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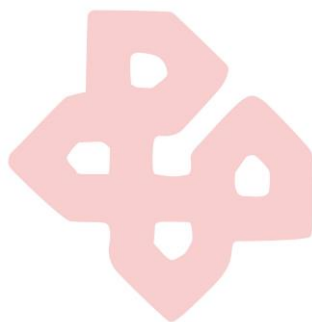
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## THE COMPETENCIES OF THE FUTURE NURSING PROFESSIONAL FROM THE PERSPECTIVE OF TEACHERS AND STUDENTS: A CASE STUDY

*Las Competencias del futuro profesional de Enfermería desde la perspectiva del profesorado y el alumnado: un estudio de caso*



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### Abstract

This article analyzes and contrast perceptions and assessments of students and faculty on the competencies development of the future nursing practitioners of a private University in Puerto Rico. It is a descriptive research survey with focus on 138 subjects. The results show, among other issues, that students tend to be more satisfied with their achievements than faculty members, although both agree that there are important gaps between the training received by future nurses and the one that would be desirable to have a good professional performance. Competencies valued by both groups are linked to the principles and ethics of the profession, while the lowest achievement levels are related to the design and evaluation of healthcare systems, the use of the community health resources and participation in professional organizations.

**Palabras clave:** *Keywords: college graduates, competencies approach, higher education, Nursing, teachers*

## Resumen

En este artículo se analizan y contrastan las percepciones y valoraciones de estudiantes y profesorado sobre el desarrollo competencial de los futuros profesionales de Enfermería de una universidad privada de Puerto Rico. Se trata de una investigación descriptiva por encuesta en la que han participado 138 sujetos. Los resultados evidencian, entre otras cuestiones, que el alumnado tiende a mostrarse más satisfecho con los logros alcanzados que los docentes, aunque ambos coinciden en señalar que existen brechas importantes entre la formación adquirida por los futuros profesionales de Enfermería y aquella otra que sería deseable haber alcanzado para un buen desempeño profesional. Las competencias más adquiridas y mejor valoradas por ambos colectivos están vinculadas a los principios y valores éticos de la profesión, mientras que los niveles de logro más bajos están relacionados con el diseño y evaluación de sistemas de cuidado de la salud, el uso de los recursos de salud de la comunidad y la participación en organizaciones profesionales.

**Key Words:** *Educación superior, Enfermería, enfoque de competencias, graduados universitarios, profesorado*

## 1. Introduction

There are many voices and actions (activities) that in recent decades have appealed to undertake educational reforms that allow a better variation of higher education to social outcomes of the twenty-first century and the new population demands. The Bologna Declaration, 1999, that culminated in the establishment of the European Higher Education Area, is a clear example of the continuous effort by States and institutions to promote this adaptation. These requirements led to transform and improve higher education systems respond to claims that transcend the old continent and extends globally.

In 2007, a study conducted by the Association of American Colleges and Universities (College Learning for the New Global Century) identified the essential learnings for the 21st century (AAC & U, 2007). Their findings highlighted as particularly relevant: knowledge of other cultures and the world; the development of intellectual skills and practices such as: research, critical thinking, communication, both oral and written, and to encourage responsibility and civic participation in the local and global level to deal with complex problems. In Puerto Rico, context in which this research is carried out, the Puerto Rico Council on Education (CEPR, 2016) has also recently invited to "rethink" the relationship of higher education institutions with the context and has emphasized the need to promote actions that support a better modification of society demands.

One of the initiatives originated to improve the quality of higher education systems, by the Latin American countries is the Tuning Latin America Project (2004-2007). This Project, as well as its counterpart in the European context, emerged due to the need of Latin America and the Caribbean countries to join their proposals for higher education with models of common curricular structures to improve the quality

of higher education in the countries of the region (Tuning America Latina, 2007). To respond to this challenge, 16 working groups were initially created, whose main objective was to create generic and specific competencies to be incorporated into the new academic degrees offered.

In recent years, the interest for improving the quality of higher education, design new curricula based on professional profiles, promote the integration of the competencies approach into practice, or analyze their impact, have absorbed large part of the social debate, as well as the discussion and study of many members of the scientific community (Bolívar, 2011, Parris and Saville, 2011; Kushnir, 2016). However, undertake structural transformations and curriculum that demands the adoption of this educational model centered on the learning of skills is becoming a complex task not without controversy (De Juanas, 2010; Tran, 2013). His approach to old technological education planning, questioned today (Ermenc, & Vujisic-Živkovic, 2015) and their origin in the business and professional world make it skeptical to link it to the neoliberal policies that subordinate education to the market demands (Bolívar, 2011, p. 122).

