hernández Sampieri et al.). By doing this, she obtained valuable information that contributed to the triangulation and interpretation of the data. The sociodemographic data brought by the participants allowed the demarcation of the findings of the study in the social context in which they occurred, which contributes to the richness of the study.

As for the terms of the internal validity of the study, the process used to prove the instrument of investigation and the aspects that were considered by the evaluators, make evident that this instrument was the result of a rigorous process of evaluation; through the aforementioned process the validity of the study is established. The technique chosen to obtain the data base, the protocol used to obtain the authorizations needed for the realization of the interviews and the rigour with which the information was compiled for the study, are elements that add to the validity of the investigation.

#### **4. Results**

The results of the study were obtained through three sources: the questionnaires regarding the sociodemographic data of the informants, the observations registered by the investigator in a diary and the individual interviews. Because the confidential character of the investigation, the names of the participating institutions were substituted by the letters A, B and C; and the names of the informants were substituted by the numbers 1, 2 and 3, in each institution, according to the order in which they were interviewed.

##### **4.1. Sociodemographic data**

Regarding the sociodemographic data obtained, it was found that in terms of age, 4 participants belonged to the 50 to 54 age group, distributed among three institutions; 2 participants belonged to the 55 to 59 age group and 3 belonged to the 60 to 64 age group. Regarding the gender of the participants, five were male and four were female; in the three institutions there were representation of both genders.

On the topic of when the 9 participants graduated from high school, the answers prove that the older date was 1964 and that the most recent date was 1982, which indicates that there is an 18 year gap among the participants of institution A, while institutions B and C have a 12 year gap regarding the same topic. The nine informants responded that they had been university students that had started the Program; but none had finished a bachelor's degree. When asked about the number of years that they had remained outside of university studies, the least amount was 4 and the longer period was 41 years, both informed in institution C, while the 8 participants responded that they and been outside of university studies for a period of 16 years or more. In the category denominated "academic progress", the responses indicate that the three participants, from Institution C, were in their second academic year, and the rest were in their third year, fourth or fifth year in their respective program targeted for adults.

Regarding their employment, six participants said to be employed, among them all participants of Institution A, five of the employed participants worked in the private sector and three indicated they were unemployed.

Concerning the positions that they occupied in their jobs, three mentioned that they had management positions; they all belonged to Institution A.

#### 4.2. Responses to the guide questions

The following descriptions correspond to various answers: concurring and diverging, offered by the participants to each guide question in their respective interviews. The first research question was: what is the experience of the adult of 50 or over, as university student in Puerto Rico, who enrolled in a bachelor's degree? The first three guide questions in the interview were regarding this topic.

The first approach to the best participants was: describe the feelings and the thoughts that you experienced when you decided to return to school at the age of 50 or over. The response, in which all of them concurred in, was about the feeling of fear, doubt, disorientation and/or anxiety that they experienced. Seven of the participants indicated that this was due to the challenge of competing with younger students, while two of the informants said that they feared the reaction of their friends and family might have when they knew that they were going back to the university. About this feeling, two expressions were cited: Participant 2 of the Institution C (P2C): "I felt fear at the beginning because I am older and almost all of the other students are younger ... I feared people's reaction, I feared how I was going to feel, what was going to happen". Another response to the first question, to which six participants concurred, was that they thought of finishing the degree that they had not ended, unfinished studies that had not allowed them to develop professionally. This is how P2A described this issue: "I had an unfinished degree that did not allowed me to develop, and wanting to return, and having the determination to return, I did it in order to be prepared."

Concerning the same question, the answer to which four participants concurred, was related to the feelings of happiness and satisfaction of working for their goal of finishing their studies. Contrary to the responses in which a couple of the participants expressed fear, three of them confessed to feeling confident in being able to achieving their goal. There were three participants that described how important it was for their families that they finish their studies. Regarding this, P3B said: "I was happy for returning, were I see an opportunity to progress my intellect and help my family and my children, to be able to educate them in a more efficient way."

About the divergent answers to the first approach, some of them were: she felt that she became a person again; that she felt obsolete, null for not having finished her degree; going back to university was a refreshing experience and it meant going back to her youth; she felt excited for returning to a university atmosphere; and, felt euphoria when told that she was eligible for financial aid.

The second guide question was: what does it mean to you, as an adult of 50 or over, to be a university student? Seven participants concurred in that returning to college was a source of pride (includes: feeling proud, respected, useful and a status symbol). The answer of P3C was evidence of this: “The meaning is that it can become a status symbol in society, but more than a status, it’s what I can contribute; that is the meaning that finishing a degree has for me”. In relation to this question, five participants concurred in that being a university student means making people think. About this, P3C said:

“The most important meaning is that being a university student allows me to have and use my critical awareness, that I can give my opinion, not only believe what a professor or a book tells me, but have my own critical awareness. From the first day of class, I let professors know what it means to me to change the way that people think”.

According to the four participants’ opinion, being a university student allows the student to develop abilities needed as a human being: learn and manage life, goal establishment, making the right decisions. Three participants concurred in that being a university student meant serving society. Regarding this, P2B said: “When I thought of a university, I thought about being able to help when needed. I like helping everyone, I like when people approach me”. There were three divergent answers to the previous one: being a university student meant entertainment; a person is a student for all of his/her life; and, will die the day that he/she stops learning.

The third guide question was the following: what is your opinion regarding your role as a university student, related to your life experiences and your learning experiences? Five informants concurred in that, regarding their life experiences, they wanted to help to their peers and to young classmates, through the transmission of their experiences so that they could be more efficient. This was expressed by three informants of Institution B; P3B said:

“I have become a model for the younger students, they look at me as a person with experience due to my age and they come up to me in different parts of the campus. To me it is amazing that I can still express my perceptions as a student that they can come up to me to ask questions show that they see me as a mature and experienced person”.

On the subject of their role as university student and their learning experiences, all the informants thought that they had learned and/or clarified many of their concepts and skills. Four participants said that these learning experiences allowed them to see and understand the things that they thought were not important, and that those experiences had changed their daily life. P2C gave a good example of this in his response:

“I have learned so much in the year and half that I have been enrolled in the university, and I apply them when dealing with my daughters. If knew before what I knew now, I would have thought different in many aspects, in

things that had happened in my office. Concerning my job, I can see things better, I can understand things better, I can see the meaning of things, things that I did not care for before. Now I prioritize many things in my job; I have analyzed myself and I believe that I have changed”.

Some of the diverging answers regarding the relation that the participants establish between their role as university students and their life experiences and with their learning experiences are as following: come from a family in which all the members were professionals, they had transmitted these experiences and motivation to return and finish their career; their grades were low, while in college they maintained an A grade average; they worried that young professors would identify more with young students; they were surprised that young students and adult students had the same worries; in the classroom they did not feel inhibited at the time of wanting to ask questions to the professor. Some of the participants had identified their learning experiences with their life experiences; felt anxiety when thinking about finishing their degree and felt that missing a class meant missing a lot of material; felt that they might not have the same learning capacity, while they felt that they had the same level of intelligence; and, felt that standing out and being first in everything is important.

The second investigation question: how do the motivation factors in people of age 50 or over make sense regarding their decision to start and continue their studies leading to a bachelor's degree, in Puerto Rico?, correspond to the guide questions 4 through 8. The fourth guide question in the interview was: What do you believe was your motivation at the moment of making the decision to continue the bachelor's degree, as adult of 50 years of age or over? Among the concurring answers was: returning to the university to serve as an example to their families, especially to their children and show them that “it's never late”; this was a motivation factor for eight informants concurred. This is how P3A expressed it: “My son went for a master's degree; the same way that I feel proud of him, for me to attain a bachelor's degree, so my children would feel proud about their father also reaching this”. An answer in which seven participants concurred was in that finishing an uncompleted goal and feeling happy were their motivation. Participant 2B expressed: “I did not see myself finish my degree. Completing this degree for my own desire, to feel happy with myself and as a human being, as a person: that motivated me to make this decision.”

On the other hand, the answer in which three participants concurred was in that their motivation to feel capable to helping those in need, their family, their church, the community, the working places or rehabilitation centers for recovering drug addicts. Participant 3C's expressions were a reflection of this: “I was a drug addict for 30 years, I tried to study [but] I could not finish. Now that I am clean, I feel at peace and I believe that my experience can contribute a lot.” Two informants said that their motivation to go back to the university

was that they did not feel satisfied professionally. About this topic, P2A's opinion was:

I was not fulfilled professionally, even though I had achieved a successful professional career [in the construction industry], when you go out in search of a job and you take your data sheet, they find out that you have not finished your studies and this is a hindrance that I am not willing to carry anymore.

Several of the concurring answers to the aforementioned question were as follows: "I did not want to be economically dependent on anyone; I did not want to carry out a job that I did not like"; the demand for the construction of buildings and houses in the island went down; graduation motivated him, which he anxiously awaits; he felt still had enough neurons to be able to study; and, he hoped that his daughter would be able to notice change in him.

The fifth guide question was expressed as follows: How do you perceive the services offered by the programme to maintain the students, 50 or over, motivation to finalize their bachelor's degree? An answer that seven students concurred in, who perceived that the institution had dedicated support professionals. This was evidenced in P2A's answer: "They are very committed to help and they make sure that you enroll in classes, they call you and if there is a problem regarding finance or with anything else, they 'look for a way' to make things right." Seven participants concurred in that they perceive that the Programme had knowledgeable professors. Regarding the professors, four best informants mentioned that they were available to help them; an example of this was P3C's opinion: "The professors were 99.9 percent, very open to help, and to not be 'easy on them'; I wanted to learn and they were willing to teach me."

Regarding their perception of the services offered by the Programme to the adult students, five participants said that the University offered them all the essential services, according to their needs and/or the services were excellent. PIC said:

"The Programme is amazing; it takes away all the excuses to say: "we can't", because it's after works, you can do the homework from home, communicate through the internet; because it is very easy to obtain a bachelor's degree, primarily because this Programme is so excellent".

With reference to the physical structure in the University, two participants said that it did not had buildings did not have the adaptations needed by people with impairments. Participant 1B said the following regarding this issue:

"I have a physical impairment that does not allow me to go up to the third floor. There is no ramp that would allow me to go from the second to the third floor, if the elevator is not working. If a person with impairment that has to use a walker or a wheelchair, they have to take the class in the first floor, in the library or in an office; there are no accommodations. Maybe they have thought about making some accommodations, but they have not made them".

The following expressions are diverging answers regarding this question: the programme allowed for the fulfillment of labor commitments and study at the same time; the Programme was offered in slots of four months, which allowed for the visualization of a closer goal when compared to a traditional six months semester; the participant considered that it was the adult, not the Institution, who should assume the compliance of the inherent responsibilities regarding being a university student; if the Programme did not exist, he would feel confused and lost among the younger students, because of his age; the library should be equipped with better resources; the library was well organized, in proportion with the needs of the students; during the first semester in the Programme, he had difficulties in mobility due to a special condition, because the elevators were out of service, but he complained and these were repaired; and, in the Institution there were no students with impairments because they preferred institutions that had the structure readily available with their needs in mind.

Other diverging answers to the fifth guide question were: the Programme was more flexible than the other traditional programs; they should coordinate the sociocultural activities that are offered to the students, so that these would not conflict with the classes; they recommended that the activities should be more related to the culture; there was bad communication between Programme and the offices that offered services; the professors were available through email and through their private phones, but these were not enough to fulfill the needs of the adult students; the professors did not have mailboxes and there were no office personnel to receive the student's documents; the best informant presented the need to establish an office for professors, and the need to establish content of the course guide, but these needs were not taken into consideration. He had also presented letters with suggestions over other aspects of the Programme were addressed; and, the parking did not have protection for the ladies on the Programme.

The sixth guide question expressed: how do you perceive the activities and behavior of the students of traditional academic program towards the students of the Programme, regarding the acceptance and the disposition to offer tutoring? One of the answers concurred by the majority of the participants, who said that their younger classmates and/or employees of the institution believed that they were professors, and that they felt good about that.

Participant's 1B and P'3A answers are examples of this: "When they see me ask me if I am a professor, and if I am teaching a class, which class do I teach, and I say 'I am not a professor, I am a students like you'". "It was interesting, it was good, because that means that they respect me, they look at me with level of respect."

Seven participants concurred that they had not observed negative attitudes from the younger students towards the adults; P2C said:

“They are not people that target you, that point at you, they look at you as a regular student, I can go to the halls, sit with a group of students [younger]; they think that we are part of them”.

Three participants thought that the younger students did not expect that adults were studying in a university, due to their age. One of these was P1B, who expressed: “[The younger students feel] surprised, because they did not visualize older adults as students; they think that there is a time to study [in] university, maybe 18 to 30 [years old]”. Three informants responded that they had been instrumental in the facilitation and motivation of the younger students to finish their degree. An example of this is what P3A expressed: “More than them coming up to me for inspiration, I have been an instrument to them; I have felt good about this because I have been able to help them”. Two participants thought that negative comments said by a younger student towards an adult, were not accepted by the student in any age in a university; P2B said:

“They have commented, with fear, but the group does not accept them and the students kept quiet, because they understood that they should not have said anything. Also, it was good to know that the younger students were the ones that corrected their peers when they would say unnecessary comments”.

Regarding the perception about the disposition of the younger students to tutor the adult students, six students concurred in that they had not needed tutoring from the younger students, that they had been the ones to tutor the younger students, reason for which they had felt pleased. These were the expressions of participants 3B and 3A, respectively: “Many times my classmates come up to me and say ‘how can I make this better?’ they hand me their papers so I can recheck them”. “Obviously, I have felt good about being a helping hand to them”. One response that was repeated in the interviews of four participants was that the students gave tutoring to the adults in the subjects of accounting, and/or computing.

Among the diverging answers of the participants to the sixth question are the following: the University was focused primarily on the adult students; he became a little inhibited because he did not express his opinions as the younger students and he was worried that they would not understand; he noticed that the Institution was very motivated and enthusiastic about helping the student, which he did not observe in other institutions; his classmates were impressed by his knowledge about history; when he was in the university he did not think about his age; and, he felt that because he was a university student he could have a conversation with anyone. Regarding his perception toward the younger students’ willingness to give tutoring to adult students, a best informant said that he accepted the help, from his younger classmates, when it came to managing the computer and that he would go to the tutoring center of the Institution if it would be necessary.

The seventh guide question was: what is your opinion regarding the level of communication and empathy that should exist among the students of the traditional academic programmes and those of the Programme (regarding diversity)? The answer of eight of the participants concurred, they said that the younger students respected the diversity, at the time of integration with the adult students, for which the fraternization of both groups was possible.

Other answer concurred by eight best informants was that the younger students respected the older students, which was demonstrated in P1A's expressions: "They respect us when, for example, we are in the cafeteria line and they say 'you may go before me if you wish...'"

About the answers for that question, seven participants concurred in that there was a lot of empathy among the young students and the adult students. This is exemplified by P3C's quote: "Much, when I say much, much empathy. They look for me and I look for them and we get together throughout the day". A total of five informants answered the aforementioned question by stating that the young students kept high level of communication towards the adults, because they looked for their support and they always wanted to consult their university and private situations with them, for which they felt very proud. A total of three informants responded that they were worried when they observed little interest, maturity and/or responsibility among the younger students, because they saw their children reflected on the attitudes of their younger classmates.

There were several diverging answers to seventh guide question; they are as follows: the fact that the group size in every classroom was small and homogenous, and that the students took many curses together made for a better communication among them; the younger students made them feel as they were not different to them, since they went to the same activities; they understood that discipline was an essential element in order to finish their studies; outside of the classroom, some younger classmates treated them in a distant fashion when outside of the classroom, but in the classroom they all participated equally; they considered that there should not be any difference when it came to treatment, because of age; the participant had noticed certain group forming among the younger students that studied during the day and those that studied during the night, in a sort of 'posy' and there was only a connection between them in the library.

The eight guide question formulated in the interviews was: how do you describe your personal, social, economical and academic expectations, when you finished your bachelor's degree? When responding to this question, P3C said: "I want to finish a degree that I like, I want to feel happy and at peace; there is no amount of money that can buy peace." Regarding the social expectations, a total of four informants concurred: having time for religious, social and/or organizations or social clubs to which he belonged. One participant, P1A, said: "Once I finish my bachelor's degree and my master's

degree, that I plan to start as soon as possible, I will have more time to spend with them [with the members of the Club]”.

When asked about labor expectations, three informants expressed that they hoped to be able to help to those in need of professional services; exemplified by P3C’S quote: “Working in counseling with drug addicts, mainly with ‘white collar’ addicts, which are the ones that worry me the most. In relation to their economic expectations, three participants responded that they did not expect to have a higher salary; P1A said: “I don’t believe that I will get a higher salary because of my bachelor’s degree, I am not doing it with that purpose, getting more money is not a motivation for me to finish my degree”.

Among the academic expectations expressed by eight participants regarding their decision to continue their studies in a university, at undergraduate and graduate levels, in diverse careers, five of them in Law, to serve as an example to their families. Regarding this, P3B said:

“I want to continue to a doctorate degree, I want to continue bettering myself, personal reasons, my family, my children, I want to be able to provide them with the best, the best route to education, and I believe that the first step is to get a better education, and then I will be able to be a serve as a guide”.

At the same time, the participants expressed diverging responses towards the eight question. As personal expectations they mentioned: be an example for their daughters and granddaughters, reason for which they plan to send a copy of their diploma; be able to manage their time better and help their sons and daughters with the caring of their grandchildren; and that their families were present on the day of their graduation, day that they visualize in a very distant future.

The best informants said the following divergent answers regarding their social expectations: the hardships that they had been through had thought them to maintain a ‘low profile’, reason for which they did not attend social activities; she wanted her friends to be able to feel as good as she does as a member of the Programme; her community saw her as an inspiration of what an older adult is capable of going back to finish a degree; and, felt that she had an education and intellect to become part of social organizations.

In terms of the economic expectations, the diverging answers were as follows: receiving pension and social security benefits; having a salary, which is a source of satisfaction to the participant; she considered that earning a high salary was not synonym to professional success; she would not accept employment in which there were bad working conditions, even if it was a high paying job; having a stable job would allow them to have a fixed income; continuing to feel economically independent; and, be able to discuss her salary with her supervisor, without the limitation of having an unfinished degree.

