Competencias genéricas en docentes del nivel superior en el Estado de Guerrero

Generic competence on teaching staff of higher education in the State of Guerrero

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Resumen

El objetivo del presente trabajo es identificar las competencias genéricas de los docentes que orientan la práctica educativa de nivel superior en el estado de Guerrero, en opinión de los estudiantes. Para ello se utilizó el método de estudio descriptivo y longitudinal en el periodo 2012-2014, y se aplicó un cuestionario a estudiantes de 7 instituciones. La muestra consistió en 37 % docentes y 41 % estudiantes por institución, evaluando a cada académico 10 jóvenes. La información se adaptó con valores de la escala de Likert, posteriormente a escala numérica de Sampieri para obtener cuartiles, clasificando en competencias altas, medianas y bajas. Las fortalezas y debilidades en indicadores fueron calculadas utilizando la media aritmética, y clasificadas con la mediana. Los resultados fueron: a nivel estatal 56 % de los docentes poseen competencias altas y 44 % entre medianas y bajas. Por subdimensiones: normales 71 %, universidad 64 %, tecnológicos 44 %, mostraron competencias altas en valores y evaluación; en las

pedagógicas presentaron deficiencias notorias. En indicadores: 90 % de los normalistas tienen fortalezas altas, 58 % de los universitarios medianas, mientras los tecnológicos 100 % medianas.

Abstract

Goal: To identify the teaching staff generic competence, that orients the educational practice on higher education on the state of Guerrero, taking into account the students opinion. Method: Descriptive and longitudinal studies on the period 2012-2014; it was applied a questionnaire to students of seven institutions. The sample was: 37 % teaching staff and 41 % students per institution, assessing each academic member 10 students. The information was adapted to the Likert scale, posteriorly to the numeric scale of Sampieri to obtain quartiles thus classifying the data on high medium and low competence. The strength and weakness on the indicators were calculated using the arithmetic mean and classifying it using the median. Results: on a state level 56 % of the teaching staff is of high competence, 44 % between medium and low competence. By sub-dimensions: normal staff 71 %, university staff 64% and technological staff 44 % showed high competence on values and evaluation; on pedagogical showed notorious deficiencies. On Indicators: 9 % normalist staff has high strengths; 58 % of university staff medium competences and technological staff 100 % showed medium competences.

Introduction

Economic, social, cultural and environmental development of a country, is the need to match quality and coverage of higher education for growth, and this requires specialized care teacher to the student in the learning process. In this area, the competency-based approach has been increasingly present in the discussions of the various levels of the education system in various nations seen as a means to achieve comprehensive training in equity and lifelong (Zabala and Arnau, 2007).

With the appearance of competence approach to date have been developed for different purposes, including the need to manage and link the formal to the needs of the productive sector education system. Another purpose is to contribute to the training of individuals to meet a set of basic needs, identified by expert groups and international organizations to challenge the challenges of a society in permanent transformation and uncertain course (Rueda, 2010, p.4).

Against this background efforts have been made to indicate fundamental problems that might arise "knowledge needed for tomorrow's education" (UNESCO, Rueda, 2010, p.4), as the challenge to error, with the desire and the need to know the nature and construction of knowledge, inadequate teaching able to learn from their context, to understand the range of problems and their corresponding relationships and influences. There is a requirement to recognize the complex unity of human nature, the strong partnership of the unity and diversity of all humanity; course and difficult global crisis; demand to take risks, uncertainty, the unexpected, and change your progress with the temporal information available; the urgency of studying indifference from their roots, peculiarities and effects; and the need to develop a reason to show that each individual initiates the same society and a race.

For teachers, who are part of this society, meet the new demands of it, they should be evaluated on an ongoing basis in order to detect weaknesses. That way they can be aware of updating the initial and continuing training, upgrading performance, as well as employ different strategies and resources to develop skills in students (Rueda, 2009, pp. 2-4).

Considerations competence approach

One of the explanations managed to boost the skills approach is the presence of an increasingly unequal and connected world inexhaustibly generates more information, among other factors, the

development of information and communications technology, which paradoxically also paid to the formulation of new challenges for companies aspiring to achieve economic growth with equity.