For López, Benedito and León (2016, p.13), on the other hand, “interest in boosting the importance of the practice and the professional nature of university education is not the problem, it is the fact that university education is reduced exclusively to training for employment and forget or undervalue the humanist and intellectual development.”

In this regard, some authors recognize the efforts recently made to successfully accept the transformations that higher education need, however, emphasize the inadequate degree of commitment that exist between the apparent commitment expected to promote the structural changes and the little attention to curriculum changes (Villa et al., 2015) as an obstacle to achieve this. Others, like López (2011) & Tran (2013), prefer to focus on the qualitative and cultural aspects of change. In this sense, the latter says:

“Although there is evidence of the effort to change, to include and develop competencies in the system, in the curriculum, and improve the traditional teaching method, the students’ indifference and cultural characteristics that surround all delay the effort made to develop competencies in university students” (Tran, 2013, p. 631).

The current situation, recognized by Ermec & Vujisic-Zivkovic (2015), seems to indicate that we are far to get the integration of the competencies approach to higher education successfully.

Although lately research efforts that have focused their interest in changes implemented in higher education have proliferated, available data are insufficient and inconclusive to determine its real incidence in learning or teaching improvement (Watson, 2011) Ermenc & Vujisic - Živkovic, 2015). Some studies suggest encouraging results (Taylor and Hooley, 2014) Villa et al., 2015; Buxarrais, Esteban & Mellen,

2015), while others have less promising findings (Jackson, 2012) A. Rutt, 2013; López Benedito & León, 2016). In the opinion of these recent authors, for example, "little is known about what is being evaluated, how that assessment is underway and what is the impact on the skills development, or the improvement of university education" (López, Benedito and León, 2016, p.21). This lack of conclusive data keeps alive the debate and the commitment with the lines of research with the integration of competencies to higher education that demonstrate the need for further focus by competencies and its impact extending the number of studies to other qualifications and contexts (Ermenc & Vujisic-Živkovic, 2015).

In the Puerto Rican context, this need is especially demanding, as research in education, and specifically on competencies, is incipient, so a body of knowledge it's not available, nor concrete data on the processes training in higher education.

On the other hand, adopting the competencies approach in Puerto Rico only have materialized in nursing programs due to the accrediting agencies requirements. There is no data of teachers and students' perception and assessment available of the learning experience to improve the training plans. Neither, there is existing data of the expansion, integration and curriculum development of competencies into others professional degrees in this context. At the same time, exploration and behavior in mind that the graduation rate in Puerto Rico universities is low, in public and private institutions of higher education (50,455 students, according to CEPR, 2016). This can help to increase the graduation rate, saving the existing gap between labor demand and the institutions of higher education academic offerings that students in Puerto Rico criticize and that delay their professional insertion into the workplace (Ortiz et al., August 2007).

Analyze perceptions and evaluations of students and teachers with respect to the training offered by higher education institutions, deepen the possible convergences or divergences between the agents directly involved in the training processes, as it has been shown in other studies (Freire, Teijeiro & Blázquez, 2011, Jackson, 2012; Villar et al., 2015) issues of great relevance to deal with higher education quality and the improvement of graduates' employability.

This work, in the line already initiated by other authors (Tran, 2013; Conchado & Carot, 2013; Villa et al., 2015; Torres - Gastelu & Kiss, 2016) intends to analyze the perception and assessment of students and faculty on the competencies development of the future nursing professionals and identify strengths and weaknesses of the training programs to establish actions for improvement.

## 2. Objectives

1. Analyze the perception of the future nursing professionals on the level of competencies development achieved in their initial training and the one that they must develop.

2. Identify the competencies that have and must have the future nursing professionals in the opinion of the faculty.
3. Contrast the competencies that nursing professionals will have by the end of their initial training from the students and faculty perspectives.

### 3. Methodology

This research is carried out in the Bayamon and Caguas Campuses from a private University in Puerto Rico. The higher education system structure in Puerto Rico, being a Commonwealth, is similar to the higher education system in the United States. According to the data provided by the Puerto Rico Council of Education, during the academic year 2015-16, the higher education system had a total of 233,070 students in 53 private higher education institutions (72% of students) and the 5 public institutions that are part of the University of Puerto Rico, which agglutinate 28% of the university students of the Island (CEPR, 2016). This study has focused in the Nursing degree, which has been the first academic degree in integrating the competency-based approach in its training program.