In terms of their labor expectations, one informant expressed that she felt very proud professionally, which she did not feel before because she did not have the degree, and now she was working to obtain it. She visualized herself as a lecturer in an accredited institution; she also saw herself in a different light, the way she walked, the way she dressed and interacted in her job. She mentioned that she happily waited the moment that she would be able to work and she thought that her bachelor's degree would allow her to have a more diverse job offering, as an office worker or as a teacher. She responded that she would be willing to accept the job that would be offered to her, and that a schedule that would allow her to take care of her family affairs would be best. Other answers were: feeling active while she is still healthy, although she did not want to retire when she were very tired; apply for the realtor license, which was denied because of the lack of academic preparation; and, work again in a company that values and pays an appropriate salary for her experience and her academic preparation.

The third research question in this study was: how do you perceive the university students of 50 years of age and over, in Puerto Rico, the academic challenges in undergraduate level? With the purpose of answering this question, questions 9 through 12 were asked. The ninth guide question was: as an adult of 50 years of age and over, what meaning does your academic knowledge, your technical skills, and your labor skills, in terms of achieving a successful transition from being a university students and becoming a worker? When answering this question regarding the academic knowledge, four informants concurred that through the academic knowledge they would acquire a better oral expression capacity in the professional scene. Participant 1B's answer is example of it: "It satisfies me, to have the ability to be able to speak, to be able to express myself with someone that does not have a degree, and letting them know, somehow, that I am a professional." Two informants agree in that knowledge helps the employee understand the decision that their bosses take. Regarding the meaning that their technical ability, there were concurring responses. Eight participants concurred in that they had acquired and/or recovered, through seminars, workshops, tutoring and/or classes in the University, the skills needed to carry out their duties as students and to prepare them as workers.

In relation to the degree of knowledge that the informants had of computing before being in a university, there were concurring answers; three said that they knew well how to work with a computer, while two said that they knew nothing about computing. Participant 2B said the following about this:

"I knew nothing about technology because, while I was an institute I barely used a computer, so you tend to forget. When I got to the university, one of my worries was how. I was going to deal with technology, I'm afraid, I don't know".

Concerning this aspect, two informants concurred in that they felt prepared in all aspect to reenter into the labor world. One of them was PIB, who said:

“[I feel] prepared to do the type of work that I am applying for, because it is not the same thing when you only have a high school diploma than when you have a bachelor’s degree in a specific skill”.

The ninth question had many diverging answers. Some of them are as follows: regarding the meaning that their new found academic knowledge had for them, in terms of having a successful transition between the university and their future jobs: he had gained the analytical skills, through the presentations, which would helped them in the job market; he appreciated knowledge more now; was more mature because he recognized the importance of recycling and the importance of taking care of the planet for future generations; and, he did not only expect to pass his course, but to actually learn.

Other diverging answers to this question were: knowledge quenches the human spirit, it opens doors in many aspects; knowledge has a great moral, spiritual and also academic weight; academic knowledge allows she to feel happy and sure about herself, which allowed her to participate; he had changed his vision of himself; she just wanted to be of services, because he was also helped; and, he could talk about specific topics in a more credible way.

Regarding the technological skills in the aforementioned context, the following was said by the informants: the adults thought that they did not have to work with computers; the university had helped them make the transition “from the old to the new”, that this difficulty with technology existed, but they did not want to recognize it; not having computing skills traumatized them and caused the university a lot of hardships when making the Programme’s portfolio; he considered that the computing course was very inclusive and that it was taught by an excellent professor, but since that the time was too short, no learning took place because too much material was crammed in a very short time.

On the topic of the labor skills in this context, the following are examples of the diverging answers: to obtain theory knowledge would allow him to recognize errors made in their profession, since he learned “in practice” that the authoritative styles of “whip and fear” do not work and that the younger workers of the XXI demand to be treated differently; the oral presentations help the students loose helped the student loose the fear of public speaking. One participant said that he had to take advantage of his university experience; he had many “scars” in his souls, due to his being ignorant in many issues in which he was better informed now; and, he visualized himself applying those in his job.

The tenth guide question in the interview was: how do you perceive the academic challenges for the student of 50 years or over, in Puerto Rico? A

total of eight best informants concurred in their answer. They said that their grade average was very important to them. Participant 1C said: “I have 4.00 up to now; I like to have the best grades in class, which is my goal, always an A”. Three informants concurred in their answer regarding their academic challenges: they perceived that coming back to the university they expected the academic challenges to be very arduous, just like P3A pointed out:

“I expected the challenges to be hard, [but] I have been able to manage them, I had made my mind in that if I enrolled in classes I would continue in them until the end of the year, regardless of how difficult they were”.

Like for the other questions, the tenth guide question had diverging answers: he had had to learn technological skills, in front of young students that already had them; his work in the auction field helped him to develop the habit of always working in a timely fashion; studying had been an accomplishment for him; to be able to achieve a goal responsibility is a must; he considered herself very prepared to apply her new knowledge and to be happy when he thought about being able to transmit these to other classmates; maybe because of his level of education, his maturity and his experience that allowed him to reach university level, the academic challenges did not intimidate him; universities should be more rigorous regarding the course requirements; the discipline was fundamental to reach an effective educational process; the adult students only need the determination and the need to go into any profession; and, in occasions she felt that her mental capacity had gone down, reason for which she had to spend more time and dedication to comprehend the class material.

The eleventh guide question in the interview was: how would you describe the meaning that the Programme’s curriculum gives to your life experiences as an adult of 50 years or over? The answer in which all participants concurred in was that the professors took their contribution to the class into consideration, because of the experiences that they had had. About this issue, P3B said: “In many cases [my professors] ask for additional detail from my experiences that I could add to a topic, to make it more clear and better understood by the rest of the students.” Six participants concurred in their expressions, when they mentioned that the younger students understood better though the narration of experiences from their peers. Regarding this expressions, P2A said:

“Sometimes the professor would express himself in a way that only he understood, and the student was sitting there looking at him, not knowing what he meant. If one has the opportunity [to ask]: ‘Professor: ‘is this what you mean?’ In that moment, people start associating terms and they become more dynamic and attentive; professors are very open in that aspect”.

When it came to the eleventh interview question, there were diverging answers: the Programme was created to consider the life experiences of the adult student; he learned about the importance of pacification when

developing infrastructure in the Programme; he exposed in class the way that he had taken care of situations in work and asked that the professors to evaluate his style as an administrator; because of his life experiences, the adult students tended to be more responsible, they challenged themselves to stand out and they were not satisfied with just “any” grade; the student felt proud when his or hers life experienced was added to the classes explanation of a topic; he had offered recommendations to professors, according to his life experiences; in many courses, the professors did not take advantage of the experiences of the adults; and, through the content of some of the courses, the Participant achieved a deeper identification and understanding of his life experiences and got to know himself better.

The following is the twelfth guide question asked to the participants in the interview: how do you perceive the attention that the professors of the Programme showed to issues such as: the teaching methods (examples: going over discussed topics, introduction to new topics, participation of the students in class and the redaction of the exams), the use of the resources (equipment and teaching material), the individualized attention and the management of time?

Some of the concurring responses to this questionnaire are as follows: Concerning the teaching methods employed by the professors, an answer concurred by three best informants was that the professors had conferences in class, whose speakers spoke about topics related to the class. When it came to the evaluations, three participants concurred in that these were very fair. This is what P1A said regarding evaluations: “Yes, they are very fair: we have reviews, we have the convenience of doing our own work. I have felt very well evaluated; we are provided with the material to have excellent grades in our exams”. In addition, two informants thought the same way about the professors teaching method in the Programme, and two informants concurred in that this was due to the assignments of oral presentations. Two of the participants said that the professors tried hard so the students understood the material presented in class. About this, P2C commented: “The professors went through efforts to cover the material, so that we can absorb as much as possible in the given time”. Another response concurred by two participants was that professors showed that they were truly worried about being well prepared for teaching their courses. In the exams, all students were evaluated in an equal way, the younger and the older students were treated equally in this sense, this was the response of two participants regarding the aspect of the tests and the exams administered to the students.

An added aspect investigated was the use of the resources by the professors of the adult targeted programme. Five informants concurred in that both professors and students used the computer and the projector to develop the classes and when making oral presentations, yet two informants said that they thought that often the course guides of the Programme were not up to

date. About that question, P3C answered: “One of the criticisms is how obsolete the module was, the majority of it was obsolete and has no relation to the textbook; we have to improve ‘as we go’ sometimes”. Eight participants said, about how they perceived the individualized attention that the professors of the Programmes gave to students, that they were very available for it. An expression about this, for P3A, was: “[Professors] have been very ‘open’ so the students can progress, develop, and learn; that the students ask the availability to communicate after class if we have any questions. Many have given us their personal number, they have been facilitators”.

Three informants concurred in that the Program was flexible with the adults so that they could fulfill their duties as students; P1A said: “Some students have not been able to take some of the exams due to health problems. They have not been able to [do] some presentations, so they were granted the opportunity to present in later dates”. Three informants said that the professors had offices that allowed them to assist the students that needed help.

Concerning the last aspect, the perception of the informants towards the attention that professors pay to time management, there were concurring answers as the following. All the participants in the study mentioned that the professors distributed time well. Regarding this topic, three responded that they needed to take additional time to finish their workload, which was established in the module of the class. Participant1C’s answer represents the perception of these participants: “There is a lot of material, time is ‘squeezed’, sometimes I have finished class at 10:30 at night, but one comes to the university to study, regardless of the time that I have to return home”. In this context, three informants concurred in their response, when they said that the periods assigned to the courses in some occasions were enough to address appropriately the topics that correspond to the courses.

There was a great number of diverging responses to the twelfth guide question. In terms of the teaching methods, some informants mentioned that: the professors of the Programme encouraged the discussion of the topics happened in a very professional fashion; the professors made sure that they knew how the students perceived the class; a professor used a diary for investigating what was the student’s perception of the courses, the students made simulations of meetings of employees in management positions for product merchandising; some professors presented their life experiences as an introduction in class; the professors assessed the students feelings regarding how they felt about the topics chosen for the class; the professors educated the students about how to prepare the oral presentations and have stimulating comments about the good quality of the presentation; and, the professors emphasized on the specific material that the tests would include.

The participants expressed their diverging perceptions about the attention that the professors gave to the teaching methods: the course guides

don't contain anything to the assigned text; the emails in the guides were not up to date; some professors informed the students about their progress in the course only when it was about to end; sometimes the professors paid for the didactic material; and, the evaluating method was not very strict, considering that they were adult students.

The diverging answers regarding the perceptions of the professor's individualized attention to the students were: the professors were available in their office hours and they helped the students with any doubts that they had; the professors gave students their private phone numbers; the professors used reference books and they went over the material so that the students that were not able to get the textbook, would not get behind; the professors helped the students so that they would be able to work at their own pace; the professors tried to give students individualized attention in the classroom, but the time assigned did not allow this to happen; the professors did not have offices or other places to meet with the students, reason for which they were unable to help them individually, in person, to the students; and, if the professors would be able to give individualized attention to students of the Programme in their offices, they would be able to also prepare better and obtain better grades.

The last guide question was: express the anecdote, comment and/or suggestion that you wish to share about some of the topics exposed in the interview. One of the comments in which five participants concurred was that their experience as an adult university student had been excellent and/ or, marvelous, and they were very thankful. About this, P3B said:

“My experience in the Institution has been wonderful, interacting with the young students, getting used to a new style of studies, interacting with professors, learning [to manage] electronic equipment at a university level. I am very happy and I want to keep developing as well as I can”.

About the answer to this question, four informants commented that they felt grateful for this investigation, and honored because they were chosen to participate in it. The words of P2B about this were: “Thank you for thinking about us, the adults, and for making this investigation. I am thankful about being able to have expressed my experiences here”. Three informants concurred in that; it was the exhortation for the adults to study, as P1B suggested:

“Those people that have the desire to study and feel inhibited, that take advantage of the opportunity, that seeing themselves accomplishing academic life, is more than an achievement that they can use for their personal benefit. It is great to be able to let your kids, that are university students themselves, know that you feel satisfied, accomplished and that you have a good grade average”.

Three best informants commented that the adult students in their Institution had financial aid to be able to finish their degrees, as P2A's anecdote shows:

“In the Institution they find a way so that we can continue forward with our studies, the times that I have had economic problems, I have spoken to them and they have always helped me. I am very satisfied with the Institution and with the Programme”.

The answer given by two participants was that they wanted to graduate so that they could lend a helping hand. About this, P2B commented: “I don’t know if I should be a teacher, advisor or what, but I am going to be something to be able to help many, and that gives me a lot of satisfaction, it fulfills me”. Two informants said that being able to study in the university had allowed them to perceive people in a different way. As P1A puts it: “I have a different perspective of what my kids and my employee do things, I can understand better the people that surround me, I can be a better human being, better supervisor, better colleague and a better mother.”

The following descriptions correspond to some of the individual answers to the last guide question: One participant exposed that he felt very comfortable when restarting college and observed that all of her classmates in the first couple of classes were adults. She added that when she started to take classes with younger students, she thought that they had advantage over her because they had “fresh knowledge”, but she was able to contribute a lot in her classes because of her understanding and her previous experiences. This best informant also commented that she had felt good when she proved that she was able to understand information quickly; and that she had observed how the younger university students and her colleagues saw her physical and emotional effort as an adult that went to the university after fulfilling her professional obligations. Also commented that she had gained the respect of her peers, of her employees and that of the university management, because they had noticed her consistency and effort. She expressed her interest in not letting down all of those who had believed in her and commented that her answers had come from deep in his heart.

Another participant commented that he was satisfied with the attention that he had received in the University and in the Programme. He considered that the fact that the Institution recognized all of his work experience, in addition to the university courses that he had previously taken in other stages of his life, allowed the adult to think of a degree as something obtainable. One informant exposed, as an anecdote, that when he studied as a young student, his grade average was deficient, which drastically contrasted with his excellent grade average as an adult student. Another participant said that she considered that all of the adults of the Programme felt very enthusiastic with their university studies as she did. The comments of another informant was that he had been through difficult moments, but that education was very important to him and he mentioned that time management was key to be a victor in his studies.

Feeling very thankful and very happy for the universities that had created academic programs for adults was the comment expressed by another informant and she added that it was impossible to allow obstacles in the path of the adults that wanted to achieve their academic goals, which they are so determined to finish. The Participant also commented that the adults wanted to be an example that would motivate the youth, for which they need to have to be allowed the opportunity to continue to stand out and keep contributing to the university, to the government and to society. Another opinion of this Participant was that adults also need to have their rights protected, to be valued and to have more career opportunities; commented that the Island was mostly populated by mature adults and older adults. Never the less, she thought that adults were seen as important by agencies. She believed that it is very important to oppose to those laws that seem discriminatory towards the adults, like those that prohibit them from buying some types of insurances or the fact that the older adults must renew their driving license annually. Finally, this participant commented that the adults have to make their voices be heard because they had life experiences and education, all of which make them capable to participate in Puerto Rican society.

Another informant commented about the course's guides: she considered that they were very rigorous for the adult students and suggested that these should have more work done, so that they become less deficient. She comments that professors should consider that adults don't have the same intensity or the same capacity to study as the younger students have. Also, this informant suggested that students should inform their professors when they had any doubts and/or fears so that these can be addressed in a timely fashion. In regards to the final comments of another participant, he said that the most relevant issue in the interview was, for which it should have been longer, suggestions to the institutions. He said that the universities tried to enroll the biggest amount of students, because this was economically favorable to them, because they were immersed in a capitalist world, in which the student is seen first and foremost in an economic perspective, not from the educational quality perspective.

Another issue that the participant commented on was in regards of the "accelerated" Programme offerings. He said that universities, very frequently "damaged" the potential of the students when they said that they would be able to finish their degree in a short period of time. Other comments given by him was that he thought that it would be best if the institution should offer careers that, even though they would take a longer time to finish, this would allow them to feel better prepared and with better possibilities of becoming quality human resources to society. He reaffirmed how important the academic orientation services were to him; commented that the interview had helped him look for a background and that there were many questions

regarding it, that made him aware of issues that he had never reflected upon before.

## **5. Discussion and conclusions**

The discussion of the findings of the study are based in the phenomenological model, that include to describe, know more about, analyze and interpret the answers offered by the best informants to the questions formulated in the interviews in a profound fashion. This discussion is framed in the answers to the three research questions, regarding the research problem and the central question of the study. The revised literature, related to the diverse issues addressed to the informants, the sociodemographic data and the observations that were registered before, during and after the interview process, enriched the analysis and interpretation of the results, as they allowed for the demarcation of the answers of the social contexts in the places where the described experiences took place.

During the description processes and the profound analysis of the answers, it was observed what each participant commented towards them, essentially, towards one of the following aspects: the achievement of the academic goal of obtaining a bachelor's degree as the peak of their self fulfillment, the development of critical thinking as an appendix of their learning experience and their self growth as a human being. The analysis allowed the observation to unexpected questions, that did not adjust to the studied theoretical demarcations, even when they were rich in content and they were expressed verbally, in a categorical form and confirmed through the body language of the participants. Confirms what was pointed out in the study, because the phenomenological interview is not tied to preconceived or established norms, which allowed the participant to express their thoughts, ideas and opinions about the addresses issues with spontaneity and in a very natural fashion. This motivated the election of the modality of "refocus on the interpretation", to complement the modality of "extension of the analysis", both suggested by Wolcott (1994), as a guide to the interpretation of the answers.

The researcher aspires to fix the attention in exploring through the answers, how important it was for the informants each of the mentioned aspects, like a complement when considering the interpreted answers, the applicability of the Knowles hypothesis (in Knowles, Holton, Swanson, 2001), of Maslow (1991) and of other scholars of the subject which were revised (Wolcott). This refocus in the interpretation of the results of the study, was said about the professional experiences of the researcher, as well as their learning experiences and their expectations as an adult university student, 50 years of age or over.

The following are the answers to the first research question: what is the academic experience of the university student of 50 years of age or over, in Puerto Rico, at a bachelor's degree level? The academic experience had by the informants of the study is the transformation that the adult of 50 years of age and older, when becoming part of the university alumni, as a student of one of the diverse academic programs of a bachelor's degree, targeted to adults, that are offered to the institutions of higher education in the country. This transformation was verified through the comparison of the expressions of the informants in regards to the feelings and their thoughts at the time of making the decision to go back to the university: fear, doubt and anxiety because of the reaction that people might have, and the challenge that sharing a classroom with younger people meant to them; and their expressions regarding the way that they perceived those feelings, during a semester that they were interviewed.