Recognizing the difficulty of the current living conditions prompted the concept design competition, which involves the ability to meet complex demands, drawing and moving psychosocial resources (skills and attitudes) in a particular environment. The use of materials, both physical and cultural, adds their understanding and adaptation to the purposes of people and their interactive use. In addition to interact with various groups, people need to commit to managing their lives, put them in a broader social context and behave autonomously; it is expected that individuals adapt to unstable contexts and also that show evidence of creativity, innovation, motivation and values, exceeding the reproduction of accumulated knowledge (Organisation for Economic Co-operation and Development (OECD, 2005; Rueda, 2009).

Cano (2005) considers that this can be achieved together in the skills approach seeks to develop knowledge, skills and attitudes aimed at solving new situations, insufficiently present in current school systems (p.3).

As for the conceptualization of competition

Numerous investigations have considered essential theme the definition of competencies, discussed in relation to both the conceptual difficulty as its scope to agree appropriate by school level and vocational training (Moreno, 2009; Cano, 2008; Denyer Monique, FURNEMONT Jacques Poulain Roger, and Vanloubbeeck Georges, 2007). Rueda (2009) notes that "the variety of views expressed in current definitions represents an obstacle for identification, something it difficult to design strategies and how to evaluate them. However, we must take some of them, to propose actions such as program development, suggest criteria for teaching and assessment" (p.3).

In the context of higher education, one of the most accepted of competition by several scholars definition is "an individual's ability to engage in activities that require planning, execution and autonomous control and the ability to use the knowledge and skills related to products and processes, and to act effectively to an end "(Zabalza, 2003, p.71).

Two other contributions are those of the Anuies ANUIES (cited by Cruz, 2012) which defines the powers as:

1. The knowledge, skills and abilities, both specific and cross, which must meet a graduate to fully meet the social demands.
2. The capabilities that the person develops gradually and throughout the entire educational process and are evaluated at different stages (p. 6).

These definitions highlight the complexity of the tasks that are to perform effectively in specific contexts, and the use of multiple cognitive, psychomotor and affective resources interlinked so that come into play, because it is attractive way of referring to a competent person, as one who knows, does and interacts (Rueda, 2009, p. 7).

It supports a definition of teaching competence, located in the context of higher education, as referred Zabalza (2007), which states necessary: "teaching competence is the individual capacity to be met by the teacher for planning processes, development and evaluation of teaching and learning. This involves the use of knowledge and skills to achieve a goal "(p. 70).

In addressing this issue the definition of teaching skills Perrenoud (2007) was adopted: "the ability to deal effectively with a family of similar situations, mobilizing awareness and how to fast, relevant and creative time, multiple cognitive resources: knowledge, capabilities, micro-skills, information, values, attitudes, patterns of perception, judgment and reasoning "(p. 36).

Conception evaluation

Evaluation is one of the most debated and difficult areas of human and professional aspects. For purposes of this work is part of the following definition:

> Evaluation is the process and result of appreciating an object or phenomenon of reality in its essential characteristics, its particular manifestations of its evolution and present and foreseeable state of development, according to a judgment or defined patterns and indicators established for this purpose. Any evaluation meets certain purposes and to achieve various methods and procedures to be applicable, as basic requirements for the purposes of this assessment and the nature of the targets tested are used. This is an eminently human action where the subjectivism of those involved in the evaluation act is present to some degree (González, 1997, p.64).

In the educational field, Ralph Tyler (Casanova, 1992) defines teacher evaluation as "the process of identifying what degree have been achieved the educational objectives" (pp. 28-29). In addition, Cronbach (Casanova, 1992) defines it as: "the collection and use of information to make decisions about an educational program" (97 p.); that is, as a basic tool to make decisions or to feed back the evaluated object and not only as a purpose.

On the assessment of competence in teaching

Assess teaching practice lies in the obligation to raise and obtain evidence of validity and reliability of assessment tools based teaching competence approach, and disseminate the results for educational use.

When starting a project under the competency-based approach, it is necessary to reflect on the kind of teacher, what school is and what kind of society. As pointed out by Cano, (2008) "change in teaching under this approach lies in'cómo' skills can be learned from those contained in a context where access to information easy way, which affects planning, methodology and evaluation "(p.10). This requires new tasks, such as collegial work, which involves a change in teacher evaluation, focused on access to the profession where the evaluated demonstrate that possesses the skills, knowledge and values required as well as the processes developed in their work (Darling, 2002).

