

opción

Revista de Antropología, Ciencias de la Comunicación y de la Información, Filosofía,
Linguística y Semiótica, Problemas del Desarrollo, la Ciencia y la Tecnología

Año 35, mayo 2019 N°

89

Revista de Ciencias Humanas y Sociales
ISSN 1012-1017 ISSN-e 2677-0225
Depósito Legal pp 102402211-05



Universidad del Zulia
Facultad Experimental de Ciencias
Departamento de Ciencias Humanas
Maracaibo - Venezuela

Applying Six Sigma (SS) to Improve the Quality of Academic Life (QAL)

Taher Hameed Abbas Bahia¹

¹Al-Dewaniyah Technical Institute
dw.tah@atu.edu.iq

Hinwa Hussein Ahmed²

²Al- Furat Al-Awsat Technical University, Iraq
dw.afrh@atu.edu.iq

Afrah Raheem Idan³

³Al- Furat Al-Awsat Technical University, Iraq
dw.hanw@atu.edu.iq

Abstract

The current study looks forward to the possible application of Six Sigma as an input to improve the quality of academic life using a set of statistical methods through the SPSS vr.24 software. As a result, an increase in the value of (SS) by one unit leads to an increase in the value of (QAL) by (0.65). In conclusion, the paper shows that the lack of improvement towards the satisfaction of staff and students and the quality of its outputs and limited adoption of information technology will lead to creativity and innovation in the field of work.

Keywords: Six Sigma, methodology, continuous, improvement.

Aplicación de Six Sigma (SS) para mejorar la calidad de la vida académica (QAL)

Resumen

El estudio actual espera la posible aplicación de Six Sigma como información para mejorar la calidad de la vida académica mediante un conjunto de métodos estadísticos a través del software SPSS vr.24. Como resultado, un aumento en el valor de (SS) en una unidad conduce a un aumento en el valor de (QAL) en (0.65). En conclusión, el documento muestra que la falta de mejoras hacia la satisfacción del personal y los estudiantes y la calidad de sus productos y la adopción limitada de la tecnología de la información conducirá a la creatividad e innovación en el campo del trabajo.

Palabras clave: Six Sigma, metodología, continua, mejora.

1. INTRODUCTION

Higher education organizations are the locomotive of progress and development in various fields as a pillar in the development, use and dissemination of knowledge to serve the society. This requires continuous improvement in its scientific product and keeps up the developments in quality management and improvement of performance in accordance with the requirements of the age. At a time when it faces many variables and challenges, which requires the application of contemporary concepts in the light of an attempt to achieve excellence (Six Sigma) is one of the best methodologies which

contribute to achieving this excellence and can be used to improve the quality of industrial and service organizations.

2. METHODOLOGY

The study problem starts with questions like what is the level of application of the methodology (Six Sigma) in Organization concerned from the point of view of its academics? what is the level of practice to improve the quality of academic life from the perspective of the Academy? what is the relationship between applying the Six Sigma methodology and improving the quality of academic life from the point of view of academics in the organization? it deals with two main points of interest the first is the Six Sigma methodology as a constructive methodology and philosophical commitment to offering high-quality products which approaching the zero defect.

3. THE THEORETICAL FRAMEWORK OF THE STUDY

The basic idea of the Six Sierra methodology is that it is possible to measure the number of defects and deviations in the process then it becomes possible and systematically to determine how to remove those defects and to approach to the zero defect as possible, and thus is based on continuing to reduce the deviation. Their views

varied according to their practical backgrounds. Some of them see it as a statistical measure that produces (3.4) defects in every million chances, and others see them as philosophy and intellectual approach through reaching a product free of defects. Six refers to the number of deviations from the real mean of the process (Alnuaimi & Sweiss, 2008; Krajewski et al., 2010; Shathri, 2010; Sujar et al., 2008).