Regarding these feelings and thoughts expressed by the informants, says Knowles in the third premise of his Andragogic Model that both feelings have a reason to be rejected by the adult student exposed to it, from his or her younger classmates. He establishes that, as a consequence of the experience that the adult has in the classroom, since there is not a lot of experience had by the younger student, he believes that the adult only wants to get the attention from the facilitator and that of his younger classmates. The transformation is shown when we consider that one of the thoughts that the older adults have is that because of their age they lose the capacity to understand, for which they consider that they cannot internalize the new information that is presented to them in the courses.

In regards to the transformation of the best informants, when they were asked about their opinion regarding their role as university students, about their life and about what they learned, they seemed sure and very confident of themselves. They showed it when they said that they: desired to transmit their experiences to their younger classmates and help them to become more efficient; felt more integrated and respected; underestimated their capacities and their experiences; had acquired the skills and knowledge needed for life; and, that the university allowed them to see and understand issues that they had not paid any attention to before. It is important to consider that the majority of them were enrolled in their third year or later, reason for which they understand that they had abundant experiences that allowed them to comment on the issues that the researcher spoke about.

The expressions of the participants implied that the learning experiences had transformed the way that they think and the way that they act. The transformation experimented by the participants is particularly notable; because of this, one participant considers that her "come back" to the university was only a hobby. Nevertheless, she demonstrated, throughout the whole interview process, a serious commitment with her university career:

fulfill all of the responsibilities as a student and keep her good grade average: these were vital matters for her. She emphasized that the university experience had allowed her to see the world and humans from another perspective, and that she uses the new understanding in his work and in his daily life.

As for the second research question: how have the motivational factors in the people of 50 years of age or over, gave them meaning to their decision to start or to continue their university studies conducive to a bachelor's degree, in Puerto Rico? There was the following answer: the motivational factors expressed by the nine informants of the research give meaning to their decision to continue their studies, because they believe that having made this decision had been a determining factor in the achievement of their self-realization, and particularly in the wellbeing of their families, of their communities and of that of Puerto Rican society in general. The factors that were considered were the following: the reasons for which they decided to continue their degrees, the services offered by the professors and by their aids, the quality of the campuses, the attitudes of the young students towards them as adult students, the level of communication and empathy between both groups of students, and their expectations (personal, social, laborale, economical and academic) once they finish their bachelor's degrees. The informants perceived that they should pay special attention to these motivational factors, like adult students of 50 years of age or over, as they considered these very important to have their university experience be a successful one and allow them to achieve the university degree that they aspired to.

An answer that surprised the researcher was the one expressed by all of the informants, in respect to the motivational factors in their decision to return to the university, was the categorical way in which they expressed the way in which they felt that they had already reached their goal, even though they had not obtained their degree. This was the answer interpreted in the view of the study done by Maslow (1991) in regards of the needs of the human and the self-realization, like the highest of those needs, as the analysis has exposed. The educator Jaime Escalante, (cited in Machicado Saravia, 2010) called "want" (the motivation) that impulses them to beat all obstacles to reach the place that they want to be in. In terms of personal expectations, the answer of the participant was that he was motivated to think that the degree would help him change the direction of his life, since he was in a place that he did not know before and in which he had worked in for many years. This participant expressed, in a verbal and nonverbal way during the interview, that he felt self-realized, that his life had taken a different direction and that he shared those experiences in the university with his family and with other people in his social and labor surroundings.

The third research question was: how do you perceive the university students of 50 years of age or over, in Puerto Rico, the academic challenges in

a bachelor's degree level? The perception expressed by the participants about these academic challenges in a bachelor's degree level was that these trials become a challenge that they should confront and exceed on a daily basis, in the highest level possible, their university goals. To the adults, the academic rigor is related to the quality of the education, for which they not only accept these challenges, but they auto-impose very high goals in aspects such as academic average, the quality of their academic duty and their responsibilities as university students.

The answers of the informants implied that they saw their academic and technical knowledge as very important, and as skills that they can get with their experience as university students. The participants said that through the academic knowledge that is acquired in the university, they could attain the skills of oral expression, which he considered very necessary to execute their professional duties and in their daily tasks. Due to this all the participants had work experience, several emphasized that the academic knowledge could be applied in their jobs, and they said that the knowledge allowed them to understand the decisions that the administrators took. They said that the academic knowledge could be applied in a personal way and that these contribute to make them a better human. Regarding the technical and labor skills acquired by the participants in their respective programmes for adults, they mentioned that they had acquired skills that are required in the job market; the majority of them don't have vast technological knowledge. The participants expressed that they felt prepared in all aspects, even though they had not finished their degrees, to start working professionally, or to continue working in their respective professional careers.

Since they decided to return to college, the participants perceived that there would be academic challenges that they should overcome, which implied that they should be open to confront them, as they did. They counted with the support of the Programme, because the professionals in it had valued their life experiences. The best informant considered that the life experiences would help him to achieve his goal and allow him to help his young classmates, who lacked those experiences, to project his ideas and perceptions in the world from another angles.

The participants counted on the attention that the facilitators had given to them in regards of the learning methods, the use of learning resources, the individualized attention, and time management in the classroom. The factors mentioned contributed to the participant's perception of the academic challenges as a positive element, as an objective and consequence of the degree that allowed them to acquire the knowledge and the skills needed to work effectively in the careers that they had chosen.

Through the exposition of the answers to the research questions, the research problem is exposed: Even though the university institutions in Puerto Rico establish academic nontraditional programs targeted for adults, these are

developed without a profound exploration of aspects such as: feelings, life experiences, perceptions, beliefs, descriptions and opinions about what the experience of being university students means to them, reason for which there are curriculum modalities and complementary services for the adult student that do not respond to the reality that belongs to the experience. In this aspect, the study sustains that the findings of various investigations, done in Puerto Rico and abroad (Bowman and Burden, 2002; Fernandez, 2008; Rivera Claudio, 2008).

The following was the central question of the research: how do you explain, from a phenomenological perspective, the experience of the university student 50 years of age or over, that are enrolled in a bachelor's degree in Puerto Rico, through the nontraditional programs targeted for adults? From the phenomenological perspective, this experience is considered as transcendental; to expose the informant to the exercise of giving ample responses and profound guide questions to the interview, it guided them to go into the reality of the phenomenon. In this sense and in a natural way, it was observed that there was an extraordinary change on the core of each adult, through the inductive reasoning that was employed when the answers were analyzed, and that they exhibited the maturity of the experiences of the university students had represents in all aspects of their lives.

Here lies the essence of this study; through it the research was able to know the reach of the experience described by the participants, in all of their roles. This occurred when they were asked about the meaning that the expression "being a university student" had for them, even though their first answer was pretty shallow, when the researcher meddled a little and when throughout the development of the interview, some of the participants said that to them it meant "to make people think". They said that the university experience had made them look at the world through a new lens, it made them comprehend people, their surroundings, and themselves better.

The findings of the studio sustained all the premises of Knowles's Andragogic Model (Knowles et al., 2001), as for the hierarchy of the Necessities of the Human Being, postulated by Maslow (1991), of which the highest was auto-realization. Of this he says (p. XIX): "Human life cannot be addressed if the highest aspirations are not taken care of". The mature adults and older adults in Puerto Rico, who took the decision to enroll or return to the university with the goal of obtaining a bachelor's degree, as the most elevated aspiration, they demand and deserve to have opportunities and the conditions provided to help them reach it.

Focused on the results of this research, there are a variety of recommendations, some of which are mentioned as follows. One of them is to modify, in universities in Puerto Rico, the oral and written vocabulary used in the promotional signs and in the efforts to have people enroll in the university. Through these, conscious or unconsciously, there is special focus on youth

and the presence, which is growing rapidly, of the adult as a university student is ignored. Through the special attention given to adults, the institutions would be able to integrate them to the rest of the alumni and expose the marked presence of the people of a mature age to the rest of the university's population. The researcher also recommends that the institutions of higher education in Puerto Rico consider among their strategic plans, the revision and the strengthening of the curriculum targeted to adults, in accordance to their demands and needs, in which the results of studies like this should be considered. She recommended that when the academic programs for adults refocus, they should consider as a cornerstone, the life experiences of the mature adult and the advanced adult. A practical way of taking advantage of this experience would be through a mentoring program, through which the young students can receive the supplies with the experience of the adults, related to the content of the courses and with others aspects of university life.

This program would allow the younger students, in a simultaneous fashion, to support the adults in math courses and in regards to the management of electronics, areas that represent big academic challenges for adults, according to that expressed by the participants. In addition, the researcher urges the establishment of the curriculum for adults, it is considered as an issue of urgent need, analyze if the time assigned to the courses is appropriate, according to the students profile, as well as to the content and to the level of difficulty of the courses. During the process of adjustment to university life, it is particularly important that the adult had enough time to adjust to his/hers new style of life as a university student.

It is recommended that, both in the governmental as well as in the corporate Country, the public policies that are established should be revised, so that these can foster the complete development of the mature and of the advanced adults: as human beings, as thinking beings and as professionals. This recommendation is tied to the established in the preamble of the World Declaration regarding Superior Education in XXI Century: Vision and Mission (UNESCO, 1998, p.3), it establishes that: "...education is one of the fundamental pillars in the human rights, democracy, the sustainable development, peace, reason for which it should be accessible to all, throughout their life."

The first part of the XXI Century, denominates the Digital Era, imposes unsuspected challenges in regards to education, all over the world. This study demonstrates that education for adults should not be perceived as a fleeting issue, that should be addressed at a fast pace, from the starting point of the premise that the adult only aspires to acquire and/or develop skills and knowledge in a specific area, to become a professional as fast as possible. Because of this, the researcher recommends that universities adopt more ample and profound conceptions regarding authentic meanings of education

for adults, in accordance to how the adult university student themselves perceive it.

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# **University Life Adaptation: Construction and Validation of a Measurement Instrument**

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**Abstract:** The objective of this research was designing the Integration into College Life Inventory (I IVU, by its Spanish acronym) for Puerto Rican students. Researchers used retention and attrition models as their theoretical framework. Content validity and face validity were determined by expert opinion. Construct validity was determined using three groups of freshmen students from a private university in Puerto Rico. These groups were listed as the successful group—comprised of students from the Honors Program, the high-risk group—comprised of students admitted to immersion courses, and the average performance group—comprised of regular students who did not belong to the previous groups. An exploratory factor analysis was performed to discover the psychometric characteristics of the I IVU, group items by dimensions, and design the final version of the survey instrument, which includes sixty items divided into four sub-scales divided as follows: (1) academic-organizational, (2) psychological, (3) occupational, and (4) sociological. The I IVU had a reliability of 0.95. Integration was categorized in three levels: high, moderate, and low.

**Key-Words:** Freshman College Student, Integration into College Life, Student Retention, Student Attrition, Instrument Validation

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## **1. Introduction**

Starting university studies is a challenging stage, since the students have to assume new roles and responsibilities for which they are not prepared (Soares, Guisande, and Almeida, 2007). Students face a foreign environment

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that they must overcome to achieve their academic goals. High levels of stress and anxiety can make students vulnerable and cause various maladjustments (Fraser and Tucker, 1997). The integration process is not easy. Factors such as age, past academic performance, social skills, personality, origin, and career choice may cause students to abandon their studies (Londoño, 2009). Díaz (2008) notes that the first semester, particularly the first six weeks, are very difficult for new students. They move from the familiar and safe environment of high school to the impersonal college world in which they must fend for themselves, both in the classroom and in other institutional spaces. According to this author, a student who is not independent will have problems during the transition process.

In view of the problem with integrating students into the college environment, the researchers developed a descriptive exploratory study at a private university in Puerto Rico. An extensive literature review was performed in order to develop a survey instrument for the integration of Puerto Rican students into college life. This instrument was validated by twelve behavioral experts and was administered to three intact groups. The educational institution that was studied has standards for placing students in honor, induction, and regular programs. These standards are part of the collection of placement tests and standardized test results for admission into higher education institutions in Puerto Rico.

## **2. Problem**

The integration of freshmen students into college life is a process of concern for higher education institutions (Tinto, 1993) due to student attrition. Tinto states that student retention is attained when there is a degree of adjustment between the student and the institution, which is acquired through academic and social experiences. Proper integration is one of the fundamental requirements for student retention. Donoso and Schiefelbein (2007) state that the highest rate of attrition is during the first year of college. Cabrera, Thomas, Álvarez, and González (2006) mention that discovering the problematic phenomenon of attrition has led universities to design, implement, and evaluate programs and strategies to increase perseverance rates, improve retention, and reduce student exhaustion.

On the other hand, González and Uribe (2002) report that on average, at least half of students entering post-secondary education abandon their studies before earning their degree. Aguilar (2003) observes that the success or failure of some students is due to poor previous academic training, among other factors. Accordingly, Avedaño (2005) explains that many students do not have the skills required for proper academic performance, including study strategies, general knowledge, managing concepts, and awareness of the intellectual processes that must be performed.

Social integration is important for the student's proper adaptation into the college environment. According to Aguilar (2003), upon starting college, students must not only develop new ways of thinking but also initiate new social and cultural relationships with their teachers and peers. These will lead to new social support networks that cannot always be achieved with large class sizes and groups of students with different characteristics. When moving to a different city, leaving home, and withdrawing from their most intimate emotional environment is added to these adjustments, the situation becomes difficult for students. Aguilar says that by the end of the first year, attrition rates and low grades predict the degree to which students will extend their studies and change career paths and/or colleges, as well as the success of a group of students who will continue their studies without major problems. To that effect, Soares, Guisande, and Almeida (2007) point out that students who have greater support networks adapt better to the foreign situations they face in college. In addition to support from peers and faculty, these authors place importance on family support, and specifically, parental support.

With regards to personal integration, López, Vivanco, and Mandiola (2006) state that during the first year of college, students face problems arising from the transition they experience as adolescents, as well as the transition from high school to college. This causes a sense of loss and at the same time, of new opportunities, which create expectations and dreams that they expect to achieve. Londoño (2009) refers to optimism and positive mental health to achieve proper integration. Lluch, cited in Londoño (2009), defines positive mental health as the interaction of psychosocial factors that enable the individual to achieve a high level of wellbeing. These factors include personal satisfaction, pro-social activity, perceived self-control, autonomy, the ability to solve problems, and interpersonal relationship skills. In terms of optimism, Londoño (2009) classifies it as dispositional. This refers to the role of generalized expectations for achieving the right results, or in other words, demonstrating the will to persevere when faced with adversity.

The institutional aspect is considered a factor that impacts the integration into college life (Tinto, 1993; Donoso & Schiefelbein, 2007). Higher education institutions have a great responsibility to their students, and especially to those in their freshman year. It is important to develop orientation programs for freshmen students, and for them to know about the services offered and how to obtain them. Students need to have their questions answered so their anxiety levels can decrease and they can feel confident when beginning their studies. If this fails to happen, the student will feel lost and frightened, which will interfere with proper academic performance.

Aguilar (2003) states that the transition to college is a complex, multi-factorial process that requires students to undergo multiple changes and adaptations in a period of approximately two years. Among the integration variables the author presents in this study, she mentions confusion regarding

career choice, misinformation about college life, career plans and content, poor previous academic training, feelings of inadequacy and insecurity, and decline in self-esteem.

According to González and Uribe (2005), attrition has social, economic, and emotional consequences, both in students and in educational institutions. According to these authors, these consequences are seen in the expectations of the students and their families in regards to young people's aspirations and achievements, as well as in the economy, both for people and the system as a whole. Aguilar (2003) indicates that the economic impact is concerning, since students' failure to finish their studies implies an investment in training that is unprofitable or less profitable than if their studies had been completed. Also, among the emotional difficulties students face, they can experience feelings of failure and frustration.

According to Dubs (2005), attrition causes higher costs, both for the individual and the institution. Cabrera, Thomas, Álvarez, and González (2006) note that attrition and prolongation of studies are worrisome problems, because of the social, institutional, and personal repercussions they have. Institutions and teachers waste the time, effort, and resources they have invested in students. Díaz (2008) states that those who do not finish their studies are in an unfavorable employment situation compared to those who do. This implies a social problem that can be avoided by addressing and strengthening the process of integration into college life.

### **3. Objectives and Research Questions**

The main purpose of this study was to design the Integration into College Life Inventory (I-IVU) for Puerto Rican students. Objectives and corresponding research questions are:

1. Objective 1: Develop an instrument that is reliable and contains evidence of its validity for measuring integration into college life in Puerto Rican students.

Question 1: What is the level of reliability of the I-IVU in its preliminary and final version?

2. Objective 2: Find the psychometric characteristics that the survey instrument will have in terms of dimensions.

Question 2: Which psychometric characteristics will the I-IVU have?

### **4. Literature Review**

Integration into college life is a process through which a group or individual adjusts their behavior to fit into a social environment or into other groups in order to promote their existence or survival in this environment. Integration does not imply conformity; rather, it can lead to innovation or the

modification of elements that make up a particular culture or society. The university is an educational institution that is involved in economic, social, and cultural development (Avedaño, 2005). Tinto (1993) indicates that it is the degree of adjustment between the student and the institution, acquired through academic and social experiences. He affirms that proper integration is one of the most important aspects for perseverance in college.

Donoso and Schiefelbein (2007) define attrition as a student's deviation from their objectives, which is a prelude to readmission and eventually dropping out. Attrition and retention have been categorized into five major approaches, according to the emphasis placed on the following explanatory variables: personal, family, or institutional. The five approaches identified are psychological, sociological, economic, organizational, and interactionist (Cabrera, Castañeda and Nora, 1992; Braxton, Johnson, and Shaw-Sullivan, 1997, cited in Donoso and Schiefelbein, 2007).

Stoeber (2001) points out that success in college is defined by integration into the environment and academic performance. Londoño (2009) presents some variables associated to proper integration into college life. Some of these variables are change of context, immersion into the new educational system, race, origin, gender, and economic capacity. In addition, integration is measured by performance indicators, permanence, and the student's satisfaction. Other subjective factors include personality, good social skills, good perception of personal effectiveness, previous history of good academic performance, real and perceived social support, positive or focused confrontation of the problem, and optimism.