Methodology

The research was conducted during 2012 with teachers from ten programs of the university in 2013 with five programs offered in two technological institutes and four normal schools, in 2014 the evaluation was not performed by program as teachers teach at all these. The study was descriptive and longitudinal. A random sample of academic institution was taken by 37%. The student sample was 41% in each school. Each teacher was evaluated by 10 students, who were selected randomly in the morning and evening shifts.

The variables studied were: a) generic skills in each dimension generally that teachers have in the opinion of students in the state of Guerrero; b) behavior of generic skills in teaching, by subdimension generally; c) behavior of generic skills generally on teachers by educational program at each institution; d) strengths and weaknesses in the indicators for each dimension; this was done

in each school. The instrument used was the questionnaire Teacher Proficiency Assessment Based on the opinion of students, Calderon (2010), University of Baja California. It consists of 35 reagents formatted response Likert scale of five categories ranging from never to always structured in three dimensions: Planning, Conduct and Evaluation of Learning Process and seven sub-dimensions: domain knowledge of the discipline, subject course planning, management progress of learning, didactic classroom interaction, communication, values, and evaluation of teaching-learning process.

To assess competencies in different domains and subdomains, they were taken into account the values of the Likert scale containing the questionnaire (1 = never, 2 = rarely, 3 = sometimes, 4 = almost always 5 = Always) . Information subsequently converted to a numerical scale (Sampieri, 2006 p: 373). The development was noted in each dimension, the minimum score 35 (1,1,1,1,1,….), if all students answer one and maximum of 175 (5,5,5,5,5………), if all answer five for 35 claims exist. From this scale quartiles were obtained with their respective values, thereby defining proficiency levels in each dimension. The ranges shown in Table 1.

Table 1. Scale assessment to determine the dimension of generic skills by teachers evaluated in the three participating institutions

Escala de valoración de competencias	Dominio de las competencias (Camargo et al., 2008)	Planeación del PEA (dim.1)	Conducción del PEA (dim.2)	Valoración del PEA (dim.3)	Puntaje total
Q1 y Q2 = BAJAS	Sin competencias	0 - 25	0 - 55	0 - 8	88
Q2 y Q3 = MEDIANAS	Manejo de competencias inferior a lo deseado	26 -38	56 -83	9 - 11	131
Q3 y Q4 = ALTAS	Manejo deseable de competencias	39- 50	84 -111	12 - 15	175

Using the same numerical scale (Sampieri, 2006, p. 373) quartiles were obtained with their respective values and thus the sub-dimensions were evaluated as shown in Table 2.

Table 2. Rating Scale for generic skills of teachers by subdimension

Escala de valoración de competencias	Dominio de los saberes de la disciplina	Planeación del curso de la asignatura	Gestión del PEA	Interacción didáctica en el aula	Comunicación	Valores	Evaluación del PEA
Q1 y Q2 = BAJAS	0-13	0-13	0-10	0-25	0-13	0-7	0-7
Q2 y Q3 = MEDIANAS	14-19	14-19	11-15	26-38	14-19	8-11	8-11
Q3 y Q4 = ALTAS	20-25	20-25	16-20	39-50	20-25	12-15	12-15

Applying the above procedure the scale of assessment of generic competencies was obtained, to be applied to teachers per institution considering the value range of 35-175, 35 if they answered 1 and 5 in all items respectively, then the quartiles were taken to determine the scale of assessment of skills.

Table 3. Rating Scale for generic skills of teachers by academic unit

Escala de valoración de competencias	Conducción del proceso de enseñanza aprendizaje por competencias
Q1 y Q2 = BAJAS	0-88
Q2 y Q3 = MEDIANAS	89-132
Q3 y Q4 = ALTAS	133-175

In order to determine the strengths and weaknesses of each program educational institution arithmetic mean we were used to get the average of each indicator dimensions.

Subsequently the classification of these strengths and weaknesses was based indicators dimensions in low, medium and high, using the median of each indicator, where the minimum score was 1, the maximum 5 median 3; from this it was considered that the values less than the median is a weakness, that 3 to 4 medium strengths, and four to five high strengths, as shown in Figure 1.