The purpose of using Six Sigma is to eliminate variance, reduces errors in operations and focus on continuous improvement through careful understanding customer requirements and analyzing the organization's operations. Pyzdek (2003) has seen the basic tools required for Six Sigma as flow maps, dispersion schemes, test lists, cause and effect diagram, histogram, correlation scheme, Pareto scheme, control maps (Surya & Shani, 2013; Allam, 2012; Soo et al., 2019; Jadalrab, 2008).

4. STATISTICAL ASPECT OF THE STUDY

The questionnaires were distributed to the study sample and were entered and analyzed using (SPSS vr.24), (AMOS) and Excel software and the data were descriptively analyzed including the frequencies and their ratios, the computational averages, standard deviations, the difference coefficients and the relative importance. Then, the hypothesis test was used for correlation and impact coefficients. The tables below include the statistics of frequencies,

their ratios, the computational environment, standard deviations, and the difference coefficients (CV), the relative importance of each paragraph of the questionnaire:

Table 1: Frequencies and their ratios to the research variables

Frequency/Percent	Item	Completely agree	agree	Agree to some extent	do not agree	Do not Completely agree	Item	Completely agree	agree	Agree to some extent	Do not agree	Do not Completely agree
Frequency Percent	SA1	219	274	115	153	48	QA	188	282	116	178	34
		26	34	14	19	6		24	37	15	21	4
Frequency Percent	Q1	117	151	158	263	87	QP	176	197	145	205	37
		16	24	26	26	9		20	27	16	22	4
Frequency Percent	QD	119	182	84	150	64	QC	208	284	147	151	8
		16	42	11	19	9		27	27	18	16	1
Frequency Percent	AS	76	106	61	123	30	QT	208	181	165	122	22
		15	41	11	25	6		26	35	21	15	3
Frequency Percent	EF	123	183	122	117	45	QE	221	106	144	100	19
		18	42	17	17	6		28	48	18	13	2

Table 2: General statistics of the research variables

Item	Ari thme tic an	Stadev ndati rd on	Co efflev cie lati on	Rel ati ve im por tan ce	Item	Ari thme tic an	Stadev ndati rd on	Co efflev cie lati on	Rel ati ve im por tan ce
SM1	3.51	1.3	37	70	QA1	3.69	1.28	35	74
SM2	3.66	1.27	35	73	QA2	3.63	1.26	35	73
SM3	3.64	1.18	32	73	QA3	3.54	1.15	32	71
SM4	3.95	1.14	29	79	QA4	3.62	1.16	32	72
SM5	3.32	1.07	32	66	QA5	3.31	1.2	36	66
SM6	3.31	1.25	38	66	QA6	3.52	0.95	27	70
SM7	3.39	1.32	39	68	QA7	3.49	1.12	32	70
SM8	3.67	1.21	33	73	QA8	3.5	1.3	37	70
SM	3.56	0.98	28	71	QA	3.54	0.9	26	71
CI1	3.9	1.03	26	78	QP1	3.51	1.14	33	70
CI2	3.13	1.14	37	63	QP2	3.34	1.26	38	67