This is a descriptive and by survey study (Bisquerra, 2014), 45 teachers have participated in it (91.11% female and the 8.89% men) and 93 students in their senior year (71% men and 29% women). The selection strategies implemented, according to Coyne (1997) and Kuzel (1999), have been qualitative in nature and different for each of the participating groups. In the teachers case, sampling of key informants (key informant sample) have been used, representation of both genders and with professional experience. Intentional sampling (purposive sample or judgmental) has been used for students selection.

A questionnaire with 22 competency-based integrated Likert-type items (twelve generic and ten specific) of the Nursing degree, with five choices of response was developed and applied to each of the groups. The questionnaire focused on students presents a slightly different wording of items to adapt better to the recipients and the two dimensions referred to: you have and you must have. On teachers scale dimensions are: they have and must have.

To determine the stability and consistency of the two instruments, given that is a single administration, it provides the reliability as internal consistency using the Cronbach's  $\alpha$  coefficient. In the study, this coefficient was calculated on four separate occasions (2 scales x 2 dimensions). The values ranged from 0.91 to 0.95, which according to Mateo & Martinez (2008), Morales & Urosa (2003), are coefficients of reliability consistent representing the high correlation that keep the items to each other in relation to the valued elements.

To confirm the content validity the two scales have been subjected to the judgment of seven experts who have issued opinions on clarity, relevance and pertinence of each item in the two stated dimensions according to the following scale: 1: None; 2: Fairly; 3: Enough and 4: Total. The judges appraisals have

conferred arithmetic means above 3.50, without exception, and values of the ambiguity coefficient (Q3-Q1) equal to or less than 1, so we can establish that, overall, the different items have obtained good scores from judges (averages close to the maximum value of 4) and, in addition, they have great homogeneity in responses, therefore items should be maintained because any ambiguity coefficient is greater than 1, as they are formulated according to the criteria of interpretation proposed by Barbero, Vila & Suarez (2010).

## 4. Results

Initially, in accordance with the objectives of the study, the obtained results are presented in each of the analyzed groups (students and teachers) in two dimensions referred to (have / must have). Latter, show the similarities and differences in the perceptions of both groups with respect to the competencies development achieved by the future Nursing professionals by the end of their initial training.

### 4.1. Students Results

A comparative table related to students is presented. It is based on the arithmetic means obtained by twenty-two competencies listed in the questionnaire in its double dimension (have and must have), allowing us to appreciate the similarities and differences between the actual competencies development and the desirable one from the students perspective.

As it is established from the values shown in table 1, regardless of the valued dimension (have vs. must have), the averages achieved exceed, in almost all the items (except in four), 3 Archimedean point. The highest values in the dimension "have" is higher to 3.80, correspond to items v, u and r; while the lowest are found in items g, l, m and q (with less than 3 scores). In the dimension "must have", the highest average scores (equal to or greater than 3.80) correspond to competences l, v, m, q, u and r) and the lowest is valued in items g, i and a.

If media values obtained are compared by items in each dimension, we appreciate that in twenty of twenty-two competencies referred to scores on the dimension "have" are lower than those achieved in the dimension "must have". These differences between both dimensions, always in favor of the dimension "have", are most relevant (point 1 above) for competencies l, m and q, (competencies related to the use of community health resources, foreign languages writing and speech, and participation in professional organizations for the advancement of the profession).

Some remarkable convergences are also observed between the analyzed dimensions, specifically competencies v, u, r and g. The first three are skills that get particularly high scores in two dimensions. Competency v (defend the person dignity and the right to life), the obtained value is slightly higher in dimension "must have" (front 3.87 3.91); in the case of the item u (recognize, respect and support the

person's spiritual needs is the same in two dimensions (3.86); and the competency r (show respect for culture and human rights in their nursing interventions in the health field) the average achieved value is slightly higher in the dimension "have"(3.81, against 3.80). In the case of competency g (design health care systems, evaluating their impact and establishing appropriate modifications) the situation is different, because it obtained very low values, both in the dimension "have" (2.85) and in the dimension "must have", where the score was lower (3.42).