Londoño indicates that perseverance depends on the positive view of the future that students have an ability to positively respond to stressful situations, and effective social interaction with their peers, their family, and their professors. The author notes that academic failure transcends the educational sphere and directly affects the health of the individual and the community he or she belongs to, as well as the country's social and economic development. Professionals qualified to provide their services to their country would be limited by college students' attrition. Avedaño (2005) notes that in college, students have new, entertaining, and motivating experiences, but problems, fears, and insecurities will also arise. Their fears revolve around failing to achieve the expected performance and not understanding professors.

Soares, Guisande, and Almeida (2007) developed a descriptive study at the University of Minho in Portugal. The purpose of this study was to research the relationship between students' levels of psychological autonomy upon their entrance to college and the quality of academic integration by the end of the first year. They administered two questionnaires at two different times. The first was the Iowa Developing Autonomy Inventory (IDAI) at the beginning of the academic year and the second was the Questionnaire of Academic Experiences (QVA, by its Portuguese acronym) at the end of the

second semester of that same academic year. The sample included 420 students. The results revealed that students have enough positive perceptions regarding their level of autonomy in time management, mobility, and interdependence areas, and lower levels in money management, with some differences noted between genders. On the other hand, students—especially males—who did not have to leave their homes to enter college showed higher levels of academic adjustment. The results suggest that academic integration is associated with students' levels of autonomy, particularly regarding time management, emotional independence from their companions, and interdependence.

López, Vivanco, and Mandiola (2006) conducted a descriptive study with 496 students from the eight schools of the University of Chile's Faculty of Medicine. Its purpose was to describe students' perceptions at the end of their first year, in terms of their integration into college life, the emotional atmosphere, the quality of teaching, their physical environment, and the fulfillment of expectations. These researchers developed a survey instrument that was validated by experts. The instrument included 66 claims that students answered on a five-choice Likert scale. Six variables were defined: integration into college life, emotional environment in relation to their peers and professors, quality of teaching, physical environment in which activities take place, compliance with career expectations, and expectations for the following year.

They found that only 23% of the students managed to integrate into college life. Among the factors affecting them were the amount of content in courses, academic load, and lack of practical guidance on how to study. They considered the emotional environment good, while 75% perceived the quality of teaching as average. The study revealed a preference by students for lectures and participatory classes, group projects inside the classroom instead of outside, learning through laboratory work, and study guides.

Londoño (2009) carried out an investigation in a Colombian university to identify the role of optimism and positive health in predicting the level of adaptation of young people entering college. This investigation used a sample of 77 students of both genders, between the ages of 17 and 26 years old. The students underwent several tests: the Life Orientation Test (LOT), the Optimism Scale by Seligman, the Positive Mental Health Questionnaire, the General Satisfaction Scale, and a registration form for academic information (Londoño, 2009, p. 95). These tests were administered at two specific moments—the first was upon entering college and the second was two years later. A multivariate analysis was performed to determine the predictive level of each variable and its interaction with adaptation. The results reflected that optimism is decisive not only in regards to permanence, but it also predicts the cancellation and repetition of subjects, both considered signs of risk for attrition.

Enoch and Roland (2006) conducted a study with 511 participants who were enrolled in their first year at a university in southern United States. This university has two living environments available for freshmen students: regular dormitories and freshmen dormitories. Freshmen dormitories have programs to assist students with adjustment to college. These programs include the development of activities, mentoring programs, and a learning community. The sample included 259 students living in freshmen residences and 252 students living in regular residences. The purpose of this study was to measure the level of adaptation to college life of both groups. They used an adjustment scale created by Anton and Reed in 1991 composed of 108 representations with eight sub-scales. This scale measured anxiety, depression, suicidal ideation, substance abuse, self-esteem, interpersonal problems, family problems, academic problems, and career decisions.

The data was collected in the residences. T-tests were used to determine if there were differences in overall adjustment and social adjustment. The researchers compared females to males with respect to the level of adjustment and they found that males had a higher level of adaptation than females. A statistically significant difference in the level of adaptation was noted when comparing the two groups. The group living in the freshmen residences had a much greater level of social adjustment than the other group. They found that social connections are determining factors in freshmen students' adaptation to college life. These researchers indicate that college freshmen face numerous changes in their lives, and that the transition can be difficult and confusing. Freshmen students need concrete opportunities to integrate into college life and, at the same time, colleges need to increase retention rates.

These researchers indicate that the university can provide various exciting activities for freshmen students. These activities may be focused towards females as well as males. A residence for freshmen students can help those who are shy by enabling them to interact with each other.

Montalvo (2001) conducted a study at the University of Puerto Rico, Utuado Campus, with 175 freshmen students to determine their adjustment to college life. For the purposes of this study, the author used two instruments. The first was the adapted questionnaire by Astin (1998) and the second was the Student Adaptation to College Questionnaire (SACQ) and its corresponding Spanish translation. On the overall adjustment scale, most of the scores from freshmen students reflected a low level of adjustment. Montalvo explained students' behavior in terms of adjustment by considering three main findings: first, the reasons given for having applied to the institution reflected little commitment on the part of the participating students; second, the admission rate was considered low; and finally, a third of the students were first-generation college students.

## 5. Methodology

### 5.1. Research Design

This research was designed to be exploratory and descriptive. Hernández, Fernández, and Baptista (2006) indicate that exploratory studies exist to help us familiarize ourselves with phenomena, investigate new problems, identify concepts or promising variables, set priorities for future studies, or make assertions. Descriptive studies measure, evaluate, or collect data about different concepts (variables), aspects, dimensions, or components of the phenomenon to be researched. In a descriptive study, a series of variables is selected, and their information is measured and collected in order to describe what is being researched.

### 5.2. Participants

Three groups of freshmen students participated in this research. These groups were composed by successful, high-risk, and regular students. Successful students were freshmen honor students from a private university. Students that were admitted to this program were high academic achievers that finished high school with an average of 3.00 or higher and obtained a score of 1,500 or more in the standardized test used for entrance to college (verbal, mathematics, and English sections). High-risk students were freshmen students admitted to immersion courses. These students were identified by their performance on the standardized test used for entrance to college. Their results were: 400 or less in the standardized test, 22 or less in the mathematics section, 37 or less in the English section, and 44 or less in the Spanish section. The third group was average achievers. Students from this group were regular students that were not eligible for the honors program or the immersion courses.

The study sample was non-probabilistic. In this type of sample, the selection of elements does not depend on probability, but on causes related to the characteristics of the research or on who selects the sample (Hernández, Fernández, and Batista; 2006).

Total sample included 147 students, 99 of whom were female (67%) and 48 were male (33%).

### 5.3. Procedure

The study was carried out in different phases. Literature related to the development of the inventory was reviewed, and study variables were chosen as follows: psychological, sociological, economic, and organizational-interactive. Once this phase ended, the original version of the ninety-nine-item inventory was presented in a Likert scale format with affirmative and negative statements. The measurement scale was developed according to the level of agreement or disagreement of each item. Scores were assigned to the items so

that they could be rated according to how much attitudes agreed or disagreed with the information of each item. The scale comprised five alternatives: strongly agree (5), agree (4), undecided (3), disagree (2), and strongly disagree (1).

The content and appearance of this initial instrument were examined by twelve experts on human behavior (psychologists, counselors, and social workers). For this purpose, the inventory designed by the researchers was used, and a comments section was included so that the experts could rate its contents in terms of how necessary the item was for measuring the construct. Most of the experts agreed that all the instrument items were essential. However, they recommended adjusting the language so that it could be understood by college students. The researchers followed their recommendations and paraphrased the items to make the study accessible to the target group.

After this stage, the preliminary version of the Inventory for Integration into College Life was written. Authorization from the selected educational institution and the entity responsible for the ethical compliance of the academic institution was requested. The directors or vice-chancellors of the programs were contacted to coordinate an advisory meeting about the research study, and to select the groups of freshmen students that would be recruited. Although the study was classified as minimal risk to participants, on account of the topic, crisis intervention services were arranged with the counseling office in case they were needed, which in the end, they were not. After obtaining the sample, teachers were contacted and a visit to the classroom was arranged.

Once students were informed through a leaflet, they agreed to participate in the study. The distribution of the questionnaire was coordinated by the personnel designated by the office of student affairs. The I-IVU was distributed to a non-probabilistic sample of the three student groups. This sample included the successful group (n=42), the high-risk group (n=48), and the regular group (n=57). The collected data was processed and analyzed using IBM SPSS Statistics 20.0.

Researchers used an exploratory factor analysis (EFA) to determine the possible attributes of the I-IVU. The EFA identified the location of the items according to the dimensions of the inventory. Additionally, the levels of the rating scale were determined according to the student scores—high, moderate, or low integration. This was done by considering the scores that represent the 25<sup>th</sup>, 50<sup>th</sup>, and 75<sup>th</sup> percentiles. Reliability was determined using Cronbach's alpha. Both the preliminary and final version exceeded the established minimum level of 0.70 (Cronbach, 1984). In addition, Cronbach's alpha of the proposed conceptual dimensions and the obtained empirical dimensions were compared.

## 6. Results

### *Reliability of the I-IVU*

The total reliability of the preliminary version of the I-IVU was 0.95. Table 1 shows both the total alpha and alpha for each dimension. Conceptually speaking, the psychological dimension included three sub-topics: personal-emotional, academic, and occupational. The psychological dimension alpha was researched in general and by area. The total reliability of the psychological dimension was 0.93. The personal-emotional, academic, and occupational areas had an alpha of 0.91, 0.82, and 0.79 respectively. The sociological, economic and organizational-interactive dimensions had an alpha of 0.78, 0.11, and 0.85 respectively.

<b>Dimension</b>	<b>No. Items</b>	<b>Cronbach's Alpha</b>
Psychological		.93
Personal-Emotional	25	.91
Academic	21	.80
Occupational	11	.79
Sociological	13	.78
Economic	7	.11
Organizational-Interactive	22	.85
<b>Total Reliability</b>		<b>0.95</b>

*Table 1. Reliability of the Preliminary Version of the I-IVU*

Note: This table shows the total reliability and the reliability of each dimension of the survey instrument in its preliminary version.

Reliability of the final version of the I-IVU was 0.95. Table 2 shows the empirical dimensions and the levels of reliability of the final version of the instrument.

<b>Empirical Dimension</b>	<b>No. Items</b>	<b>Cronbach's Alpha</b>
Academic-Organizational	20	.89
Psychological	15	.89
Occupational	10	.82
Sociological	15	.81
<b>Total Reliability</b>		<b>0.95</b>

*Table 2. Reliability of the Final Version of the I-IVU*

Note: This table shows the total reliability and the reliability of each dimension of the survey instrument in its final version.

*Psychometric Characteristics of the I-IVU*

The researchers had proposed four dimensions for the inventory. The psychological dimension is divided in three parts: personal-emotional, academic, and occupational. The other dimensions are sociological, economic, and organizational. The first step to determining the psychometric characteristics of the I-IVU was to obtain the inter-item correlations in order to limit the number of items. The criterion used consisted in eliminating the items that had a correlation lower than 0.30. Based on these correlations, the economic dimension was the most affected since it was left with only one item. After the first step, an EFA was conducted to determine in which dimension the instrument's remaining items belonged to. This factor analysis was performed using IBM SPSS Statistics 20.0. The varimax rotation was employed to extract four factors. Table 3 shows an example of the location of items according to the varimax rotation.

<b>Item</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>
I control my time.	0.487			
I'm experienced with technology.	0.445			
Lately I've been nervous.		0.602		
I need help from a counselor, psychologist, or social worker in order to facilitate my adaptation to college.		0.655		
I am unsure about my career choice.			0.633	
I open to the acquisition of knowledge for my future profession.			0.404	
It was easy for me to make new friends at college.				0.637
I have excellent communication skills.				0.632

*Table 3. Location of Factors According to Varimax Rotation*

Note: This table shows an example of the location of items according to the varimax rotation.

Factor 1 grouped items from the academic and organizational-interactive dimensions. Factor 2 showed a tendency to group items from the psychological dimension. Factor 3 grouped items from the occupational dimension. Factor 4 grouped items from the sociological dimension. A table was provided to help rearrange the items and make decisions concerning their contents based on EFA results. Some items were arranged according to EFA results. It was decided that the dimensions of the instrument would be restructured according to these results. The grouped items from Factor 1 were named 'Academic-Organizational Subscale' due to the tendency of both dimensions to be grouped together. As for Factor 2, it remained as 'Psychological Subscale'. Factor 3 was named 'Occupational Subscale'. Factor 4 was named 'Sociological Subscale'. The integration level of the

students was then calculated by frequency analysis and paired with the corresponding I-IVU levels (high, moderate, and low) and percentiles (25<sup>th</sup>, 50<sup>th</sup>, and 75<sup>th</sup>). Table 4 shows the results of this analysis.

<b>Percentile</b>	<b>Score obtained in the I-IVU</b>	<b>Integration Level</b>	<b>Integration Level Description</b>
1-25	1-214	Low	The student does not have the established criteria according to the dimensions of integration into the college environment (academic-organizational, psychological, occupational, and sociological). This represents a potential risk of attrition or low academic achievement.
26-74	215-264	Moderate	The student has surpassed most of the established criteria according to the dimensions of integration into the college environment (academic-organizational, psychological, occupational, and sociological). The student needs to strengthen some areas in order to achieve the optimal level of integration.
75-100	265-300	High	The student has successfully passed all the established criteria according to the dimensions of integration into the college environment (academic-organizational, psychological, occupational, and sociological). The student has been integrated into the college environment.

*Table 4. Percentiles of the I-IVU*

Note: This table shows the levels of integration that correspond with the 25th, 50th, and 75th percentiles according to EFA results. In addition, a description of what each integration level represents was presented, taking into account the criteria established during this research.

Finally, a final version of the I-IVU was prepared.

## 7. Discussion and Conclusions

According to the literature review, the instrument meets the content, face, and construct validity. Validity refers to the degree to which an instrument measures what is intended (Hernández, Fernández, & Bastia, 2006). This is not an attribute of the questionnaire. Validity increases or decreases depending on the quality of the evidence that supports it. Validity is a comprehensive, evaluative judgment that dictates whether the interpretations and applications of the results are justified by the evidence produced (Hernández, Fernández, and Batista, 2006; Thorndike and Hagen, 1977). Cronbach (1984) refers to the concept as a process of obtaining evidence to support inferences.

Silva (2009) indicates that the amount of evidence related to the content is the degree to which the measurement represents the measured concept. Validity is determined based on expert opinion before the instrument is used. Ruiz (2007) points out that researchers intend to determine through content validity the degree to which an instrument's items represent the domain or universe of the content of the properties being measured. He indicates that validity cannot be expressed quantitatively, since it is rather a matter of judgment and subjective estimation. The most common procedure consists of selecting experts that will evaluate the instrument items in terms of relevance to or consistency with the content, clarity of writing, and bias. The experts need to be sufficiently informed about the purpose of the test.

In this study, content validity was verified by twelve experts on human behavior (psychologists, social workers, and counselors). They were provided with a validation instrument developed by the researchers, which was then tabulated and taken into account when making relevant decisions. These experts concluded that the I-IVU was able to measure integration into college life.

Aniorte (2011) defines apparent validity as the degree to which a measurement seems to be valid from the point of view of the target group. For this study, the researchers took into consideration what the experts recommended on how to phrase the items so that they could be understood by the university's student population.

Ruiz (2007) indicates that internal construct validity answers to the following question: To what degree does an instrument actually measure a given latent trait of a person, and how effectively does it do so? In order for an instrument to be effective, it must be based on a theory that allows an understanding of how the attribute manifests. Silva (2009) indicates that construct validity includes three stages: a theoretical relation between concepts, a correlation of concepts and analysis, and an interpretation of the empirical evidence. The researchers made an extensive literature review for the development of the instrument. Three student groups were used to test the

instrument. The results underwent an EFA. This enabled the items to be grouped according to how similarly participants answered the questions. In this type of statistical analysis it is expected that the grouped items be consistent with the dimensions that were defined at the beginning and which originated from the literature review. This happened with the I-IVU: most items were grouped by dimension. Some dimensions were merged, leaving the instrument with 60 items and 4 subscales: academic-organizational (20 items), psychological (15 items), occupational (10 items), and sociological (15 items). The I-IVU levels (high, moderate, and low) were established. A confirmatory factor analysis is recommended for the instrument subscales so that they can be used in educational interventions.

Reliability was determined using Cronbach's alpha. Reliability refers to the degree to which the repeated application on the same subject or object generates similar results (Silva, 2009). According to Cronbach (1984), the value of alpha ranges between 0 and 1.0. The Cronbach alpha is calculated as the average of the Pearson correlation coefficients of all the questions if their scores are standardized (Cronbach, 1984). Using IBM SPSS Statistics 20.0, the researchers calculated the Cronbach alpha of the instrument. It was expected that the instrument had a reliability of at least 0.70. The I-IVU exceeded this expectation with a reliability of 0.95 both in the preliminary and final version. In conclusion, the objective of the study was achieved by creating the I-IVU for the Integration into College Life with a high reliability of 0.95.

This study ended with the creation of an instrument that measures the integration of freshmen students into college life at a private institution of higher education in Puerto Rico according with reliability and validity standards. Preliminary cut scores have been provided from this reference group as a starting point to promote further research in this academic field.

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# **Group Methodologies and Simulations for the Development of Transversal Skills: A Pilot Study on Health Sciences Higher Education**

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**Abstract:** One of the methodologies based on group dynamics is Role Playing (RP). This method consists on the simulation of a real situation, allowing its study and understanding. Knowledge and technical skills are not the only prerequisites for proper practice in health sciences. RP has been used as Communication Skills Training (CST) amongst health professionals. In the teaching of odontology and stomatology, object of our research, dental assistance brings up situations where the professional must develop transversal skills, which improve the interaction with the patient and the dental treatment itself. The aim of this study is to evaluate the efficacy of the proposed RP methodology through the students' opinion. The study sample is made out of dental students (n=80), all of them on the 4th year at the College of Dentistry (University of Seville, Spain). The students who took part in the activity considered the incorporation of RP in the syllabus as relevant, though further study should be considered in order to analyze the efficacy of this teaching methodology in depth.

**Key-Words:** Group Methodologies, Communication Skills, Simulation, Role Playing, Healthcare Education, Health Sciences, Higher Education.