CI3	3.47	1.15	33	69	QP3	3.44	1.17	34	69
CI4	2.88	1.31	46	58	QP4	3.49	1.24	36	70
CI5	2.76	1.37	50	55	QP5	3.41	1.09	32	68
CI6	3.02	1.26	42	60	QP6	3.26	1.2	37	65
CI7	3.1	1.12	36	62	QP7	3.18	1.2	38	64
CI8	3.25	1.26	39	65	QP8	3.83	0.94	25	77
CI9	3.28	1.21	37	66	QP9	3.64	1.06	29	73
CI10	3.33	1.16	35	67	QP	3.46	0.84	24	69
CI	3.21	0.9	28	64	QC1	3.71	1.08	29	74
TD1	2.88	1.33	46	58	QC2	3.72	1.09	29	74
TD2	3.22	1.31	41	64	QC3	3.73	1.08	29	75
TD3	3.45	1.14	33	69	QC4	3.84	1.05	27	77
TD4	3.8	1.13	30	76	QC5	3.57	1.09	31	71
TD5	3.48	1.12	32	70	QC6	3.74	1.1	29	75
TD6	3.38	1.15	34	68	QC7	3.75	0.99	26	75
TD7	3.43	1.13	33	69	QC8	3.79	1.04	27	76
TD	3.38	0.94	28	68	QC	3.73	0.87	23	75
AS1	3.19	1.18	37	64	QT1	3.56	1.17	33	71
AS2	3.61	1.01	28	72	QT2	3.65	1.2	33	73
AS3	3.14	1.33	42	63	QT3	3.63	1.13	31	73
AS4	3.58	1.04	29	72	QT4	3.75	1.12	30	75
AS5	3.23	1.23	38	65	QT5	3.58	1.12	31	72
AS	3.35	0.93	28	67	QT6	3.72	1.03	28	74
EF1	3.13	1.07	34	63	QT7	3.66	1.07	29	73
EF2	3.68	0.99	27	74	QT8	3.78	0.98	26	76
EF3	3.75	1.03	27	75	QT	3.67	0.87	24	73
EF4	3.99	1.05	26	80	QR1	3.65	1.19	33	73
EF5	3.35	1.09	32	67	QR2	3.69	1.2	32	74
EF6	3.3	1.28	39	66	QR3	3.74	1.08	29	75
EF7	3.12	1.24	40	62	QR4	3.92	1.02	26	78
EF	3.47	0.83	24	69	QR5	3.74	1	27	75
					QR6	3.79	1.07	28	76

					QR7	3.86	0.94	24	77
					QR8	3.81	0.95	25	76
					QR	3.78	0.83	22	76

The following table includes the values of this transaction:

Table 3: Alpha Cronbach coefficients

Axis	Items	Alpha Cronbach
SM	8	0.92
CI	10	0.91
TD	7	0.90
AS	5	0.86
EF	7	0.87
SS	37	0.97
QA	8	0.90
QP	9	0.89
QC	8	0.93
QT	8	0.91
QR	8	0.91
QAL	41	0.97
Total	78	0.98

The following table contains the values of the standards used model accuracy:

Table 4: Criteria and decision taken

Parameter	X^2/ df	GFI	AGFI	RMSEA
Parameter Value	1986.169 /619=3.21	0.87	0.82	0.00
Comparison	Less than 5	More than 0.50	More than 0.50	Less than 0.05
Decision	Accepted	Accepted	Accepted	Accepted

The above results show the suitability of the structural model designed and therefore the items are able to measure the axis with different strengths and as in the following structural scheme.

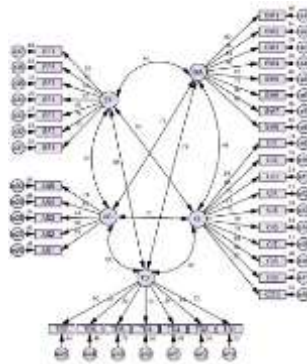


Figure 1: Six Sigma Construction Diagram

The SMI was able to explain the dimension (0.83). In other words, the increase in the value of SMT by (0.83) from the standard deviation leads to an increase in the value of the dimension (SM) by one standard deviation and so on for the rest of the items, and that the

standard decline weights in the constructional diagram above were set in the following table (Fateminasab, 2014) .