Table 1: Average obtained by competencies in the "Have" and "Must have" dimensions according to students

Competencies	Media (Have)	Media (Must have)
Identify new ideas and solutions in the health scenario. (a)	3.05	3.54
Make use of information technologies in their work. (b)	3.48	3.68
Ability for abstraction, analysis and synthesis. (c)	3	3.61
Compose reports or documents. (d)	3.26	3.61
Work in teams. (e)	3.61	3.75
Apply knowledge in the practice of Nursing. (f)	3.47	3.67
Design health care systems, evaluating their impact and establishing appropriate modifications. (g)	2.85	3.42
Offer services safely and effectively. (h)	3.45	3.67
Make use of research in the practice of Nursing. (i)	3.17	3.58
Establish clear and effective communication. (j)	3.58	3.69
Work well under pressure. (k)	3.30	3.65
Make use of the community health resources. (l)	2.74	3.91
Write and speak in foreign languages. (m)	2.72	3.87
Take assertive decisions in the healthcare. (n)	3.23	3.60
Acquire new knowledge quickly. (o)	3.30	3.62
Dominates his/her area or discipline. (p)	3.30	3.67
Participate in professional organizations for the advancement of the profession. (q)	2.47	3.86
Show respect for culture and human rights in your nursing interventions in the field of health. (r)	3.81	3.80
Learn and advance. (s)	3.66	3.77
Work within the context of the profession ethical codes. (t)	3.69	3.78
Recognize, respect and support the person's spiritual needs. (u)	3.86	3.86
Defend the person dignity and the right to life. (v)	3.87	3.91

To determine if the variables gender and age, considered in the students instrument, informed, or not, statistically significant differences, each with twenty-two items in the questionnaire have crossed in its double dimension. None of the crosses carried out through two non-parametric tests (Mann-Whitney, when comparing levels were 2 and the Kruskal-Wallis one-way ANOVA when comparing



levels were  $U > 2$ ) reported statistically significant differences ( $p > .05$ ), this mean that nor the gender or age of students surveyed in this research is crucial to provide differential rating results in the twenty-two competencies proposed in its double dimension.

#### 4.2. Teachers Results

In this section, we present the arithmetic means obtained by twenty-two competencies in its double dimension (have and must have) in teachers.

Table 2: Averages obtained by the competencies in the dimensions "have" and "must have" according to teachers

Competencies	Media (have)	Media (must have)
Identify new ideas and solutions in the health scenario. (a)	2.67	3.34
Make use of information technologies in their work. (b)	2.53	3.49
Ability for abstraction, analysis and synthesis. (c)	2.51	3.49
Compose reports or documents. (d)	2.67	3.22
Work in teams. (e)	3.13	3.64
Apply knowledge in the practice of Nursing. (f)	3.07	3.62
Design health care systems, evaluating their impact and establishing appropriate modifications. (g)	2.56	3.62
Offer services safely and effectively. (h)	3	3.53
Make use of research in the practice of Nursing. (i)	2.29	3.44
Establish clear and effective communication. (j)	3	3.64
Work well under pressure. (k)	2.90	3.53
Make use of the community health resources. (l)	2.96	3.58
Write and speak in foreign languages. (m)	2.18	3.11
Take assertive decisions in the healthcare. (n)	2.78	3.53
Acquire new knowledge quickly. (o)	2.82	3.49
Dominates his/her area or discipline. (p)	2.84	3.60
Participate in professional organizations for the advancement of the profession. (q)	2.49	3.51
Show respect for culture and human rights in their nursing interventions in the field of health. (r)	3.04	3.62
Learn and advance. (s)	3.02	3.62
Work within the context of the profession ethical codes. (t)	3.22	3.60
Recognize, respect and support the person's spiritual needs. (u)	3.09	3.58
Defend the person dignity and the right to life. (v)	3.33	3.67

If we analyze the average values shown in table 2, we can observe that all items in the dimension "must have" present values higher to the Archimedean point of 3 that is quite different from that offered in the dimension "have", where there



are only 9 items whose averages are equal to or greater than this value. This last higher dimension scores (between 3.13 and 3.33) correspond to competences v, t and e; while the lowest are in the items (2.18), i (2.29) and q (2.49). The higher scores (equal or exceed 3.64) "must have" dimension include competencies v, e and j. At the opposite end, with lower average values of this dimension, are competencies m and d (3.22 and 3.11 respectively).

Contrasting the arithmetic mean values achieved by competencies in two dimensions, corroborate that the scores in the "have" dimension are lower than those in the "must have" dimension in all cases.

Differences between the dimension "have" and "must have" (always supporting the later) are more significant (above 1) in the items i, g and q (competencies related to the use of research in the practice of nursing, health care systems design assessing their impact and setting modifications, and participation in professional organizations for the advancement of the profession).