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## **1. Introduction**

The relevance of teaching methods for the quality of learning has been widely demonstrated in multiple studies (Ramsden, 2003; Addison, Burgess,

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Steers & Trowell, 2010; Cobb, & Jackson, 2012; Davies, Jindal-Snape, Collier, Digby, Hay & Howe, 2013). In Higher Education the traditional position has been the use of exhibition techniques, also known as expository lessons and mass instruction ((Ellington & Race, 1993), which led to the discarding of other methodological alternatives and strategies, that while being suitable for other educational levels, were considered unsuitable for the university. Nevertheless, the technological revolution brought about by ICTs has created the need for the transformation of traditional processes of university education to adjust to the new social reality in which students are immersed (Gómez-Galán & Mateos, 2002; Gómez-Galán, 2002; 2014a).

Certainly, the training of future professionals in the various fields of knowledge that are prepared at University cannot only be limited to the theory or practice proper to their specialty, but it is also necessary to acquire different skills and abilities for their work in the field of society. Thus, the employment by university professors of other methodologies parallel to exhibition techniques can offer unquestionable advantages. The application of group dynamics, socialization techniques, discovery learning, autonomous work and self-learning strategies, alternative methodologies and the use of ICTs for the development of conceptual, procedural and attitudinal contents, etc., will certainly help a university student to take responsibility, make decisions, enhance the processes of study and research, etc. and, above all, motivate and enhance their creativity (Gómez-Galán, 2014b; Cropley, 2015).

The use of multiple teaching methods is also positive for the teacher, because it forces them to assess the intervention processes, analyze the educational possibilities of the means and resources at their disposal and study the processes of teaching and learning in relation to pursued objectives and characteristics of contents to offer. Also, group dynamics and simulations gain special importance among these methodologies since they are critical to the quality of learning in the academic sector (Jones, 1984; Thorley, Gregory, & Gregory, 1994; Recker, Govindaraj, & Vasandani, 1998; Gómez-Galán, 2002; Hertel & Millis, 2002; Lean, Moizer, Towler, & Abbey, 2006; Hoffman, Wilkinson, Xu, & Wiecha, 2014).

One of the methodologies based on group dynamics is role playing (RP), which in the academic field is defined as a teaching method based on group dynamics, which uses a simulation focused on the interaction between students with different roles in several circumstances, generating meaningful learning close to real life (Van Ments, 1989; DeNeve & Heppner, 1997; Burns & Gentry, 1998; Martínez-Riera, J. R., Sanjuán, A., Cibanal, L., & Pérez-Mora, 2011). RP works the teaching-learning process acquiring the skills through proposed simulated situations. The students face with unexpected events and seek out the best solution. The Retrospective thinking through a discussion has particular relevance for feedback, especially devised when

trying to develop the communicative skills. This is a constructivist-learning model, opposed to passively receiving information (Gil & Guzmán, 2005).

The design of simulated situations should be selected according to whether the educational goal addresses knowledge, attitudes or skills. In the acquisition of communication skills, repeated opportunities with feedback permit the students to achieve an effective communication. The objective of the simulation is to assess the student's ability to provide information, involve them in making professional decisions and eliminates barriers in communication (Jones, 1982; Mayer, 1993; Maier, 2002). A variety of methods are used to accomplish communication objectives. RP has been used as Communication Skills Training (CST) amongst health professionals. Knowledge and technical skills are not the only prerequisites for proper practice in health sciences, and effective communication is an element related with good practices and its perception from patients, having multiple impacts on various aspects of health outcomes (Spitzberg, 2013; San Martín, Utrilla & Mediavilla, 2014).

The field of medicine has generated a number of research studies in communication skills training. Teaching recommendations for effective teaching have been identified as a skills-based approach, self-assessment by students, small groups for optimal learning and multidisciplinary teaching staff involved (1998; Maguire, Fairbairn & Fletcher, 1998; Silverman, Kurtz & Draper, 2013; Naghavi, Anbari, Saki, Mohtashami, Lashkarara, & Derik, 2014). The Association of American Medical Colleges, the Accreditation Council for Graduate Medical Education, and others have suggested for medical educators to define, teach, and evaluate communication skills for physicians in training (Haq, Steele, Marchand, Seibert & Brody, 2004). Mixed methodologies have been used successfully on the nursery field, with combined skills aiming towards the improvement of the clinical practice and the learning of an effective communication with patients (Mullan & Kothe, 2010).

In the field of dentistry, the importance of behavioral sciences, and in particular communication skills, was formally recognized by the General Dental Council's publishing guidelines for its inclusion in teaching in dental schools (Hananah, 2004). Yoshida, Milgrom and Coldwell (2002), in a review conducted in the U.S. and Canadian dental schools, found that only one-third of them had courses focusing specifically on interpersonal communication. The authors found that the programs took the form of passive learning rather than active skills-based practice using simulated, concluding that there is a current lack of teaching communication skills in North America. On the other hand in Europe, behavioral sciences teaching, including communication skills, show considerable variation with regard to the contents, duration, the credentials of instructors involved and the teaching methods employed (Goldrick, 1999).

There are not too many published studies about the evaluation of RP as an educative method compared to other teaching methodologies and little consensus across the professions regarding how it should be assessed and embedded throughout the curriculum (Hargie, Dickson, Boohan, & Hughes, 1997; Hannah, Millichamp, & Ayers, 2004; Hargie, Boohan, McCoy, & Murphy, 2010).

The aim of our study, this way, is the evaluation and the inclusion of a practical teaching methodology into the current teaching of the Dentistry Degree in Spain, focused on the simulation and interaction with patients and the teamwork. This pilot study focuses on the development of the communication skills, making a difference with previous studies focused on the acquisition of technical skills in clinical practice (El Tantawi, Abdelaziz, AbdelRaheem, & Mahrous, 2014). We propose this pilot study as part of our research strategy which will serve as a basis for future study questions, besides allowing the comparison of results. We seek to deepen our understanding of new teaching methods in health sciences higher education.

## 2. Method

### 2.1. Materials and Participants

Many audiovisual devices as slides presentations and recordings have been used to make the theoretical introduction of the activity in order to provide an easier understanding and development.

The study sample is made out of 80 students, 62 female and 20 male, with ages from 21 to 25 years old, all of them dental students on the 4th year at College of Dentistry, University of Seville (Spain) (See figure 1).

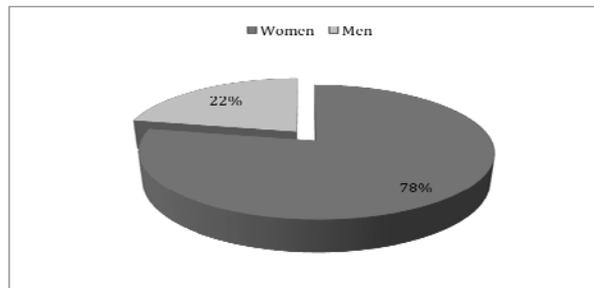


Figure 1. Percentage of gender distribution on the sample.

### 2.2. Design

This is a cross-sectional descriptive study. A research design with quantitative methodology has been used on the development of this work. The evaluation of the teaching methodology has been conducted through a questionnaire with 10 items, 5 items for pre-test and 5 items for post-test under assertions or opinions by using a Likert scale.

Afterwards, a descriptive study of the answers has been designed, building distributions of frequencies and an analysis of relations with the variables with an application of contingency tables through the Chi-square test. For this analysis, the program *Statistical Package for the Social Sciences version 20 (SPSS®)* has been used.

### 2.3. Procedure

Phase 1: Preparatory phase. *Training and formation of students in the classroom, group shaping and role assignment.*

This phase includes a preliminary needs assessment of the group, a brief overview of the cognitive approach to the content and the creation of an effective learning environment. The participating instructors came with the updated content about the topic their activity was going to be about and they exposed the general rules to start with the activity. In groups, students had 10 minutes to organize the different roles and prepare the play, with those roles described by the participants. All students should be involved and ground rules should be set.

Phase 2: Dramatization phase. *Group Simulations, assessment and co-evaluation (evaluation between peers) of the group simulation.*

The students made a short and improvised staging, of around 15 minutes, which was recorded for a subsequent analysis and assessment. The observers of the staging took note on an observation scale of the main elements that a dentist should value when interacting with patients and the level of development of the communication skills and oral expression skills were valued. The role for the instructor during this phase is to monitor the simulation, deciding when to intervene.

Phase 3: Debate Phase. *Reflexive / analytic debate about the staging and subsequent evaluation.*

When the staging is finished, the instructor started a deep and reflexive debate of around 30 minutes about the staging performed, concluding with feedback and debriefing, in order to understand widely the issue dealt with. This is made in order to create better strategies to face this issue.

### 2.4. Evaluation

In order to achieve a satisfactory analysis of the activity, the academic performance and the monitoring of the project have been evaluated.

*Evaluation of the academic performance:* The students' participation counts as positive for the final marks, adding one point to the practical evaluation of the given subject.

*Evaluation of the monitoring of the project:* When the activity is finished, the students have fulfilled the evaluation questionnaire made out of

items concerning the interest, organization, content, achieved learning, motivation capacity on the activity and application of the activity on the working field.

### 3. Results

#### 3.1. Pre-test

80% of students polled considered as relevant the acquisition of skills and professional attitudes of behavior (m=4.22) and 95% agreed with the usefulness and relevance for a professional career (m=4.72).

15% of the students polled argued that acquired knowledge over the degree was enough (m=2.83) and 55% remarked that they had improved their interpersonal skills over the degree years (m=3.55). (See table 1)

Item		f	(%)	mean
<b>1. I think it is relevant to acquire skills and professional attitudes of behavior which allow an effective and adequate both with patients and the team.</b>				
1	Strongly disagree	0	0	
2	Disagree	0	0	
3	Neither agree nor disagree	16	20	
4	Agree	24	30	
5	Strongly agree	40	50	
<b>Total</b>		<b>80</b>	<b>100</b>	<b>4.22</b>
Item		f	(%)	mean
<b>2. I think the training and formation received over the dentistry degree are enough to acquire interpersonal skills.</b>				
1	Strongly disagree	12	15	
2	Disagree	20	25	
3	Neither agree nor disagree	36	45	
4	Agree	8	10	
5	Strongly agree	4	5	
<b>Total</b>		<b>80</b>	<b>100</b>	<b>2.83</b>
<b>3. I have acquired interpersonal skills over the previous academic years.</b>				
1	Strongly disagree	16	20	
2	Disagree	4	5	
3	Neither agree nor disagree	24	30	
4	Agree	32	40	
5	Strongly agree	4	5	
<b>Total</b>		<b>80</b>	<b>100</b>	<b>3.28</b>
<b>4. My interpersonal skills have improved over the degree years.</b>				
1	Strongly disagree	0	0	

<b>2</b>	Disagree	8	10	
<b>3</b>	Neither agree nor disagree	28	35	
<b>4</b>	Agree	40	50	
<b>5</b>	Strongly agree	4	5	
<b>Total</b>		<b>80</b>	<b>100</b>	<b>3.55</b>
<b>5. I think that the knowledge about the patient treatment and teamwork is useful and relevant for a professional career.</b>				
<b>1</b>	Strongly disagree	0	0	
<b>2</b>	Disagree	0	0	
<b>3</b>	Neither agree nor disagree	4	5	
<b>4</b>	Agree	12	15	
<b>5</b>	Strongly agree	64	80	
<b>Total</b>		<b>80</b>	<b>100</b>	<b>4.72</b>

Table 1. Frequency, percentage and items average (pre-test).

### 3.2. Post-test

100% of the students polled agree (60%) or very much agreed (40%) with having found the goal of RP in dentistry. The punctuation obtained about the clarity (m=4.50), organization (m=4.35) and adaptation to case studies (m=4.55) have shown a superior average to 4 on all items. The link of the activity with the professional career of dentist has shown the highest value of all punctuations with an average of 4.60 (see table 2)

Item		f	(%)	media
<b>6. The goal of role playing during the training of the dentistry degree has been identified.</b>				
<b>1</b>	Strongly disagree	0	0	
<b>2</b>	Disagree	0	0	
<b>3</b>	Neither agree nor disagree	0	0	
<b>4</b>	Agree	48	60	
<b>5</b>	Strongly agree	32	40	
<b>Total</b>		<b>80</b>	<b>100</b>	<b>4.40</b>
<b>7. The key issues of the topic have been clearly presented.</b>				
<b>1</b>	Strongly disagree	0	0	
<b>2</b>	Disagree	0	0	
<b>3</b>	Neither agree nor disagree	0	0	
<b>4</b>	Agree	40	50	
<b>5</b>	Strongly agree	40	50	
<b>Total</b>		<b>80</b>	<b>100</b>	<b>4.50</b>
<b>8. The organization of the contents has been noticed.</b>				
<b>1</b>	Strongly disagree	0	0	
<b>2</b>	Disagree	0	0	
<b>3</b>	Neither agree nor disagree	12	15	

<b>4</b>	Agree	28	35	
<b>5</b>	Strongly agree	40	50	
<b>Total</b>		80	10	<b>4.35</b>
<b>9. The case studies have been appropriate.</b>				
<b>1</b>	Strongly disagree	0	0	
<b>2</b>	Disagree	0	0	
<b>3</b>	Neither agree nor disagree	0	0	
<b>4</b>	Agree	36	45	
<b>5</b>	Strongly agree	44	55	
<b>Total</b>		80	10	<b>4.55</b>
<b>10. The link with the professional career of a dentist has been clearly stated.</b>				
<b>1</b>	Strongly disagree	0	0	
<b>2</b>	Disagree	0	0	
<b>3</b>	Neither agree nor disagree	0	0	
<b>4</b>	Agree	32	40	
<b>5</b>	Strongly agree	48	60	
<b>Total</b>		<b>80</b>	<b>10</b>	<b>4.60</b>

Table 2. Frequency, percentage and items average (post-test)

In the test made through contingency tables with the chi-square sample, the result is that the proportion of both sexes has been obtained in a generic way (women 78%, men 22%) and it is seen in the answers of these individuals when agreeing or disagreeing on the matters (see tables 3 and 4, figures 2-11)

Gender		Item 1	Item 2	Item 3	Item 4	Item 5
<b>Male</b>	<b>Mean</b>	4.39	2.50	2.72	3.72	4.56
	<b>N</b>	18	18	18	18	18
	<b>SD</b>	0.60	1.09	1.27	0.75	0.71
<b>Female</b>	<b>Mean</b>	4.27	2.69	3.15	3.44	4.81
	<b>N</b>	62	62	62	62	62
	<b>SD</b>	0.83	1.00	1.18	0.74	0.47
<b>Total</b>	<b>Mean</b>	4.30	2.65	3.05	4.75	4.40
	<b>N</b>	80	80	80	80	80
	<b>SD</b>	0.79	1.02	1.21	0.75	0.54

Table 3. Summary of dispersion measures according to gender (pre-test)

Gender		Item 6	Item 7	Item 8	Item 9	Item 10
<b>Male</b>	<b>Mean</b>	4.56	4.33	4.33	4.33	4.72
	<b>N</b>	18	18	18	18	18
	<b>SD</b>	0.51	0.49	0.59	0.49	0.46
<b>Female</b>	<b>Mean</b>	4.35	4.55	4.35	4.55	4.56
	<b>N</b>	62	62	62	62	62
	<b>SD</b>	0.48	0.50	0.77	0.50	0.50

<b>Total</b>	<b>Mean</b>	4,40	4,50	4,35	4,55	4,60
	<b>N</b>	80	80	80	80	80
	<b>SD</b>	0,49	0,50	0,73	0,50	0,49

Table 4. Summary of dispersion measures according to gender (Post-test)

Figures 2-6. Scores of contingency tables, chi-square test for items on pre-test:

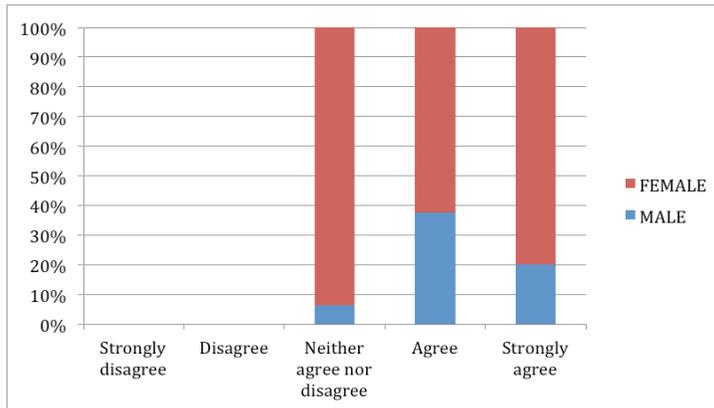


Figure 2. Scores of contingency tables, chi-square test for items on item 1.

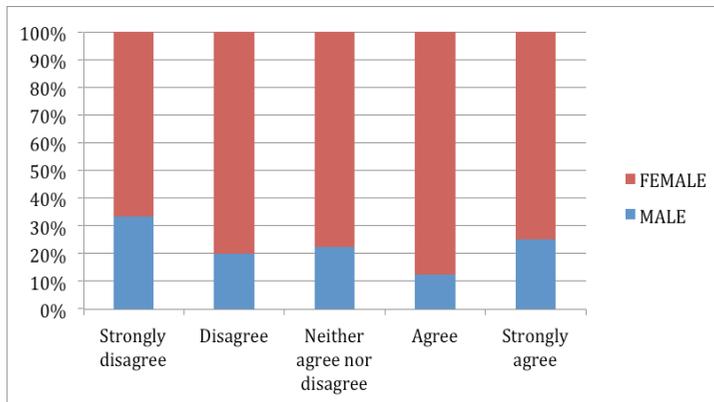


Figure 3. Scores of contingency tables, chi-square test for items on item 2.

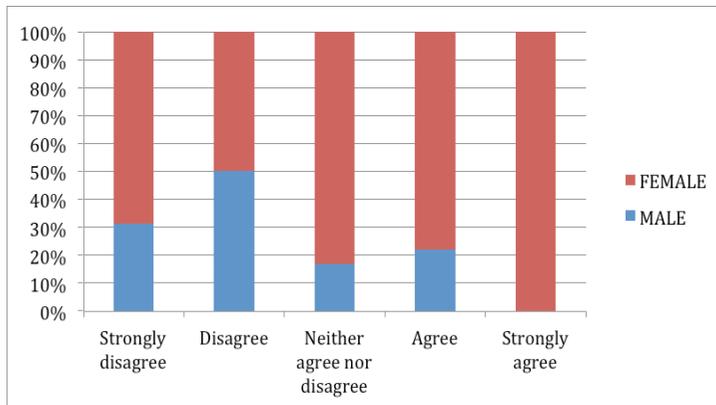


Figure 4. Scores of contingency tables, chi-square test for items on item 3.

