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*The level of the application of total quality  
management principles in Salahaddin University –  
Erbil*

**ABSTRACT**

Total quality management is the art of performing work in a carefully planned, accurate manner from the start, under a set of educational criteria, and with the least amount of effort and expense to achieve educational goals and community goals. The objectives of this study are to introduce total quality management and to determine to what extent the total quality management principles are applied by the University of Salahaddin – Erbil and its instructors. The research design employed for this study is the survey research design. A questionnaire, including several general information, statements about the quality of instructors, and statements about learning programs and environment, was developed for this purpose. Data from 40 heads of departments of the university were collected from 20 November to 20 December 2022. The data was then analyzed using Statistical Package for the Social Sciences software, version 25, to calculate frequency, percentage, mean and standard deviation, and Pearson correlation coefficient to find the correlation between the two categories of statements. The results showed that around 70% of the respondents either agreed or strongly agreed with the statements about the quality of instructors, and around 43% of them showed disagreement or strong disagreement towards statements regarding the suitability of the university provisions and application of total quality management principles by the university. However, the overall mean of all the statements is 3.32 which indicates that the application of total quality management principles is neutral. Improvement is needed especially by the university by providing more advanced technological devices.

**KEY WORDS:**

- total quality management
- total quality management principles
- instructors
- learning programs and environment
- mean

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كلية التربية - شقلاوة - قسم

التربية الرياضية / جامعة

صلاح الدين - أربيل

## مستوى تطبيق مبادئ إدارة الجودة الشاملة في جامعة صلاح الدين - أربيل

## الخلاصة:

إدارة الجودة الشاملة فن العمل في البداية وضعت لها منهجية بشكل متقن و دقيق تحت مجموعة مبادئ تربوية و بأقل جهد و تكلفة، للوصول و تحقيق أهداف تربوية و اجتماعية. أهداف هذا البحث عبارة عن عرض إدارة الجودة الشاملة و تحديد مستوى تطبيق مبادئ إدارة الجودة الشاملة من قبل جامعة صلاح الدين - أربيل و أساتذتها. المنهجية التي اختيرت لهذا البحث هي منهجية تصميم البحث المسحي. لهذا الغرض نظمت استمارة أسئلة التي تتضمن مجموعة معلومات عامة مع مجموعة مصطلحات خاصة بجودة الأساتذة و مع مجموعة مصطلحات خاصة ببرامج التدريس و بيئته و أجوائه. جمعت المعلومات من 40 رؤساء أقسام الجامعة من 20 تشرين الثاني إلى 20 كانون الأول عام 2022. ثم حلت المعلومات باستعمال الحزمة الإحصائية للعلوم الاجتماعية، نسخة 25، لاحتساب التكررات، النسبة المئوية، الوسط الحسابي، الانحرافات المعيارية، وكذلك باستعمال معامل ارتباط بيرسون لنشد العلاقة بين كلتا المجموعتين من العبارات. أظهرت النتائج أن حوالي (70%) من المجيبين كانوا راضين أو راضين بشدة مع العبارات التي تتعلق بجودة الأساتذة، و تقريبا (43%) من المجيبين كانوا غير راضين أو رافضين بشدة للعبارات التي تختص بانسجام إعدادات الجامعة و تطبيق مبادئ إدارة الجودة الشاملة من قبل الجامعة. على كل حال، فالمعدل العام لجميع العبارات (3.32)، و هذا يشير إلى أن تطبيق مبادئ إدارة الجودة الشاملة حيادية، و التقدم ضروري لاسيما من قبل الجامعة بتوفير أدوات التكنولوجيا المتقدمة.

مجلة الدراسات التاريخية والحضارية مجلة الدراسات التاريخية

## الكلمات المفتاحية:

- إدارة الجودة الشاملة
- مبادئ إدارة الجودة الشاملة
- اساتذه
- برامج التعليم والبيئة
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## 1. Introduction

Education has a critical function in the physical and spiritual development of individuals so that they can establish a nation, society, and state (Fathurrokhman, 2018; Khurniawan et al., 2021). Education and science have been shown to have a monumentally significant impact on the economy and society in general, and their level of advancement in a particular country has a massive effect on people's quality of life and the development and growth of that country, as well as from an international context (Drăgan et al., 2014; Teixeira-Quiros et al., 2022). Higher education is a crucial component in the development of this capital and innovation, playing a crucial part in the success and sustainability of economic growth (Teixeira-Quiros et al., 2022).

Over the last few decades, the preservation of high quality and standards of excellence in education has become a key concern for higher education institutions (HEIs) and governments. As a result, the demand and desire for explicit quality evaluation as well as assurance processes have risen dramatically (Kosłowski III, 2006; Najafabadi et al., 2008; Talib et al., 2013; Sohel-Uz-Zaman and Anjalin, 2016; Kakingo and Lekule, 2021), because the quality of education determines both communities' and the people's long-term wealth and security (Najafabadi et al., 2008). The most crucial aspect of efficient and successful higher education is achieving quality. The quality of

teaching and learning has been shown to be a critical strategic problem in HEIs (Seyfried and Pohlenz, 2018; Texeira-Quiros et al., 2022). Furthermore, other environmental factors make the demand for more effective and higher-quality education even more critical (Becket and Brookes, 2006; Najafabadi et al., 2008). Nowadays, HEIs are compelled to seek out new quality instruments in higher education as a result of globalization and the steady changes that have occurred throughout the globe, including swift and urgent technological changes in education, as well as constant unease to control costs and financing (Texeira-Quiros et al., 2022). A university's performance is determined by its capacity to get the resources required to realize the fundamental goal, which is the provision of knowledge and skills embodied in people and technology. The value of such knowledge is described by university stakeholders in terms such as quality, relevance, and utility (Drăgan et al., 2014).