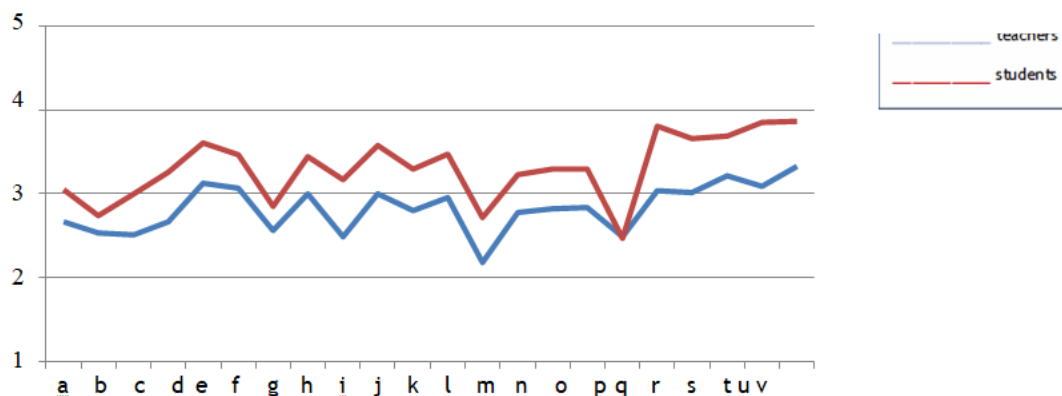
University faculty in the study also show some relevant similarities, especially in competencies v (defends the dignity of the person and the right to life), t (work within the context of the profession ethical codes) and e (work in teams), and where the scores obtained in the two analyzed dimensions are high, although always superior in the dimension "must have". At the opposite position, with the lowest score in two dimensions (2.18 and 3.11 respectively) competency m is (write and speak in foreign languages).

To corroborate if the variables gender, age and teaching and professional experience, considered in the teachers questionnaire, reported, or not, statistically significant differences each variable has been crossed with the twenty-two items in its double dimension. As it happened in the students case, none of the crosses made, through two nonparametric tests (Mann-Whitney U) when the levels to be compared were 2 and the one-way ANOVA of Kruskal-Wallis when the levels to be compared were  $> 2$ ), have reported statistically significant differences ( $p > .05$ ), so neither gender, nor age, nor teaching and professional experience are determining factors to offer differential results when evaluating the twenty-two proposed competences in their double dimension.

#### **4.3. Results concerning the contrast between teachers and students in the dimension "have"**

To show the similarities and differences between students and teachers regarding the competencies development achieved by nursing students by the end of their initial training, we take as reference the values median achieved by the twenty-two competencies in the "have" dimension for both groups, already listed in tables 1 and 2. These results have been represented in the following graphic.

Figure 1: Comparison of arithmetic means of the competencies corresponding to the dimension "have" in the opinion of teachers vs. students



As we can appreciate, means accomplished by teachers and students, about the degree in which the later has twenty-two competencies related to the performance of the nursing profession, are different from quantitative level, though not at the level of tendency.

At a quantitative level, the faculty average tendency about the domain of the twenty-two competences of students is maintained, except in nine cases (competencies e, f, h, j, r, s, t, u, v), below the 3 Archimedean point. Average tendency of students on their mastery of competencies referred to in the study is maintained, except on four occasions (competencies g, l, m, q), above the Archimedean point.

To determine whether these positions reported or not differences statistically significant, on the contrary, are due to random we have applied the U Mann-Whitney test for independent samples and compared twenty-two competencies means taking as variables teacher vs student groups. The results were as follow:

Table 3: Summary of Mann-Whitney U test with associated means and decision regarding the null hypothesis (Ho) crossing the variable type of agent (teachers vs students) with each of the twenty-two competencies.

Hypothesis contrasts overview		
Null Hypothesis	Sig.	Decision
The distribution of <i>Identify new ideas and solutions in the health scenario</i> (a) is the same among the categories of agents established.	.014*	Reject Ho
The distribution of <i>Make use of information technologies in their work</i> (b) is the same.	.000***	Reject Ho
The distribution of <i>Ability for abstraction, analysis and synthesis</i> (c) is the same.	.000***	Reject Ho
The distribution of <i>Compose reports or documents</i> (d) is the same.	.000***	Reject Ho
The distribution of <i>work in team</i> (e) is the same.	.000***	Reject Ho
The distribution of <i>Apply knowledge in the practice of Nursing</i> (f) is the	.000***	Reject Ho

same.