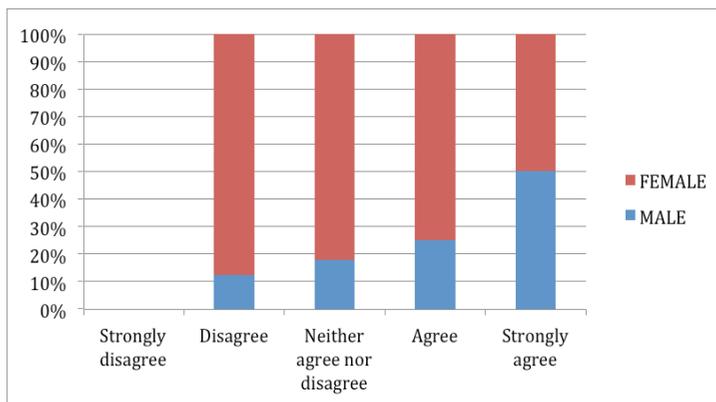


Figure 5. Scores of contingency tables, chi-square test for items on item 4.

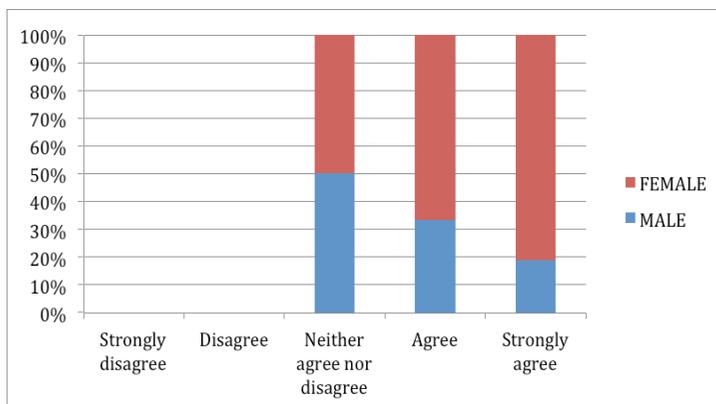


Figure 6. Scores of contingency tables, chi-square test for items on item 5.

Figures 7-11. Scores of contingency tables, chi-square test for items on post-test:

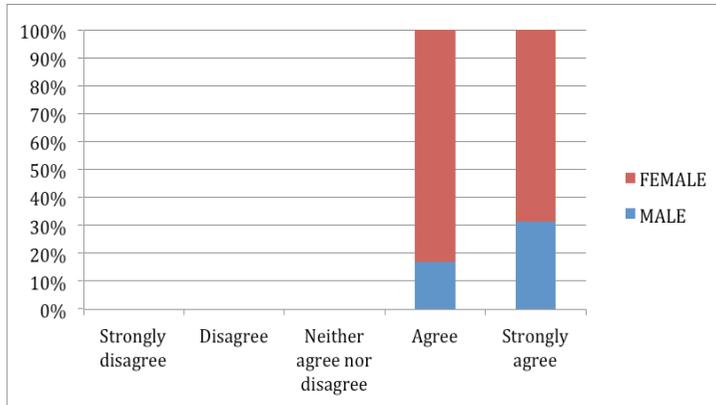


Figure 7. Scores of contingency tables, chi-square test for item on item 6.

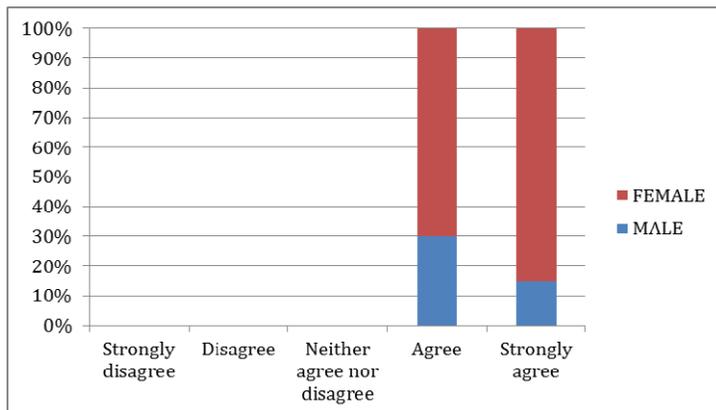


Figure 8. Scores of contingency tables, chi-square test for items on item 7.

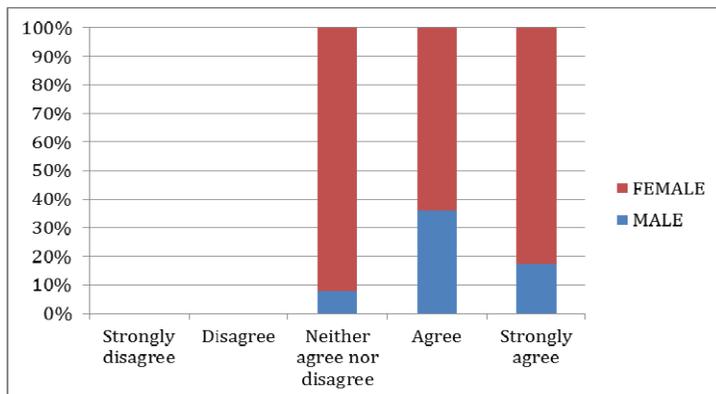


Figure 9. Scores of contingency tables, chi-square test for items on item 8.

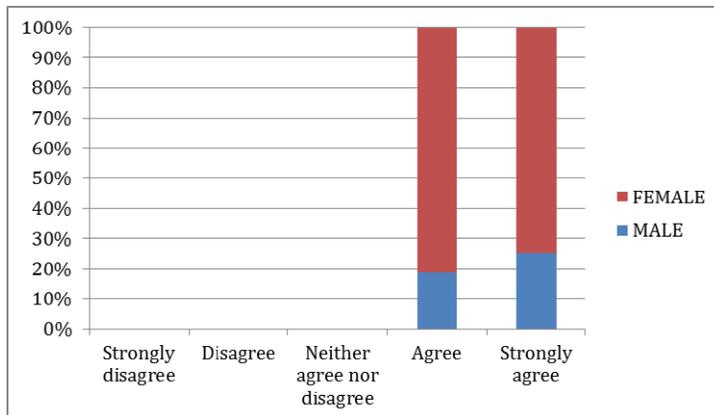


Figure 10. Scores of contingency tables, chi-square test for items on item 10.

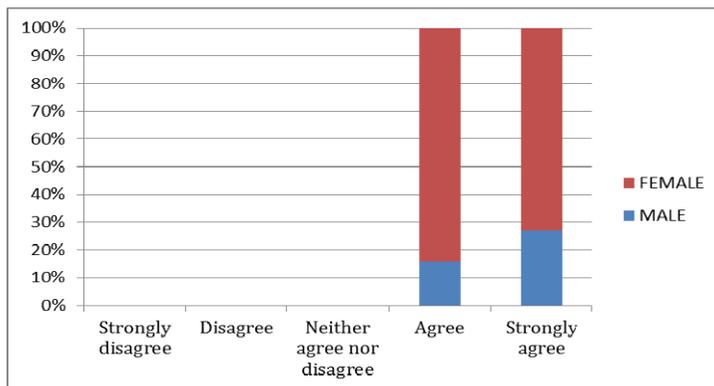


Figure 11. Scores of contingency tables, chi-square test for items on item 11.

#### 4. Discussion and Conclusions

The participation percentage in this research was 100%, as it was designed as an activity inside the program of the subject and it was taken into account in the final evaluation. Some authors argue that RP may cause some rejection on students. Stevenson and Sander (2002) informed that this is the less accepted teaching method in 32% of medical students, remarking the ineffectiveness of this methodology or personal reasons like embarrassment when staging in front of their peers.

The results obtained on this study (95%) differ from these results but they are similar to Knowles, Holton and Swanson (2011), in which 71% of the participants considered RP as a useful and effective technique for the learning of such skills like communication. The School of Dentistry of Birmingham (United Kingdom) reported a positive assessment (69,7%) on the role-play teaching methodology showing its relevance for a professional career (Croft, White, Wiskin, & Allan, 2005).

The gradual introduction of the activity is very important, especially if the group of students is not familiar with the experimental way of working. Introducing RP may involve the resistance or anxiety from some students (Burns & Gentry; 1998; Van Ments, 1989). RP situations, dissociated from a clinical case and introduced previously, help the students to lose their fear and reticence to this method, increasing their participation on subsequent approaches, where a high participation to acquire a particular skill is greatly advisable (Christiaens & Baldwin, 2002).

Despite the results obtained in previous studies and in this pilot study which shows positive attitudes toward RP, there is a need to make more studies with an appropriate design which evaluate the acquisition of skills after the use of simulated patients and RP in a series of different situations (Lane & Rollnick, 2007). RP experiences in the dental curriculum tended to occur on a one-course only basis, so there is no opportunity for students to learn gradually and to increase the complexity of the activity (Yoshida, Milgrom, & Coldwell, 2002). The results of this pilot study were only gathered from one year, so a comparative study with students' prior experiences is not possible. The keys to successful teaching include assessment of the learner and the educator's ability to provide constructive and goal-directed feedback (Jackson & Back, 2011).

In this study, the opinion of students about the usefulness of RP has been analyzed based on a Likert scale. Other authors have used scales (Communication Skills Attitude Scale CSAS), which offer a standardized evaluation of the level of acquisition of skills in the teaching-learning process. This way, Laurence, Bertera, Feimster, Hollander and Stroman (2012) made an adaptation of the SAC especially designed for students of dentistry (Dental Communication Skills Attitude Scale DCSAS), concluding that it is a useful tool for the evaluation of attitudes towards the learning of communication skills among dental students.

Besides, RP is widely used as an educational method for Communication Skills Training (CST), it should take a further look at the analysis of factors, which may influence the activity, and at the evaluation of the methodology for the development of specific skills in the health area (Kruijver, 2000; Nestel, 2007; Okuda, 2009).

Concluding, the inclusion of group methodologies has enabled us to improve the learning process and the acquisition of transversal skills for students, developing communication skills, teamwork and decision-making skills, which may have an effect on an improvement on the patient care. New research should be carried out about the RP as Communication Skills Training (CST) to dentistry, in order to deeply analyze the effectiveness of the teaching method.

It must be borne in mind, first, that innovative proposals in the field of teaching methodology in Higher Education are not only desirable but

completely necessary in today's society, where patterns of transmission of information and communication processes have changed profoundly. The application of new pedagogical paradigms such as formative assessment, interaction-based teacher-student communication, teaching methodologies that enhance participation and activity of students, integration of the educational use of ICTs, etc., should represent the basis of new Higher Education structures (Gómez-Galán & Mateos, 2002). We are heading towards the development of more open and democratic pedagogies that encourage responsibility and students' self-learning. This transformation, based on teacher training, strengthens the figure and the professionalism of the teaching function. In the case of Health Sciences the training of future professionals will improve in this field and, consequently, the care provided to their patients.

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# **Mixed Methods Research in Education: Capturing the Complexity of the Profession**

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**Abstract:** Mixed methods research is recognized as a third model of research in social and behavioral sciences. Its value for educational research just recently began to be discussed in the literature (Ponce, 2014; Scott & Sutton, 2009; Ellis, 2005). A mixed methods research study means the use of quantitative and qualitative methods as components of a research design (Caruth, 2013; Ponce, 2011; Creswell, 2009; Greene, 2007) or a research program (Phillips, 2009). Most of the literature on mixed methods research could be considered generic (Creswell, 2009). This means that the discussion centered on research designs with little or no relation to any particular disciplinary context. According to Creswell (2009), the development of literature in a particular discipline's context, using mixed methods research, will help to strength the mixed research movement. In this article, the authors explain mixed methods research and its possible uses, strengths, and challenges in educational research.

**Key-Words:** Educational Research, Mixed Method Research, Mixed Method Designs, Educational Sciences, Behavioral Sciences.

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## **1. Introduction**

There is no one universal definition for educational research (Hedges & Hanis-Martin, 2009; Condliffe and Shulman, 1999). A common view of educational research is to define it as research into educational matters (Johanningmeier & Richardson, 2008; McMillan, J. H. & Schumacher, S., 2005; Condliffe & Schulman, 1999; Segovia, J., 1997; Charles, C.M., 1988; Cohen & Manion, 1980). Historically, the field of educational research has faced controversies in its quest for effectiveness in capturing the complexity of educational phenomenon (Walters, 2009; Vonovkis, 2009; Johanningmeir

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& Richardson, 2007; Condliffe, 2000). We consider three controversies in educational research as relevant to illustrate the challenge of researching educational complexities. The first deals with how education is defined to do research in educational matters. This controversy originated when the field of educational research was emerging (Johannigmeier & Richardson, 2008). Is education a natural phenomenon that manifests in the same way for all students regarding any particular schools or educational systems or is education a cultural phenomenon mediated by the social norms and the values of students, teachers and administrators? (Latorre, 2008; Pring, 2000; Carr & Kemmis, 1986). If education is defined as a natural phenomenon, then teaching and learning process becomes a lineal phenomenon where educational policies, teaching practices and the administrators and teachers behavior become the “causes” and learning the “effects.” From this point of view of education, the quantitative research methods become the dominant approach to assess individual components of the schools (e.g., student satisfaction) or the effects of one component into another (e.g., the effect of math teacher in producing student’s learning). If education is defined as a cultural phenomenon, research into educational matters should focus on multiple and complex social relationships that occur in school settings to produce learning. The relationships among students and their parents with teachers and administrators, place educational researchers in a position that they have to deal with abstract social phenomenon such as school constituencies’ interpretations of the educational policies, the school’s curriculum or the teaching styles used in the school as well as the cultural values of students. The use of qualitative research methods have been the dominant approach to understand the student’s learning experiences, the values students bring to the educational process, or how the educational process change student’s values and cultures, as well as the political aspect of education that comes in the form of educational policies, programs and curriculum (Latorre, 2008; Carr & Kemmis, 1986). No matter how researcher defines education or decided to approach the educational phenomenon, the field of education is complex and elusive (Johannigmeier & Richardson, 2008; Condliffe, 2000).

A second controversy in educational research deals with how to capture the complexity of educational phenomenon since the research paradigm war between 1970 and 1980. The debate, well documented in the literature (e.g., Eisner & Peshkin, 1990), exposed two opposing views of educational research: a) the believe that one research model was superior than the other (Tashakkori & Teddlie, 1998), and (b) the relevancy of qualitative research as a research method in education (Denzin, 2009). An outcome from the paradigm war was the recognition that quantitative and qualitative research methods are important in educational research to capture the complexity of the field (Hammersley, 2007; Pring, 2000). Quantitative research methods are

important for measuring educational phenomenon with precision and to determine and evaluate the value of educational programs and public financial investments. Qualitative research is important for capturing the context of educational phenomenon and the humane and social aspect of education (Greenne, 2007).

The third controversy deals with the quality and utility of educational research to solve the problems of public education and to generate educational policies (Walters, Lareau & Ranis, 2009). Capturing the complexity of educational phenomenon is one of the criticisms raised in educational research. To solve the problems of public education, educational research must be sustained on science to produce evidence educational practices as occurs in medical research or agricultural research (Walters, Lareau & Ranis, 2009). Scientific research means quantitative research (Shavelson & Towne, 2002). This controversy emerged between 1994 and 2001 (Walters, Lareau & Ranis, 2009) and is considered a political issue rather than a science issue. Qualitative research is not considered scientific in some political and influential groups (Denzin, 2009). From this controversy, the use of quantitative and qualitative research is considered an important component of any educational research program in order to capture the complexity of this field (Phillips, 2009).

## **2. Mixed methods research**

A mixed methods study is research intentionally combining or integrating quantitative and qualitative approaches as components of the research. The use of these approaches can occur at different points in the research process. (Caruth, 2013; Creswell, 2011; Ponce, 2011; Teddlie & Tashakkori, 2009; Greene, 2007).

- a. In the planning phase where the research plan is developed, it becomes clear what is investigated and how quantitative and qualitative approaches are used.
- b. Combining or integrating research questions from quantitative and qualitative approaches to guide the researcher into the complexity of the problem studied.
- c. Using quantitative measurement instruments with qualitative research techniques to generate quantitative and qualitative data for the research problem.
- d. Combining or integrating quantitative and qualitative data in the analysis of study data.
- e. Combining or integrating quantitative and qualitative data in the presentation of the study findings.

Four objectives are pursued in mixed methods research (Caruth, 2013; Creswell & Plano Clark, 2011; Ponce, 2011; Teddlie & Tashakkori, 2009; Berman, 2008; Greene, 2007):

- a. Combining or integrating quantitative and qualitative methods toward the best possible approach to the research problem.
- b. Generate quantitative and qualitative data toward a clear and deep understanding of the research problem being addressed.
- c. Generate quantitative and qualitative data from the same research problem that allows the researcher greater certainty in inferences, conclusions or statements which formulate its findings.
- d. Make more robust research by using the strengths from one research model to offset methodological shortcomings from the other. This produces more reliable research.