Figure 1. Classification of strengths and weaknesses of teachers as indicators of the dimensions

Results

Table 4. Overall average level of generic skills of academics who are against institution group at the top level of the state of Guerrero

Competencias genéricas por Institución Educativa	Nivel de competencias		
	Bajas	**Medianas**	**Altas**
Universidad Autónoma de Guerrero	10.6 %	32.7 %	56.7 %
Tecnológicos	8.4 %	44.9 %	46.7 %
Normales	5.3 %	30.9 %	63.8 %
Promedio de competencias genéricas en el Estado de Gro.	8.1 %	36.2 %	55.7 %

Table 4 shows that 55.7% of teachers in the higher level in the state of Guerrero has high generic skills, 36.2% and 8.1% medium-low. Note that the result is insufficient to achieve the learning skills in students.

Table 5. Average level of generic skills by size in the 7 institutions in the State of Guerrero

Dimensiones	Nivel de competencias		
	Bajas	**Medianas**	**Altas**
Planeación del proceso de enseñanza-aprendizaje	8.1 %	41.2 %	50.7 %
Conducción del proceso de enseñanza-aprendizaje	9.9 %	37.4 %	52.7 %
Valoración del proceso de enseñanza-aprendizaje	13.2 %	23.6 %	63.2 %
Promedio	10.4 %	34.1 %	55.5 %

Table 5 presents the assessment was done by size in the 7 institutions participating in the study, noting that on average 55% of teachers have high skills, and 44.5% are between medium and low levels; these results are insufficient to contribute to the generation of a more relevant and equitable in the state and the country's education system.

Table 6. Generic skills of teachers by subdimension generally in the 7 state educational institutions

Dimensión	Sub-dimensión	Nivel de competencias								
		Universidad			Tecnológicos			Normales		
		% Bajas	% Medianas	% Altas	% Bajas	% Medianas	% Altas	% Bajas	% Medianas	% Altas
Planeación del proceso de enseñanza aprendizaje	*Dominio de los saberes de la unidad de aprendizaje	15	39	47	14	43	44	9	35	56
	*Planeación del curso de la unidad de aprendizaje	14	37	49	12	49	39	9	34	57
	*Gestión del proceso de los aprendizajes	23	35	42	25	40	36	14	33	53
Conducción del proceso de enseñanza aprendizaje	*Interacción didáctica en el aula.	13	37	51	10	49	41	7	31	62
	*Comunicación.	17	30	53	16	36	48	9	30	60
Valoración del proceso de enseñanza-aprendizaje	*Valores	10	27	63	13	51	36	5	22	73
	*Evaluación del proceso de aprendizaje	11	24	65	12	31	52	6	24	69
PROMEDIO		14	33	53	15	43	42	9	30	61

Table 6 shows results of the assessment of generic competencies for sub-dimension, it is observed that on average 52% of teachers in the programs evaluated institutions have high skills, and 48% are between the levels of medium and low. As for the educational subdimensions: domain knowledge, course planning and managing the process of learning, it is evident that 50% of teachers do not have sufficient skills to develop the teaching-learning process, an essential aspect that each institution should care in academic teaching to achieve the intended competencies in the curriculum of each educational program offered.

Table 7. Level of generic skills generally on teachers per educational program at each institution

Universidad Autónoma de Guerrero	Niveles de Competencias			Tecnológico Chilpancingo	Niveles de competencias			Tecnológico Iguala	Nivel de competencias			Normales	Niveles de competencias		
	% Bajas	% Medianas	% Altas		% Bajas	% Medianas	% Altas		% Bajas	% Medianas	% Altas		% Bajas	% Medianas	% Altas
Enfermería 1	4	26.7	69.3	Contador Público	9	43	49	Contador publico	15	39	46	Vicente Guerrero	7	43	50
Enfermería 2	10	22	68	Ingeniería Civil	22	33	45	Ingeniería Industrial	14	35	51	Adolfo Viguri Viguri	5	19	76
Enfermería3		16.7	83.3	Ingeniería en Gestión Empresarial	22	37	41	Gestión empresarial	18	47	35	Ignacio Manuel Altamirano	1	10	89
Enfermería 4	8.2	51	40.8	Ingeniería en Informática	11	38	51	Ingeniería en informática	22	41	37	Raúl Isidro Burgos	6	38	56
LIC. en Ciencias de la Educación	4	28	68	Ingeniería en Sistemas Computacionales	18	43	39	Ingeniería en sistemas	16	43	41	PROMEDIO	5	28	68
Licenciatura en Artes		30	70	PROMEDIO	16	39	45		17	41	42				
Ingeniería Civil	26	48	26												
Ingeniero Constructor	4	16	80												
Ing. en Sistemas Computacionales	22.2	55.6	22.2												
Ing. Top. Geodesta		100													
Lic. en Comunicación		27.5	72.5												
Lic. en Contabilidad y Administración.	8.6	40	51.4												
PROMEDIO	7	39	54												