The distribution of <i>Design health care systems, evaluating their impact and establishing appropriate modifications (g)</i> is the same.	.051	Preserve Ho
The distribution of <i>Offer services safely and effectively (h)</i> is the same.	.000***	Reject Ho
The distribution of <i>Make use of research in the practice of Nursing (i)</i> is the same.	.000***	Reject Ho
The distribution of <i>Establish clear and effective communication (j)</i> is the same.	.000***	Reject Ho
The distribution of <i>Work well under pressure (k)</i> is the same.	.000***	Reject Ho
The distribution of <i>Make use of the community health resources (l)</i> is the same.	.181	Preserve Ho
The distribution of <i>Write and Speak in foreign languages (m)</i> is the same.	.009**	Reject Ho
The distribution of <i>Take assertive decisions in the healthcare (n)</i> is the same.	.001**	Reject Ho
The distribution of <i>Acquires new knowledge quickly (o)</i> is the same.	.001**	Reject Ho
The distribution of <i>Dominates his/her area or discipline (p)</i> is the same.	.004**	Reject Ho
The distribution of <i>Participate in professional organizations for the advancement of the profession (q)</i> is the same.	.964	Preserve Ho
The distribution of <i>Shows respect for culture and human rights in their nursing interventions in the field of health (r)</i> is the same.	.000***	Reject Ho
The distribution of <i>Learn and advance (s)</i> is the same.	.000***	Reject Ho
The distribution of <i>Work within the context of the profession ethical codes (t)</i> is the same.	.000***	Reject Ho
The distribution of <i>Recognizes, respects and supports the persons spiritual needs (u)</i> is the same.	.000***	Reject Ho
The distribution of <i>Defends the person dignity and the right to life (v)</i> is the same.	.000***	Reject Ho

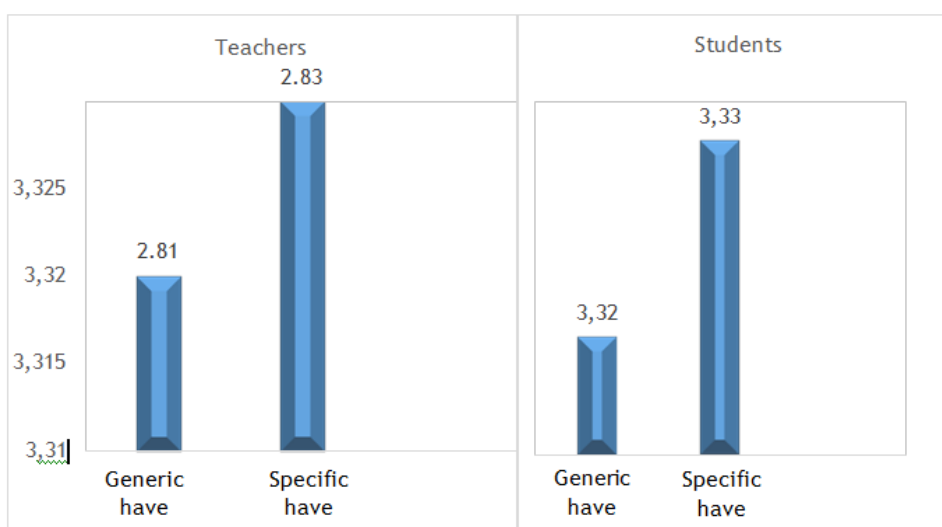
In nineteen of the twenty-two competencies studied, statistically significant differences ( $p < .05$ ) were reported between the position of teachers and students in relation to the degree of mastery of these competencies. In the Nineteen competencies where differences statistically significant were reported, we should remember that medians on the degree of mastery of these competencies have always been lower in teachers.

We should also highlight the fact that there are three competencies where there are no reported statistically significant differences ( $p > .05$ ): Design health care systems evaluating their impact and establishing appropriate modifications (g), Make use of community health resources (l); and Participate in professional organizations for the advancement of the profession (q). In the case of the last two competencies (l and q), the averages obtained by teachers are higher than the achieved by

students. However, competency (g) is the only one where the teacher average is smaller than the accomplished by students.

To finalize this comparison between teachers vs students regarding competencies development achieved by nursing students by the end of the initial training, we wanted to determine if these findings are well-maintained when the typology of competencies listed is taken as reference in the questionnaire (generic vs. specific). For this purpose, the arithmetic means have been calculated for each one of these categories based on the analyzed groups.

Figure 2: Average of each competitive category to which each of the 22 nursing profession competencies belongs according to teachers vs students.