Table 5: The estimated values of standard decline weights for each item

Path	Estimate	Path	Estimate	Path	Estimate	Path	Estimate	Path	Estimate
< S - S	0.8	< C - C	0.5	< T - T	0.7	< A - A	0.0	< E - E	0.8
M - M	2	I - I	7	D - D	2	S - S	6	F - F	3
1 - .	5	1 .	8	1 .	8	1 .	9	1 .	3
< S - S	0.8	< C - C	0.8	< T - T	0.7	< A - A	0.7	< E - E	0.0
M - M	6	I - I	0	D - D	3	S - S	8	F - F	7
2 $\frac{+}{\Delta}$.	1	2 $\frac{+}{\Delta}$.	8	2 $\frac{+}{\Delta}$.	2	2 $\frac{+}{\Delta}$.	5	2 $\frac{+}{\Delta}$.	8
-		-	0.	-	0.	-	0.	-	0.
S - S	0.	C - C	7	T - T	8	A - A	7	E - E	5
M $\frac{+}{\Delta}$ M	8	I $\frac{+}{\Delta}$ I	2	D $\frac{+}{\Delta}$ D	3	S $\frac{+}{\Delta}$ S	3	F $\frac{+}{\Delta}$ F	2
3 - .	3	3 - .	6	3 - .	7	3 - .	6	3 - .	3
-		-	0.	-	0.	-	0.	-	0.
S $\frac{+}{\Delta}$ S	8	C $\frac{+}{\Delta}$ C	7	T $\frac{+}{\Delta}$ T	7	A $\frac{+}{\Delta}$ A	8	E $\frac{+}{\Delta}$ E	5
M - M	0	I - I	1	D - D	0	S - S	3	F - F	1
4 - .	5	4 - .	1	4 - .	6	4 - .	1	4 - .	1
-		-	0.	-	0.	-	0.	-	0.
S - S	6	C - C	7	T - T	8	A A	0.	E - E	5
M - M	7	I - I	6	D - D	3	S S	7	F - F	6
5 $\frac{+}{\Delta}$.	1	5 $\frac{+}{\Delta}$.	4	5 $\frac{+}{\Delta}$.	4	5 .	4	5 $\frac{+}{\Delta}$.	4
-		-	0.	-	0.			E $\frac{+}{\Delta}$ E	0.
S - S	0.	C - C	0.	T - T	0.			F - F	8
M - M	7	I - I	7	D - D	6			6 - .	2
6 - .	2	6 - .	6	6 - .	9				

		2		1		6				2		
		0.				0.				0.		
S	S	8	C	C	0.	T	T	8		E	E	8
M	M	0	I	I	7	D	D	0		F	F	1
7	.	4	7	.	8	7	.	1		7	.	5
		0.										
S	S	6	C	C	0.							
M	M	5	I	I	6							
8	.	5	8	.	8							
			C	C	0.							
			I	I	6							
			9	.	6							
			C <	0.								
			I - C	6								
			1 - I	7								
			0 .	2								

For the purpose of detecting the ability of interpretation of the dimensions of its dimensions in the element (QAL), the following table ensures the values of the criteria of the accuracy of the model used in Table 6 and the decision was taken (Chahine, 2018)

Table 6: The values of the criteria of the accuracy of the model

Parameter	X^2/ df	GFI	AGFI	RMSEA
Parameter Value	3617.830/769=4.70	0.78	0.73	0.00
Comparison	Less than 5	More	More	Less

		than 0.50	than 0.50	than 0.08
Decision	Accepted	Accepted	Accepted	Accepted

The above results show the suitability of the structural design model:

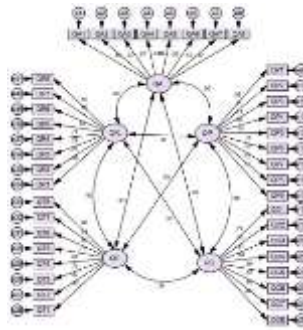


Figure 2: Quality of the Academic Life construction diagram

It is clear through the structural scheme and its results that the first item was able to explain the dimension affiliated by (0.76) (Yang et al., 2019):

Table 7: The estimated values of standard decline weights for each item

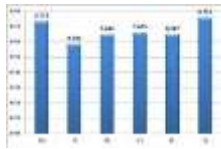


Figure 3: correlation coefficients between the two elements

First, the highest correlation with (QAL) was recorded after the support of senior management (SM). Six Sigma (SS) impact analysis and its dimensions on the quality of academic life was carried out.