### **3. Characteristics of mixed methods studies**

There are many forms of quantitative and qualitative research. Both the model of quantitative research and qualitative operate upon some assumptions about what research is and how it should develop. When the researcher combines or integrates quantitative and qualitative approaches in the design of mixed study, what it does is create a third research model that allows using these two in an articulated and harmonic manner. The first step to combine or integrate quantitative and qualitative approaches in the same study is to understand the assumptions, the foundations and characteristics of mixed studies, as a third research model (Caruth, 2013; Creswell & Plano Clark, 2011; Ponce, 2011; Campos, 2009; Morse Niehaus, 2009; Teddlie & Tashakkori, 2009; Greene, 2007; Mertens, 2005; Tashakkori & Teddlie, 1998). Let's review some of them:

a. *The nature of the problems of mixed research (premise)*. Mixed methods research is used only when the complexity of the research problem cannot be addressed from the unique perspective of a quantitative or qualitative study. The argument is that contemporary society has evolved and has become more complex. The vast majority of the social, economic and contemporary political problems show that complexity. Let's use the example of environmental problems. Environmental pollution is the result of many factors; urban development, the development of various means of transportation, like the car, the use of water bodies as a recreational environment, and so on. Researching the problems of the environment, and venturing into its complexity, demands the use of multiple studies to address

the complexity. Mixed methods studies are based on the belief that there are existing problems whose complexity cannot be fully researched when the combination or integration of quantitative and qualitative approaches are not undertaken as components of the study. Simply put, the complexity of the problem cannot be deciphered or fully understood from a single quantitative or qualitative approach. Mixed studies address research problems in which clear objective and subjective aspects are manifested that require the use of quantitative and qualitative approaches. For example, the temperature in a cinema. Subjective elements are aspects of the problem that can be understood only by the perceptions and experiences of those who live them. For example, if the temperature of the theater is considered pleasant or unpleasant. Mixed methods research is used only when we address research problems which have objective and subjective elements in its manifestation.

b. *The research question (foundations)*. Mixed studies emphasize the research questions of the study being the focus of all methodological decision. The research question guides the study and determines which components of quantitative and qualitative models are used. In other words, what determines the combination or integration of quantitative and qualitative approaches are the research questions of the study. The relationship between the research questions and the quantitative and qualitative approaches should be seen clearly when designing the study. This is important to establish the relevance and alignment of quantitative and qualitative approaches which are selected to study the research problem.

c. *The research process (methodology)*. The process of a mixed methods study is to integrate or intentionally combine quantitative and qualitative approaches as components of the study. The aim is to explore the complexity of the research problem to measure their objective aspects and to understand / describe their subjective elements as directly and accurately as possible towards its manifestation or expression. The combination of approaches occurs in two ways; prior to the study or in the planning stage as in quantitative studies, or in the development of the study where the researcher recognizes the need to depart from the original design of research to achieve their research goals, as in qualitative studies.

d. *The behavior of the researcher (philosophy)*. The action of the researcher is pragmatic, meaning the product is more important to study the process. Any decisions on how to combine or integrate quantitative and qualitative approaches, once the study is in place, is based on how these provide an insight to the complexity of the problem and answer the research questions of the study to achieve the research objectives. The more a combination or integration of quantitative and qualitative approaches can

zoom in and capture the essence of the problem, the greater the relevance and effectiveness of the design. When this occurs, it can be argued that the researcher's decisions were correct.

e. *The study outcomes.* The product of a mixed methods study is quantitative and qualitative data upon the problem studied. The collection of quantitative and qualitative data provides more complete information, descriptive or broader, from the research problem and this allows the researcher to make more informed decisions about how to solve the same.

#### **4. Models of mixed methods research**

There is no universally accepted definition of mixed methods research. In the literature the following two models mixed methods research are identified (Ponce, 2011; Creswell, 2009):

##### *Model 1*

1. Is the first model of mixed methods research identified in the literature prior to the 1990's.
2. Quantitative and qualitative approaches in the same research were used, but not connected, integrated or combined.
3. Combining or integrating the data is done at the end of the study to answer the research questions.

##### *Model 2*

1. Is the model of mixed methods research emerging in the 1990's, and defines its contemporary practice.
2. Combining or integrating research approaches intentionally to produce a more robust study than one of mono-methodological approach.
3. Integrating approaches occurs in the philosophical positioning of the study, methodology and data analysis.

#### **5. The basic structure of the mixed methods study**

Two basic structures or ways of combining or integrating quantitative and qualitative approaches as part of the design of a mixed methods study are recognized. These structures are explained below (Ponce, 2014; Caruth, 2013; Creswell & Plano Clark, 2011; Ponce, 2011; Teddlie & Tashakkori, 2009):

a. *Research in sequential phases (sequential phases design).* Signifies that the researcher begins his study with a research approach (phase I) and uses findings to design a second phase (Phase II), but using another research approach. For example, the study begins with a qualitative phase and uses

findings to design the quantitative phase. The fundamentals of studies with sequential phases are to use a research approach to study deeply the research problem and then use the findings of the first phase and design the second phase. The two possible combinations under the structure of sequential phases are presented in Figure 1:

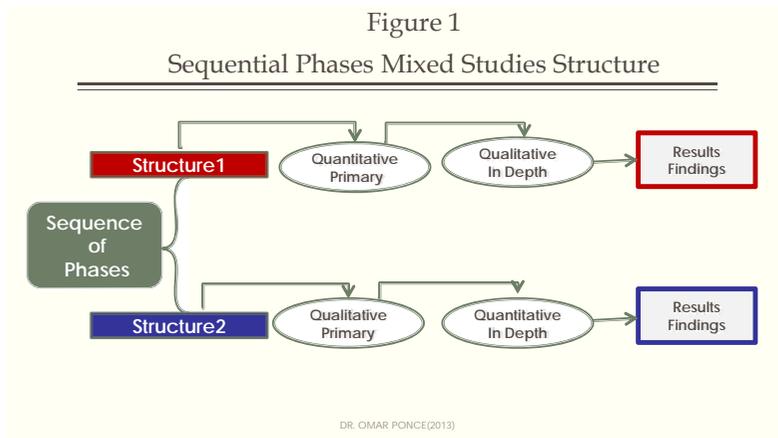


Figure 1. Sequential Phases Mixed Studies Structure

*b. Research in parallel phases (convergent parallel design).* Means that the researcher uses quantitative and qualitative approaches simultaneously in the development of their study. Generally, parallel phase studies consist of studying the problem in an integrated manner from the quantitative and qualitative approaches. Figure 2 illustrates the structure of parallel phases of a mixed methods study.

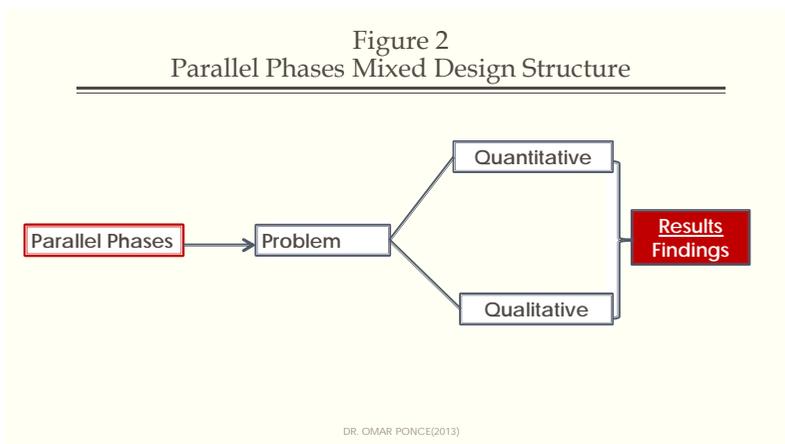


Figure 2. Parallel Phases Mixed Design Structure

## 6. Mixed methods research designs

The design means the research plan that will guide the researcher in conducting the study. Mixed research designs are accepted ways of how integrated quantitative and qualitative approaches can be combined in mixed methods study. Below are presented seven mixed methods research designs that illustrate the structures of sequential phases and of parallel phases (Ponce, 2014; Creswell & Plano Clark, 2011; Ponce, 2011; Teddlie & Tashakkori, 2009; Greene, 2007):

*a. Exploratory design using sequential phases (quantitative - qualitative).* The objective of this design is the exploration of the research problem. Exploration is used when very little is known about the research problem. The less information about the problem, the greater the relevance of this design to begin learning about it. This design first uses a qualitative research approach to explore the experience of participants with the phenomenon under study, their culture or values of the group, or the structure of the institution being studied. With the findings of phase I (qualitative), the researcher designs a quantitative study (phase II) to define or measure the findings of the qualitative phase (phase I) in a sample of the universe under study. For example, say that a car company wants to redesign your model sedan in the face of reduced sales. As they do not know the needs and interests of their customers, the study will begin with a qualitative approach using focused interviews. Identify buyers of that sedan model of the San Juan dealer, start the interview process and generate a list of the aspects both positive and negative and should consider the recommendations for a sedan car more responsive to the interests and needs of customers who bought it. With these findings, the researcher designs a questionnaire (quantitative phase II) to be administered to a sample of buyers of the same model at other dealerships of the company. Once administered the questionnaires and the data collected can specify the order of preferences, strengths and needs of customers to be incorporated into the next model line sedan cars offered for sale. In this study, the qualitative phase reveals the needs of customers and the quantitative phase facilitates the understanding of these needs in a large sample of the population (Figure 3).

*b. Explanatory design using sequential phases (quantitative - qualitative).* The purpose of this design is to study or describe the research problem in depth. To achieve this, it first uses a quantitative study to measure the attributes or properties of the problem (phase I) and then to a qualitative study (phase II) to deepen the findings of Phase I. For example, say that the Residents Association of an apartment complex decides to study the levels of

resident satisfaction with recreational areas. A survey with questionnaires to residents is performed (phase I). This survey asks how satisfied residents are with recreational areas, using a scale of 1 to 4. In this survey, 1 means very dissatisfied and 4 very satisfied (quantitative phase). After the structured quantitative survey the study continues with a qualitative interview, this time trying to understand the reasons for the initial response (qualitative phase). Each resident is asked to explain or qualify his answer. This allows generation of a list of strengths and weaknesses as perceived by residents of the recreational areas of the apartment complex. With this data, a plan is generated to meet the same. In this example, the quantitative phase measures the level of satisfaction of residents with the recreational areas and the qualitative phase allows us to understand the reasons (Figure 3).

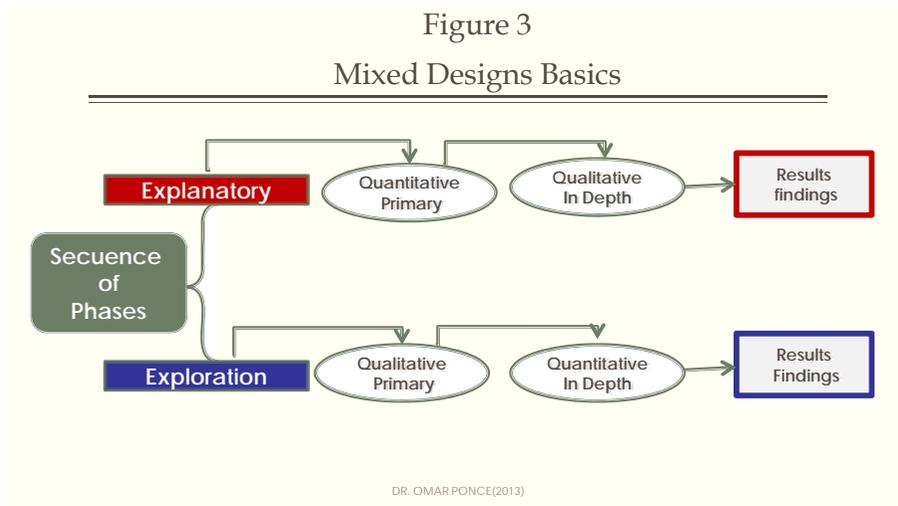


Figure 3. Mixed Designs Basics

c. *Convergence design using parallel phases.* The objective of this design is to study the research problem in its entirety and dimension. The quantitative approach is used to measure the properties and objective aspects of the problem. The qualitative approach is used to understand and describe the subjective aspects. It is known as convergence because each design approach is used to study different aspects of the problem. The quantitative approach measures the objective aspects of the problem and the qualitative phase enters the subjective aspects of the problem or the experiences of the participants. Convergence occurs because it is the researcher who integrates quantitative and qualitative data to explain the problem studied. For example, let's say the X Hospital hires a consultant to assess their pediatric services. As a quantitative approach, the consultant designs a checklist for pediatric

services regarding to the commitments established by the hospital toward patients; no wait time more than 30 minutes to be served, friendly doctors and nurses, make the best treatment accessible to patients, based on income and people's health plan. With this checklist, the consultant observes the performance of the pediatric ward, and how they care for patients and evaluates services according to established commitments. To understand the experience of parents and children with pediatric services, interview those who agree to be interviewed. In this conversation, the researcher tries to understand the perception of parents and children with the service they received. With the quantitative assessment component measures the degree of concordance between the services offered with the commitments in the hospital's mission. With the qualitative component, understands the experience of parents and children with the service received. The convergence of quantitative and qualitative data allows the consultant to explain how responsive and consistent pediatric services are offered by the hospital with the promises it makes to their patients, according to the experience and lives of the patients.

*d. Triangulation design using parallel phases.* The objective of this design is to use quantitative and qualitative approaches to study in depth the same aspects of the research problem. To achieve this, the researcher carefully plans the entire process of research to address these aspects of the problem from quantitative and qualitative perspectives. This is achieved if the measuring instruments and research strategies are aligned and complementary to collect quantitative and qualitative data of the problem. Thus, the data analysis focuses on these aspects to obtain quantitative and qualitative data to triangulate or consider the same aspects of the problem. We return to the example of the consultant evaluating pediatric services. To make the study of figure 3, a convergence study one of triangulation, the consultant must define pediatric services, build a checklist, align this to the promises (mission and vision) established by the hospital to their patients to measure the performance and effectiveness of services (quantitative phase). Also he needs to know the experience of parents and children, with each of these services received (qualitative approach). In conducting the study, he uses quantitative and qualitative approaches to examine the same aspects of the research problem. Thus, the researcher is able to penetrate and explain the problem in depth from quantitative and qualitative perspectives (Figure 4).

*e. Complementary design using parallel phases (embedded designs).* The objective of this design is to use one of the research approaches to counter the deficiencies of the other. In this design, a research

approach is used in a primary role because it is the dominant or principal method of study. Let's say we use an experiment as the main research method to test the effectiveness of a technique for relaxation and stress management. The strength of the experimental design in this case is that it tests, with people, the relaxation technique. Typically, the stress level of the subject before the test is measured, the technique is applied and the result is measured to determine whether the treatment effect appeared or not. The test technique with people is the greatest strength of the experiment. However, its shortcoming is that it does not provide an explanation of the process or how the technique works. This occurs because the experiment assumes that if a change occurred in the levels of relaxation of the subjects, as measured in the pre and post-test, it was due to technique. In this example, if a qualitative research approach is used where you can understand the experience of those with the technique is incorporated, then you might have a clearer idea of how it works. In this case, the experiment is the primary method of research and the qualitative approach is the complementary method because it is used to compensate for the methodological deficiencies of the experiment (Figure 4).

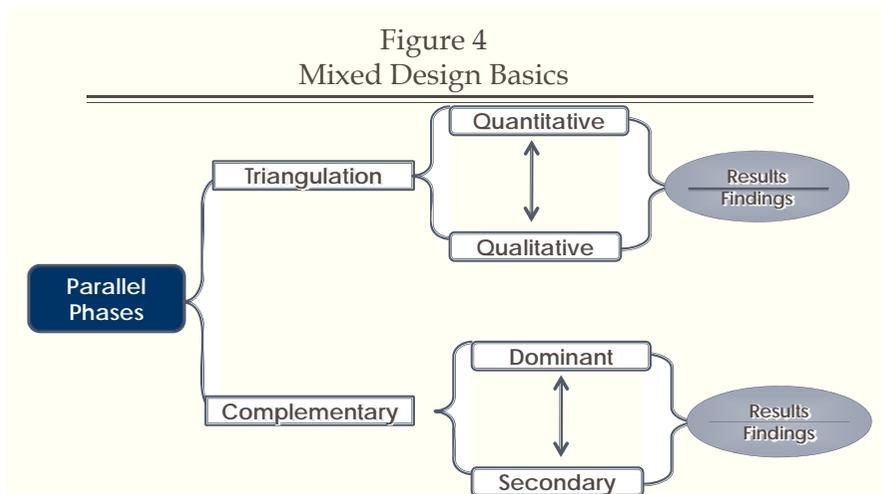
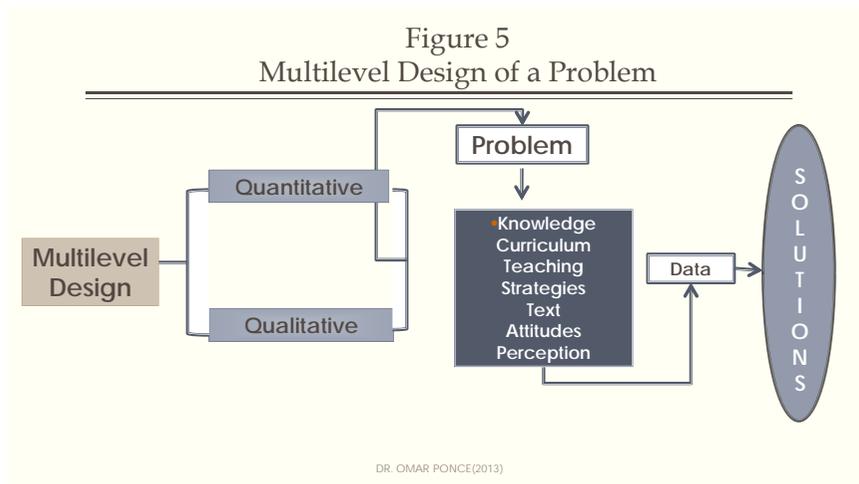


Figure 4. Mixed Designs Basics

*f. Multilevel design (multiphase design).* Multilevel designs are studies where the researcher needs to venture to different levels of analysis, study and research because the problem has several dimensions, manifestations or ramifications. Therefore requires different research approaches and different groups or samples to enter this complexity and to decrypt it. Let's say that the management of a private school decides to adopt a new curriculum where all classes will be conducted in English and Spanish

alternately. One day the class will be in Spanish and the next in English. The school administration argues that this new approach will help create bilingual graduates better prepared for many changes that are occurring in the workplace. To assess the extent of this decision prior to implementation, the measure should be understood from different perspectives of what it will entail for faculty, students and parents. For example, how would this influence the daily preparation of teachers to teach a course bilingually. The same would apply to students. What monetary cost would this decision have for parents, perhaps, to purchase materials and equipment for their children in English and Spanish? In this example, the list of questions (complexity of the problem) can be much larger, if approached from the various population groups that would be impacted by the decision (parents, teachers, students). To study a problem of this nature, it is necessary to use a multilevel design or a study that uses various quantitative and qualitative approaches using different population groups or samples, as part of the research design (Figure 5).