The obtained values indicate some important differences in the manner in which teachers and students rate the competencies development achieved by the future nursing professionals. In the teachers case, the arithmetic means are below the Archimedean point 3 in both categories (2.81 in the generic competences and 2.83 in the specific competences), while the average values corresponding to students in these same categories were greater than this Archimedean point, being 3.32 for generic competencies and 3.33 to the specific competencies.

To determine if these differences are due simply to random, or to the condition of being a teacher or student, the Mann-Whitney U test twice was applied again (for 2 independent samples), one for each competitive category. The condition of being teacher or student reported statistically significant differences ( $p < .05$ ) in the assessment performed in students learning of specific vs. generic competence categories. In relation to the generic competencies obtained a value  $U = 3277$ ;  $z = 5.39$  and  $p = .000$ , while in the case of the specific scores have been:  $U = 3267$ ;  $z = 5.34$  and  $p = .000$ .

## 5. Discussion and Conclusions

Results obtained demonstrate that students, regardless of gender and age, consider that the competencies development achieved during their initial training are, in general, sufficient, positive appraisals are expressed in other studies (Jackson, 2012;) Torres-Gastelu & Kiss, 2016). There is, however a clear tendency to consider that the analyzed competencies must be obtained in higher degree. Are especially satisfied with the achievement level in the competencies: defend the person dignity of and the right to life, recognize, respect and support the spiritual needs of the people, and respect the culture and human rights in the pursuit of their profession. These same competencies are also among the most valued by students for the precise exercise of their profession. This concurrence not only confirms the solid commitment of college students (Buxarrais, Esteban & Mellen, 2015 and Torres-Gastelu & Kiss, 2016) and of the nursing future professional (of Vincent et al., 2006 and Muñoz et al., 2012) with the values and their profession ethical principles, that is one of the strengths of the nursing training programs (Muñoz et al., 2012); that confirms the formative potential of the competencies approach in the development of ethical learning (Boni & Lozano, 2007).

Students in the study are especially dissatisfied with the level of achievement in those competencies related to the design of health care systems and its evaluation, the use of community health resources, writing and speaking in foreign languages, and participate in professional organizations for the advancement of the profession. In the opinion of this group, these competencies, although they are very relevant to their professional performance, not have been developed in an appropriate degree. This confirms the existence of an important gap between the initial training offered to future nursing professionals in the study and the demanded by students. This difference has also been emphasized by the students of other degree programs and puertorrican universities (Ortiz, León & August, 2007) and by students and employers in other countries (Parris & Saville, 2011; Tran, 2013; Cabrera, López & Portillo, 2016). In the case of competencies related to speaking and writing in foreign language, for example, a study conducted by Muñoz et al.(2012), in Colombia, presents this competency as one of few in which the level of learning perceived after studying Nursing is below the importance conferred by employers.

These inadequate issues underlined by students in the of nursing program make desirable to revise the proposal for initial training of these professionals and implementing targeted actions, above all, to strengthen the connection with the environment demands to facilitate the use of health care resources offered by the community, promote a more active participation in professional organizations related to the profession and improve the requirements of students to write and speak in foreign languages.

In the opinion of the teaching staff, regardless of their age, gender or teaching and professional experience, the gap between the competencies development achieved by the student body and the desirable to provide a good

service of nursing is more pronounced than the indicated by students, which shows their special dissatisfaction with learning outcomes.

Teachers considered that competencies students have developed in a higher degree, and to which also conferred an important value for the professional exercise, are: teamwork, exercise its work in accordance with the profession codes of ethics, defend the dignity of the person and the right to life, recognize, respect and support the spiritual needs of the person, and respect the culture and human rights in the pursuit of their profession.

Given that in the last three competencies highlighted converge with the statements made by students, in terms of competencies developed and relevant for the exercise of the profession, we can conclude that the initial training plan, in which the future nursing professionals of our study have been prepared, is meeting the challenge of preparing professionals who are engaged by codes of ethics, respect human rights, cultural diversity, the different spiritual needs of the patients and defend person dignity.

In a globalized world as the current one, train professionals committed ethically with social advancement, willing to battle segregation, competent from the cultural point of view and world perspective is, as pointed by out Long (2012) and Murdan et al. (2014), a need in the health sciences field.

On the other hand, the evident recognition of that working in group is one of the most effective competencies and top rated by teachers. Students also consider it developed at an acceptable level and equally valuable. Working in group appears to be one of the most demanded and appreciated competencies by employers, inside and outside of the nursing field (Freire and others, 2011) Muñoz et al., 2012; Cabrera & López Portillo; 2016). This lead us think that efforts made by faculty is having favorable impact of the qualifications of nursing by the breach between university education and the demands of the context in the learning of this particular competency.