Table 7 presents the level of strengths that teachers in every school program, noting that 54% of college teachers has high strength and 39% medium. Teachers in technological programs of Chilpancingo showed 45% and 39% higher strengths medium. In the technology of Iguala were 42% of teachers who had high strengths and 41% medium. In normal non-research educational program for teachers was done, because they work in all programs offered. The strengths in academic normal was: Vicente Guerrero with 89% in medium, the Normal Adolfo Viguri Viguri 89% at high, the Normal Ignacio Manuel Altamirano with 100% at high, and the Normal Raul Isidro Burgos with 75% in medians.

Table 8. Strengths and weaknesses in the domain of indicators of the dimensions that assess generic skills in academics who are against top-level group in the state of Guerrero by educational program at each institution

Universidad Autónoma de Guerrero	% Fortalezas			Tecnológico Chilpancingo	% Fortalezas			Tecnológico Iguala	% Fortalezas			Normales	% Fortalezas		
	Bajas	Medianas	Altas		Bajas	Medianas	Altas		Bajas	Medianas	Altas		Bajas	Medianas	Altas
Enfermería 1		66	34	Contador Público	11	58	31	Contador publico	6	85	9	Vicente Guerrero	0	89	11
Enfermería 2		60	40	Ingeniería Civil	3	91	6	Ingeniería Industrial	9	88	3	Adolfo Viguri Viguri	0	11	89
Enfermería3		20	80	Ingeniería en Gestión Empresarial	3	97	0	Gestión empresarial	6	91	3	Ignacio Manuel Altamirano	0	0	100
Enfermería 4	3	81	6	Ingeniería en Informática	0	57	43	Ingeniería en informática	14	83	3	Raúl Isidro Burgos	0	75	25
LIC. en Ciencias de la Educación		37	63	Ingeniería en Sistemas Computacionales	3	97	0	Ingeniería en sistemas	9	88	3				
Licenciatura en Artes		26	74	PROMEDIO	4	80	16		9	87	4				
Ingeniería Civil	46	54	0												
Ingeniero Constructor	37	63	0												
Ing. en Sistemas Computacionales	83	17	0												
Ing. Top. Geodesta		24	76												
Lic. en Comunicación		74	26												
Lic. en Contabilidad y Administración.		80	20												
PROMEDIO	14	50	35												

Table 8 displays the strengths and weaknesses that teachers have in the domain of the indicators of the dimensions evaluated institution: University has high strengths 35% and 50% medium. In technology, Chilpancingo and Iguala is 80% 87% of its academics with medium strengths. Normal high strengths in their teaching are: Adolfo Viguri Viguri 89%, the Normal Ignacio Manuel Altamirano 100%. The teachers whose normal medium present strengths are: Vicente Guerrero with 89% and Raul Isidro Burgos Normal 75%.

Notably, of the 26 educational programs of the 7 top level educational institutions, only 23% (6 programs) have teachers with high strengths.

Table 9. Overall average strengths in the domain of indicators by teachers in the seven institutions

Dominio de indicadores	Porcentajes
Bajas fortalezas	0 %
Medianas fortalezas	93 %
Altas fortalezas	7 %

Table 9 shows the strengths and weaknesses that teachers have in the domain of the indicators of all sizes. Teachers came from the 26 programs offered in the seven centers evaluated the state of Guerrero, finding that 93% of them have medium strengths.

Conclusion

The questionnaire applied according to Calderon (2010), showed to have validity and reliability, was designed according to the characteristics of university teachers with criteria in building dimensions and sub-dimensions that allowed achieve the stated objective, to account for the students have vision regarding the domain of generic skills which teachers in the state of Guerrero, to be facilitators in the teaching-learning process and achieve the main goal of every educational program at the top level.

The consistency of the instrument served to highlight the average university teachers found in every skill level: high, medium and low in each institution evaluated both dimensions, sub-dimensions and strengths and weaknesses in the domain of indicators.

Teachers who are facing group at the top level in the state of Guerrero, 56% have high efficiency to develop the teaching-learning process and 44% are in medium and low levels of skills competitions.

The most representative problems of the seven teachers were teaching institutions evaluated subdimensions: domain knowledge, course planning and managing the process of learning

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