*Figure 5. Mixed Designs of a Problem*

*g. Emergent designs (transformative design).* It is common in mixed studies to deviate from the research design for the following reasons that occur when combined quantitative and qualitative approaches in the same study; the researcher encounters quantitative and qualitative data that contradict, the researcher identifies new perspectives on the problem that had not been included in the initial study design, however they merit investigation, or discovers methodological errors in the study. When these situations occur, the researcher has two options; concludes his study and accept this as limitations of research or modify the design to respond to them.

When these modifications are made to the joint studies to answer those findings that emerge from the research process and that merit response it is known as an emergent design. Therefore, the researcher must explain this in the final research report. In other words, the study began with a design that evolved to another in the process of conducting research.

## **7. Data collection in mixed studies**

Data collection constitutes the phase of developing mixed methods research. The fundamental principle is to collect data *respecting the rules of each research model in the design and developing of a mixed methods study*. What is quantitative is quantitative and what is qualitative is qualitative. Keeping each research approach aligned within their paradigm or model strengthens the rigor of each approach and the validity of the mixed study.

*a. Define the research problem.* The research problem consists of situations, phenomena, processes or persons who are the focus of study. In mixed studies, research problems have the tendency to be complex because they include objective and subjective elements to be addressed with a combination of approaches. There are two styles when presenting the research problem:

- *Write the problem by way of composite question where the objective and subjective aspects are highlighted.* For example; which candidate for governor people prefer and why?
- *Write the problem by way of simple question and leave the objective and subjective aspects to the research questions.* For example; what radio station do those aged 20 to 30 prefer?

*b. Write the research questions.* Research questions decompose the problem into manageable units to be studied. In mixed methods studies quantitative and qualitative questions are used. A common practice in mixed methods studies is always designing questions beginning with what, how, when and where. This is accepted because it is easier to answer questions when contrasting with the survey data. For example; what is the social issue that most worries Puerto Ricans? Two styles dominate in drafting research questions in mixed studies:

- *Write research questions for each research approach.* In other words, write four to five questions for the qualitative component and the same amount for the quantitative component. In this format, each research approach answers its research questions. Those who favor this format argue that it provides much more specificity to the research because each component has its own questions.

- *Write research questions to guide the entire study.* In this format, the full study aims to answer these research questions. In other words, the quantitative and qualitative components of the study are designed to generate quantitative and qualitative data to answer the research questions.

*c. Select the research design.* The principle key in selecting the design is to understand the quantitative and qualitative research to use them appropriately in a mixed methods study. It is very difficult to conduct a mixed methods study without understanding the models of quantitative and qualitative research.

- *The problem and research questions have to connect with the mixed research design.* For example, studies of exploration or explanation. Studies of this nature can be carried out with sequential phase studies. If the research questions put greater emphasis on one component of research, it can probably be done as a complementary design using parallel phases. If the research questions put equal weight on quantitative and qualitative models, then it could be answered either with a convergence or triangulation design using parallel phases. The research questions are fundamental in determining what and how the approaches of quantitative and qualitative research were used.

- *Specify what to combine, integrate or complement and why.* The argument for using mixed methods is to enter into complex problems. To accomplish this, you can combine quantitative and qualitative models to examine the objective and subjective aspects of the problem. It is possible to combine the research questions with instruments and data collection techniques to generate quantitative and qualitative data that allow a deeper description of the research topic from a mono-methodological or a single quantitative or qualitative perspective study. There must always be a logic that allows explaining what and why the research questions were combined. This logic must be based on the relationship between the research aims and how this allows the achievement and success of the study. Nothing can be a whim of the researcher at the time of combining or integrating quantitative and qualitative approaches.

*d. Write the study title.* Titles should reflect three components; the research topic, the study population and research design. An example of a title could be: Factors that influence people to visit a mall: Exploratory mixed design in sequential phases (Creswell & Plano Clark, 2011).

*e. Select the sample.* In mixed research methods two types of sampling dominate (Ponce, 2011):

- *Primary sampling (adhere to the established).* Consists of selecting the sample according to the parameters of the respective models of quantitative and qualitative research. The researcher selects samples and does not deviate from these.

- *Alternate sampling (deviating from the established).* In mixed studies, three phenomena occur which force the researcher to deviate from the research plan; encounter quantitative and qualitative data that contradict, discover methodological gaps in the study due to the nature of combining approaches, as would be discovered in the interview process (in the qualitative phase) that the questionnaire used (in the quantitative phase) does not address the whole issue or new issues emerge that it is necessary to study. When these situations occur, the researcher has two options, accept these as limitations of the study or deviates from the original research plan to compensate for them. To address and resolve these situations the researcher must employ the strategy known as alternate sampling; by selecting additional samples. Alternate sampling in mixed studies are criterion samples, as in qualitative studies, or the selection of samples that allow answering the research questions of the study.

*f. Develop tools and research techniques.* As the sampling, the development of tools and techniques for data collection must adhere to the criteria established by the quantitative and qualitative models. An important element in this task is to ensure that the tools and techniques of data collection are aligned to the research objectives; generate the quantitative and qualitative data to answer the research questions, generate quantitative and qualitative data to understand clearly and deeply the research problem, produce quantitative and qualitative data of the same phenomenon under research.

*g. Address individual authorities to conduct the study.* In conducting the study, follow channels or procedures and comply with the provisions of the agency or institution where the study is to be conducted.

## **8. Analysis of mixed data**

Analyzing data is to extract meaning, implicit or explicit, of the information collected in the study. Analyzing data is a three step process; encode and describe the information to understand the messages that may be there, analyze and interpret information to make it clean data and

communicate findings and identify the most effective way to convey the findings. In mixed studies three types of data analysis are used; analysis of quantitative data, qualitative data analysis and analysis of mixed data. The analysis of mixed data consists of organizing and combining quantitative and qualitative data to achieve one or more of the following objectives related to the research topic:

*a. Triangulation of data.* Is demonstrating how quantitative and qualitative data collected in the study are validated between each other. Triangulation means that the quantitative and qualitative data match, point in the same direction or converge on aspects of the research problem. For example, in a study the quantitative and qualitative data show that the participants enjoyed the educational conference given to them. The average evaluation was 3.5 on a 4.0 scale. Comments on this conference were to be repeated again and invite the family members. Triangulation of data is possible if the measuring instruments and techniques of qualitative data collection were designed to collect quantitative and qualitative data from the same aspect of the research problem. When the researcher has data to triangulate, they increase the validity of the study and facilitate inferences and conclusions that can be stated about the findings.

*b. Complementing data.* It means using quantitative and qualitative data to complement when presenting the findings. Complementary signifies that data supports each other. For example, 90% of individuals classified the film as excellent (quantitative data). The reason for this was that they found it fun, educational and suitable for the whole family (qualitative data). In this case, the quantitative data sets the scope of the measure and the qualitative data deepens it or one data set complements the other.

*c. Deepening in data.* Signifies using quantitative and qualitative data to bring the argument to a point of no refutation. In this analysis, the amount of quantitative and qualitative data provides an overview of the research problem. While in "triangulation", quantitative and qualitative data point in the same direction, in "complementing" a set of data supports the other; in "deepening" the quantitative and qualitative data provide a comprehensive and clear view of the research problem. For example, in a study we found that 90% of parents and 95% of students did not endorse the new math curriculum (quantitative data) because they consider it too complex and impractical for developments in teaching this subject (qualitative data). Comparing this curriculum with the American standards for the teaching of mathematics, practices and teaching strategies are clearly identified that

contradict the established professional standards for a modernized teaching of mathematics (qualitative data). As shown in this example, the quantitative and qualitative data are used to bring the argument to a point where there is no doubt regarding the findings of the study or to a point of no rebuttal because a comprehensive picture of the topic is provided.

## 9. Validity in mixed studies

In research, terms like internal and external validity are commonly used to describe the investigative rigor of a study. The term *internal validity* is used to describe how much correspondence exists between the data collected and the research problem. *External validity* refers to whether the study data can be used beyond the context of the study or applied to other samples that were not studied. In mixed studies the validity criteria from qualitative and quantitative models are used to meet the investigative thoroughness of the respective models. However, as mentioned above, the aim of combining or integrating quantitative and qualitative approaches is to venture into complex problems where there are clear objective and subjective aspects to generate quantitative and qualitative data to more or better approach to the research problem. In mixed studies the term of *inference validity* is used to describe the effectiveness of the researcher to approach and capture the complexity of the research problem using quantitative and qualitative approaches. Inference validity signifies that the quantitative and qualitative data describe, explain or accurately capture the research problem and its complexity. When this occurs, the researcher can argue that it was effective in combining or integrating qualitative and quantitative approaches and is therefore in a better position to make valid inferences or interpretations of the research problem for the richness of its quantitative and qualitative data collected. Below are several recommendations to establish the validity of inference from a mixed methods study:

*a. Compliance with the validity criteria established in each research model.* Always seek that the quantitative and qualitative approaches from your mixed methods study meet the criteria for internal or external validity of their respective models. Ensure that the internal and external validity of each research approach contributes to the validity of inference of the mixed study.

*b. Establish the conceptual validity of the research problem.* This signifies that the research problem is really a problem for mixed methods research with objective and subjective elements. Is difficult to measure or describe if an attribute does not exist in the research problem. At the time of

writing the research report, the research problem becomes clear, its complexity and its objective and subjective aspects.

*c. Establish the methodological validity of the mixed study.* This means to clearly establish the alignment of the selected mixed design with the research questions and the objective of the study. It should clearly explain the relationship between the objective of the study, the research questions and the mixed design. If the mixed study deviates from planned, is necessary to clearly establish the researcher's logic or rational use with the emergent design. The aim is that the reader of the study may assess the researcher's procedures and determine the validity of the research process or emergent design.

*d. Establish the validity of the research product.* The validity of the product is evaluated on the relevance of the data analysis and the correspondence between the data collected and interpretations made by the researcher of this information. The relevance of the analysis of the data signifies that the techniques used to analyze the study data correspond to the information gathered by helping to interpret accurately. For example, in quantitative research, analysis of standard deviation is a truer measure of dispersion than range analysis. In qualitative research, validation with the participants of the significance of the categories that emerge from their interviews results in a measure of greater certainty than what may be provided by an external evaluator/consultant. The respondent is in a better position to clarify what he meant about the theme instead of the opinions of an external evaluator about the category used by the researcher to describe the intent of the interviewee. The correspondence between the survey data and interpretations made by the researcher signifies the researcher's ability to cement each interpretation with the study findings. Although this is an exercise in logic, the researcher clearly establishes the link between the data and their interpretation. In mixed studies, this link is expected to be a compelling one because the researcher collected quantitative and qualitative data for the research problem. Therefore, their margin for error in interpreting should be less because it has two sets of data to formulate their interpretations and recommendations.

## **10. Writing the mixed methods research report**

There is no universally accepted way of how to write the mixed methods research report. Below are presented several recommendations on mixed methods research reports, especially in theses and dissertations:

a. The content of mixed methods research reports follow the same linear deployment of quantitative and qualitative thesis or dissertations; Statement of the problem (Chap. I), literature review (Chap. II), method (Chap. III), findings (Chap. IV) and discussion (Chap. V). The challenge in presenting the contents of a mixed methods report is to let the reader see clearly, and in an orderly manner, the type of study that was conducted; sequential phases or parallel phases. The reader must understand quickly how the qualitative and quantitative approaches were combined or integrated in the mixed design research. The objective is to convey the feeling that two studies are presented in a single report. This challenge is evident in the writing of Chapters I, III, IV and V.

b. In presenting the research problem in Chapter I, it must clearly establish the complexity of the problem and justification for a mixed methods study. The problem may be complex, however for a mixed methods study the objective and subjective criteria must be categorically established. The other challenge in presenting the research problem lies in the way the research questions are presented to coordinate the study. The challenge here is whether research questions are presented to guide the entire study, or make mixed research questions to guide the quantitative and qualitative phases of the study. The selected style to present the questions facilitates in articulating how these are connected with the mixed research design and guide the study. The clarity and precision of Chapter I facilitates the development of the remaining chapters of the report. Another consideration when presenting the research problem is whether the study deviated from the initial research design. The explanation of the emerging design is done in a section entitled "methodological considerations." This section may explain details such as the selection of emerging samples, changing measuring instruments or other methodological decisions that led to deviate from the initial research plan. This section should not be confused with the sections of boundaries and limitations of quantitative studies.

c. In Chapter III the challenge is to present, in a consistent manner, the combination or integration of qualitative and quantitative approaches as a mixed research design. Our recommendation is to present the chapter corresponding to the type of study presented; sequential phases or parallel phases so that the reader can understand the development of the line of study. For example, if the study is sequential phases, then fully explain phase I and later phase II revealing to the reader how each phase is connected with the

other and thus constitutes a combined study. Avoid presenting each approach as if it were a separate chapter of another.

d. Organize and present the findings of the study in a way that allows answering the research questions. The clarity of the presentation of the findings is greatly facilitated by the selected strategy to communicate information. For example, if tables or graphs to summarize data or integration are used. Tables are an excellent strategy in mixed studies to summarize and integrate quantitative and qualitative data visually or on different aspects of the same problem. The goal in presenting data should be to communicate these clearly and accurately where quantitative and qualitative data facilitate answering the research questions.

e. The wording of the report should contain language that handles each research model. In other words, the presentation of the quantitative phase must conform to the technical language of the quantitative model and the qualitative phase model has to conform to the technical language of qualitative model. This is critical so the mixed method researcher demonstrates understanding, dominance and respect of the respective models rules and practices.

## **11. Using mixed method research in education**

Several doctoral dissertations are available in literature that allow us to examine the strength and challenge of using mixed methods research in education and its potential for capturing the complexity of the educational field phenomenon:

*a. Researching teaching and learning.* Medina (2012), Perez (2012) and Medina (2014) conducted mixed methods research on teaching and learning. Medina (2012) used a complementary mixed method design to study the effect of a virtual laboratory on students' academic achievement in ninth grade in a biology course. In the quantitative phase a pre-post test was used in two groups (experimental and control). The qualitative phase consisted of focus groups with the study participants and observations made by the teachers during the experiment. The results demonstrated that both strategies (virtual and present) were effective in students' academic achievement.

Perez (2012) developed a study to measure the effect of self-monitoring strategy in the academic achievement of students' performance in fourth grade regarding to sum skill in regrouping up to a million and explore their experience with the strategy. To perform the same, the author used a complementary mixed method. The quantitative phase used an experimental

design (pre-post test) and the qualitative phase served as a complementary function to know the perception of students towards self-monitoring strategy (interviews). The findings showed a statistically significant difference between the experimental and comparison group. The experimental group ran significantly better than the comparison group.

Medina (2014) used a triangulation mixed methods research design in parallel phases to study the effect of graphic organizers in learning math with college students. The quantitative phase consisted of an experiment using two groups with a pre-post test. The objective of the experiment was to measure the effect of using graphic organizers to learn math. The qualitative phase consisted of using a one minute paper to assess learning during the development of the experiment. The objective was to understand the students' math learning process while using graphic organizers. At the end of the experiment a focus group was asked open-ended questions to understand the students' experience using graphic organizer to learn math. A triangulation of data consisted of comparing quantitative data from pre-post tests with the qualitative learning assessment exercises data and the interview data.

In these studies, the mixed methods design allows the researchers to capture and explain the complexity of the teaching-learning process as a phenomenon. The quantitative component measured the effects of the teaching strategies (experiment treatments). The qualitative component permitted understanding how students perceived the teaching strategies, what happened in their minds and what factors allow learning.

*b. Researching stress in high school teachers.* Lopez (2014) used an exploratory design with sequential phases (qualitative-quantitative) to study stress in high school teachers. The study objectives were: a) identify the factors that contribute to occupational stress in high school teachers from the Department of Education of Puerto Rico and its impact on the performance of their duty; b) develop, validate and administer a measurement instrument on the factors that contribute to job stress and c) determine the relationship between these factors and their impact on teacher performance in high school teachers in the public education system in Puerto Rico. The research design used a sequential mixed methodology (Phase I- Qualitative and Phase II- Quantitative). The study was conducted across the island, and included all educational regions of the Department of Education of Puerto Rico. The sample of Phase I- Qualitative consisted of five teachers belonging to a high school who participated in an interview. Phase II- Quantitative sample consisted of 379 teachers, in which was developed, administered and validated a measurement instrument based on the findings of Phase I- Qualitative. The findings and results of both phases of the study helped identify and describe the factors that contribute to job stress of high school teachers. In terms of the relationship between occupational stress factors and

teachers performance, there weren't statistically significant inverse relationships between those factors and performance (higher stress, lower performance). However, in her study it was evident that there is a moderate direct relationship, between some factors of job stress and teacher performance (higher stress, higher performance). Based on the findings and results, including both phases of the study, the use of mixed methods research was recommended to increase awareness about this problem and know the strategies used by high school teachers in the island to deal with stress. Similarly, it was suggested to develop studies that reveal how those factors influence the health of teachers. Finally, the author encouraged raising awareness among staff of the Department of Education on the issue of job stress on teachers. In this study, the qualitative phase allows the researcher to capture teacher's daily stress conditions in the Department of Education of Puerto Rico (public schools). The quantitative research phase allows validation of these conditions in a representative sample of teachers from different districts of the same educational system.

In the studies that we reviewed, the research complexities came from two sources. The first source of complexity came from the teaching-learning process or the educational phenomenon being studied (Medina, 2012; Perez, 2012; Medina, 2014). The second source of complexity came from the cultural-context of the educational system where the teachers stress study was conducted (Lopez, 2014). In these studies, capturing and explaining the educational complexities was possible because of the quantitative and qualitative research designs used as components of the studies designs. These studies allow seeing the strength of mixed methods research designs in capturing educational complexities.

## **12. Conclusions**

In this article the fundamentals of mixed studies and its applications to the field of educational research were presented. The examples of mixed methods studies in educational research presented allow us to appreciate the strength of mixed methods research in approaching complex educational phenomenon such as the teaching-learning process and work stress on teaching in a public educational system. One example of that complexity emerges from the nature of the teaching-learning educational phenomenon being studied. The second example emerges from the cultural-context of the educational systems where the studies were conducted. It becomes clear from the discussions generated, that implementing mixed research studies successfully requires understanding of quantitative, qualitative and mixed methods research designs. The complexities of combining research designs could make mixed methods research a time consuming activity either for

individual researchers or a team of researchers. Mixed methods research is essentially a complex task in any discipline, including education.

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