If so, it would confirm the results presented by Jackson (2012), where "working effectively with others" is presented as one of the most outstanding achievements of new training schemes in higher education. However, it would be desirable to enquire into this appreciation to expand our inquiry and incorporating the vision of other agents involved in the nursing training (employers, responsible for training, etc.).

The greatest differences between competence development attained by students and that which would be desirable, in the opinion of teaching staff, occurs in competencies: makes use of research in nursing practice, participate in professional organizations for the advancement of the profession and designs health care systems evaluating their impact and establishing appropriate modifications. These are aspects in which teachers are hopeless with the learning levels achieved by students.

Situations like these have led authors such as López & Rivera (2016) to consider that, in Puerto Rico, much is missing to get the training provided by the institutions of higher education to help university students achieve the training and competencies development needed to facilitate their insertion in the world of work.

On the other hand, and although Palmer, Montañó & Palou (2009) and Muñoz et al.(2012) studies stand up as important competencies the ability to find new ideas and solutions and the ability to research, in our study, and in the opinion of teachers, make use of research in nursing practice figure as one of the least developed competencies by students. In this case, given that students and teachers agreed that this competency should have been acquired to a larger degree. Faculty members responsible for the professionals training, should reflect and consider new measures that boost research in to practice in the initial training of these professionals to improve their skills in this aspect.

We would also like to draw attention to the fact that, although teachers and students agree that the level of learning achieved by students in the mastery of foreign languages is insufficient, appreciates a differentiated valuation to this competency from both groups. The future of nursing professionals consider that this competency that should be graded high-, while teachers of the research consider it the less relevant for the performance of all delimited in the study. We therefore conclude that the assessment given to the mastery of foreign languages is greater among students of the study among its teaching staff.

In general, the results, in terms of the development level achieved by nursing students and the desired, have become apparent that everyone, teachers and students, considered that nursing students competencies development should be improved. We should therefore undertake studies, such as those made by Parris & Saville (2011), Tran (2013), Pozo & Bretons (2015), Villa et al.(2015), which will help expand the factors that hold back the satisfactory competency development of the Nursing professionals in the context of study. The studies previously mentioned establish among others relevant factors: institutional commitment and involvement of teachers and professional culture, training and working conditions of teachers, leadership, teaching practice, students' commitment and involvement, and associations with the world of work.

Finally, the certification carried out between nursing teachers and students, with respect to the actual competencies development achieved by the future professionals by the end of their initial training in twenty-two competencies referred in the study, evidenced that the vision of both groups is different. Students shown to be more satisfied with regard to the accomplishments that the teaching staff. This optimism of students is higher than the teachers believed both generic competencies, such as specific. In the opinion of Jackson (2012) and Sanchez & Julio (2016), this positive vision of students, also shared by the future nursing professionals of our study, is due to an excess of confidence in their qualifications. They consider that training programs should be concerned in the students' critical thinking development so they could evaluate their skills more realistic and accurate.



Teachers have a tendency to think that the analyzed skills that students have are rather low, insufficient, and always less than the considered by students. However, both agree to highlight that the competencies best developed are, fundamentally, the ones which advance the students ethical commitment with the profession. Students and teachers include the level of achievement attained in: show respect for the culture and human rights in their nursing in the field of health interventions, work within the context of the ethical codes of the profession, recognize, respect and supports the person spiritual needs, and defend the dignity of the person and the right to life.

Teachers and students also agree in pointing out that the lowest levels of achievement are related, especially with the design and evaluation of health care systems, make use of the resources of community health and participate in professional organizations for the advancement of the profession. Having in mind that among the criteria established by the Accreditation Commission for Education in Nursing (ACEN, 2015), accrediting agency of the United States and Puerto Rico, include the use of the community resources, health promotion through the planning and implementation of specific programs and the participation in an active way in the nursing organizations, it would be needed efforts to improve and direct the initial training of these nursing professionals, to optimize the competencies development of students in these three aspects. Regarding, specifically, the last selected competency (participate in professional organizations), which is where further convergence takes place between faculty and student body, Parris & Saville (2011), Taylor & Hooley (2014) and Cabrera, López & Portillo (2016). They proposed, among other things, strengthening relations with the world of work enhancing the practical training in the curricula, integrate professionals from the workplace into the initial training and facilitate internships in real professional environments.

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