Table 9: Results of impact analysis

Indt epør ndåb le	De penVa denia t ble	Tes t F	Sig Tesi t F	Par Eff am r	test	Sig test nifi can	De cisi on	ien Co effi c
SS	QAL	132.513	0.000	0.76	11.511	0.000	Significant	58%
SM	QAL	113.562	0.000	0.73	10.657	0.000	Significant	54%
CI	QAL	50.845	0.000	0.58	7.131	0.000	Significant	34%
TD	QAL	70.992	0.000	0.65	8.426	0.000	Significant	42%
AS	QAL	75.067	0.000	0.66	8.664	0.000	Significant	43%
EF	QAL	70.702	0.000	0.65	8.408	0.000	Significant	42%

We conclude the presence of the trace of the dimension (EF) in element (QAL). The value of the F-test was (70.702) which is a significant value below (5%), the coefficient of determination was equal to (42%), the value of the impact parameter was (0.65) and the value of the T-test was (8.408) which is a significant value below the level of (5%).

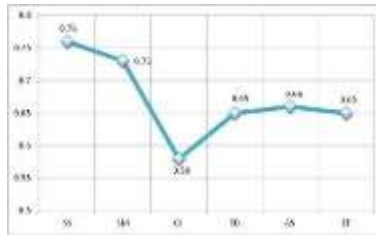


Figure 4: Parameters of the effect between the two elements

5. CONCLUSIONS

In conclusions the senior management is weak in exchanging experiences to support and develop quality. The lack of improvement towards the satisfaction of staff and students and the quality of its outputs and limited adoption of information technology leading to creativity and innovation in the field of work. Weak organization's interest in adopting training courses in the quality of its members. Weak management attention in the incentives system for its academics according to the annual assessment system to encourage them to implement quality elements. Weak effectiveness of existing administrative and financial system to achieve administrative and financial quality.

REFERENCES

- ALLAM, S. 2012. **Quality of life and its relationship to job satisfaction among university faculty members**. Arab Studies in Psychology, magazine. Vol. 11, N° 2. Amman.
- ALNUAIMI, M., & SWEISS, R. 2008. **Six Sigma Achieving Accuracy in Quality Management**. Dar Athraa Publishing and Distribution. Amman.
- SHATHRI, A. 2010. **Six Sigma Introduction Requirements for Improving Quality of Performance**. Magazine of Imam Muhammad Bin Saud Islamic University, a message of Education and Psychology. N° 35. Saudi Arabia.
- JADALRAB, S. 2008. **Quality of Career QWL in Modern Business Organizations**. Arab Thought Publishing House. Egypt.
- FATEMINASAB, A. (2014). **Investigating the challenges and barriers of convergence between Iran and republic of Azerbaijan**, UCT Journal of Social Sciences and Humanities Research, 2(1): 18-24.
- KRAJEWSKI, L., & RITZMAN, L., & MOLHOTRA, M. 2010. **Operations Management**. 9th ed prentice Hall. New Jersey.
- PANDE, P., & HOLPP, L. 2002. **What is Six Sigma?** McGraw-Hill. New York. USA.
- PYZDEK, T. 2003. **Six Sigma Handbook Revised and Expanded: A Complete Guide for Green Belts**. Black Belts, and Managers at all Levels, McGraw-Hill Companies. USA.
- CHAHINE, I. C. (2018). **Exposing the Conscious Self: Lived Problem Solving Experience in a Socio-Cultural Context**. International Electronic Journal of Mathematics Education, 13(3), 221-231. <https://doi.org/10.12973/iejme/3880>

SOO, M., SHELBY, R., & JOHNSON, K. 2019. **Optimizing the patient experience during breast biopsy.** Journal of Breast Imaging. wbz001, <https://doi.org/10.1093/jbi/wbz001>. UK.

SUJAR, Y., & BALACHANDRAN, P., & RAMASAMY, N. 2008. **Six Sigma and the Level of Quality characteristics.** AIMS international Journal of Management. Vol. 2, N° 1. USA.

SURYA, K., & SHANI, N. 2013. **A Study on Quality of work life Among the Employees at Metro Engineering private limited.** International Journal of management. Vol. 4. N° 1. USA.

YANG, Y., PAN, T., & ZHANG, J. 2019. **Global optimization of Norris derivative filtering with application for near-infrared analysis of serum urea nitrogen.** Scientific Research Publishing. Vol 10. N° 5. China.

Questionnaire General Information (Personal Data):

1. Gender: MaleFemale.....
2. Academic Rank: Assistant Professor, Assistant, Professor,
3. Organization,
4. Years of Service: Less than 5 years, from 5 - 10 years, more than 10 years,

Note: Please mark (√) in the appropriate field that expresses your opinion in all honesty according to the degree of availability of each variable in the organization in which you work knowing that the form prepared for scientific research purposes and depends on the accuracy of the results that can be reached.

Element 1: The level of application of Six Sigma Dimension 1:
 Senior Management Support (MS).

#	Paragraphs	completely agree	Agree	agree to some extent	do not agree	do not agree completely

1	There is a specialized department within the organization concerned with quality					
2	Senior management is interested in implementing the principles of total quality within the organization					
3	Senior management relies on the annual budget for attention to quality.					
4	The senior management supports the exchange of experiences in order to support and develop the quality					
5	Quality Management provides its recommendations to senior management directly for adoption					
6	Senior management relies on an annual budget increase for quality management					
7	Senior management provides a strategic plan that includes attention to quality					
8	Senior management is committed to persuading staff to apply the Six Sigma methodology					

Dimension 2: Continuous Improvement (CI)

#	Paragraphs	completely agree	Agree	agree to some extent	do not agree	do not agree completely
1	Continuous improvement leads to creativity and innovation in the field of work					
2	Continuous improvement in the planning of input quality					
3	Continuous improvement is made in the planning of process quality					
4	Continuing improvement in the quality planning of outputs					
5	The organization works on continuous improvement in the field of buildings and constructions					
6	The suggestions of all employees are accepted to achieve continuous improvement					
7	Student proposals are accepted in the organization for continuous improvement					
8	The organization adopts information technology extensively to achieve continuous improvement					
9	The organization seeks to achieve employee satisfaction to achieve continuous improvement					
10	The organization seeks to achieve students' satisfaction to achieve continuous immunization					

Dimension 3: Training and development of human resources. (TD)

#	Paragraphs	completely agree	Agree	agree to some extent	do not agree	do not agree completely
1	The Organization appoints distinguished individuals					
2	The organization appoints intelligent leaders emotionally					
3	The organization is concerned with the management of human resources					
4	The organization adopts quality training courses for working individuals					
5	The organization is interested in the continuous development of its leaders in all areas that achieve quality					
6	The organization provides an appropriate climate for workers to achieve comprehensive quality					
7	The organization is interested in incentives to motivate workers to apply the quality axes					

Dimension 4: Applicable Systems within the organization (AS)

#	Paragraphs	completely agree	Agree	Agree to some extent	Do not agree	do not agree completely
1	The organization has an administrative information management system to facilitate the achievement of the quality system within the organization					
2	There is an effective communication system to achieve quality within the organization's departments					
3	The organization uses an effective financial system to achieve financial quality					
4	There is an effective administrative system to achieve administrative quality					
5	There is an effective academic system to achieve academic quality					

Dimension 5: Evolution and follow-up to achieve quality (EF)

#	Paragraphs	completely agree	Agree	Agree to some extent	do not agree	do not agree completely
1	There is a specialized department for follow-up and evaluation of all the organization activities					
2	A list of supported criteria is available to measure the performance of all business within the organization					
3	Continuous assessment of deviations is done					

4	There is a follower to make sure that the deviations are correct					
5	The Organization has approved standards for financial and nonfinancial measurement					
6	There is a correlation between evaluation results and rewards and incentives					
7	There is a correlation between results of evaluation and promotions					

Element 2: quality of academic life (QAL)

Dimension 1: Quality in the academic portal (QA)

#	Paragraphs	completely agree	Agree	agree to some extent	do not agree	I do not agree completely
1	There is an academic portal for everyone to follow the announcements of the organization					
2	There is a secret code for each academic entering his or her own page through the portal					
3	The academic communicates with the students through the portal in order to achieve speed in communication					
4	The Academy can record its lectures through the academic portal					
5	An academic can send his lectures to students through the academic portal					
6	The academician can communicate with the rest of the university's academics through the portal					
7	An academic has a special email through the academic portal					
8	The academic uses the portal to send students questions and summaries					

Dimension 2: Quality in the Physical environment (QP)

#	Paragraphs	completely agree	Agree	agree to some extent	do not agree	I do not agree completely
1	There are special rooms for academics					
2	There are computers dedicated to academics					
3	The computer of the Academy is connected to the organization's Internet					
4	Air conditioning is available for the Academies' office					
5	There is enough lighting in the classrooms					
6	There is high ventilation in the classrooms					
7	There is a suitable furniture in the offices of academics					

8	There is an elevator for the movement of teaching staff					
9	There is a buffet and private bathrooms for academics					

Dimension 3: Quality in Compensation (QC)

#	Paragraphs	completely agree	Agree	agree to some extent	do not agree	I do not agree completely
1	The organization is committed to the unified staff to determine the salaries of academics					
2	The organization is committed to providing technical and administrative bonuses to academics					
3	Scientific affairs are committed to providing the extra burden for an academic who earns an extra reward					
4	Financial incentives are available to the academicians according to the annual assessment					
5	Moral incentives are available to the academicians according to the annual assessment					
6	Academic gets paid for hours of academic counseling for students					
7	The organization is committed to rotate in leadership positions such as department heads and unit officials					
8	The promotion of academics is linked to their research and scientific achievement					

Dimension 4: Quality in the techniques used (QT)

#	Paragraphs	completely agree	Agree	agree to some extent	do not agree	do not agree completely
1	The organization provides electronic methods for giving lectures (virtual classes)					
2	The organization provides L.C.D in the classroom					
3	The organization provides computer labs where an academic can give lectures					
4	The organization provides a television station to broadcast lectures by academics					
5	The organization provides speakers within the large halls					
6	The organization provides the means of recording lectures are vocal to students					

7	The organization provides a network connecting the computers of all the university formations to facilitate communication					
8	The organization uses modern electronic means to connect with academics					

Dimension 5: Quality in relationships (QR)

#	Paragraphs	completely agree	Agree	Agree to some extent	do not agree	I do not agree completely
1	The organization is working to hold continuous meetings between academics to improve relations.					
2	The organization is making joint trips for academics and administrators to improve their relationship					
3	The organization holds periodic meetings between leaders and academics to exchange suggestions and opinions					
4	The organization supports seminars and conferences with the participation of academics to exchange relations					
5	The organization supports academic visits of other universities to exchange views and experiences					
6	The organization supports academics to visit community organizations to strengthen the relationship					
7	The organization supports academics holding seminars and meetings within the ministry and government agencies					
8	The organization holds periodic meetings between academics and students at the beginning of the school year					



**UNIVERSIDAD
DEL ZULIA**

opción

Revista de Ciencias Humanas y Sociales

Año 35, N° 89, (2019)

Esta revista fue editada en formato digital por el personal de la Oficina de Publicaciones Científicas de la Facultad Experimental de Ciencias, Universidad del Zulia.

Maracaibo - Venezuela

www.luz.edu.ve

www.serbi.luz.edu.ve

produccioncientifica.luz.edu.ve