Since the importance of quality in higher education has been recognized in a highly competitive climate for HEIs, administrators and educators have been looking for ways to provide more efficient and valuable educational training (Najafabadi et al., 2008). As a result, these institutions need to fulfill and surpass their stakeholders' expectations (Dumond and Johnson, 2013), prompting them to use various techniques such as total quality management (TQM) and innovation (Chen et al., 2009; Iqbal et al., 2019; Texeira-Quiros et al., 2022). According to Kakingo and Lekule (2021), total quality management is an effective modern technique for continual improvement in academic accomplishments, school competitiveness, student and employee satisfaction, as well as school sustainability.

Total quality management has been widely adopted as a management style by many businesses worldwide since its inception in the 1980s (Kanji et al., 1999; Alzeaideen, 2019). Total quality management is described as both a comprehensive management philosophy and a collection of guiding principles that serve as the basis of a company that is always improving. It is the use of qualitative methodologies and human resources to enhance all processes inside a company and meet current and future customer demands (Kaynak, 2003; Jabeen and Ganaie, 2019). TQM can be described in a variety of ways. Total quality management can be examined as follows: total means consisting of the entire, quality means the level of excellence provided by a product or service, and management refers to the act, art, or method of handling, controlling, guiding, and so on. As a result, TQM is the art of managing the entire in order to attain perfection (Jabeen and Ganaie, 2019).

In the educational field, TQM is defined as performing work in a carefully planned accurate manner from the first time, in accordance with a set of educational criteria to enhance the level of educational product quality with the minimum possible effort and cost, accomplishing educational objectives, community objectives, and meeting the labor market needs of scientifically qualified cadres (Jaradat, 2013). According to the literature, TQM has an impact on the academic achievements and progress of students. This method helps students' academic progress in a variety of ways, including increased teacher and educational administrator training, a focus on customer satisfaction, improved collaboration amongst staff and students, and increased access to necessary resources (Najafabadi et al., 2008; Kakingo and Lekule, 2021).

The primary objectives of this study are to introduce total quality management to the university instructors and educators, to briefly highlight the importance of the application of total quality management principles, and to identify the extent to which TQM principles are applied in the Salahaddin University – Erbil in the perspective of the heads of departments.

## **2. Methodology**

### **2.1. Study design**

In this paper, a descriptive research design method was used. The research design implemented for this study is the survey research design. A questionnaire was developed to investigate the level of the application of total quality management principles at Salahaddin University – Erbil (SUE), in Erbil, from the perspective of the heads of departments of SUE.

## **2.2. Time of the study**

The period for data collection lasted for a month and took place between 20 November and 20 December 2022.

## **2.3. Population and sample of the study**

Salahaddin University – Erbil was selected as the population for this study as it is the largest and oldest university in Erbil Governorate, Kurdistan Region, Iraq. The sample of this study was retrieved from the heads of departments who volunteered and responded to the statements of the questionnaire completely.

## **2.4. Validity of the study**

The questionnaire for this study was validated by five experts and specialists in the field. The experts were provided with a copy of the drafted questionnaire for validation in content validation, clarity, and appropriateness of the statements, and whether the statements and the subject under study are related. All the necessary corrections and modifications were made.

## **2.5. Reliability of the study**

The reliability of the statements in the questionnaire of the study is determined using the Cronbach Alpha method and its value (reliability coefficient) is found to be 0.942, which indicates that the statements in the questionnaire are appropriate and that the questionnaire is suitable and reliable to be used for the study.

## **2.6. Questionnaire**

By obtaining help from several previous studies on TQM and after careful investigation of the topic, a questionnaire was prepared for the study using a 5-point Likert scale, which is a type of psychometric response scale in which responders specify their level of agreement to a statement, for the evaluation of the opinions of respondents about the considered statements. For each statement, the respondent may select one option from the available options on a scale from 1 to 5: 1 = strongly disagree, 2 = disagree, 3 = neutral (neither agree nor disagree), 4 = agree, 5 = strongly agree. The questionnaire is composed of 2 sections: i) general information (3 questions), ii) questionnaire statements: part A) statements related to the quality of the instructors (12 statements) and part B) statements related to the learning programs and learning environment (8 statements).

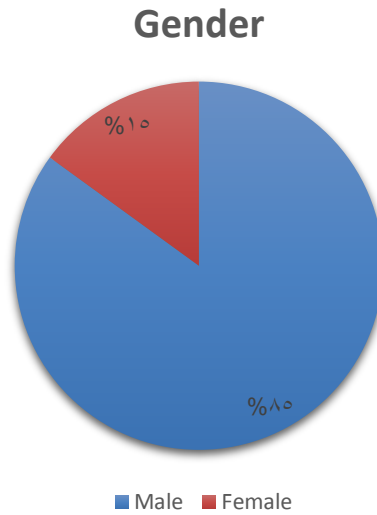
All heads of departments of SUE were invited to participate in the study. The questionnaire was either distributed over or sent to the heads of departments of SUE. The number of heads of departments at SUE is eighty-two (82). Among this number, only forty-six (46) questionnaire forms were received back. Of the received questionnaire forms, only forty (40) forms were filled out properly and completely.

## **2.7. Statistical analysis**

The data was entered into Statistical Package for the Social Sciences (SPSS) software, version 25, to process it and make the interpretation by finding the mean, standard deviation, frequency, and percentage. Along with this, Pearson correlation coefficient was used in order to find the correlation between the statements of part A and the statements of part B of the questionnaire.

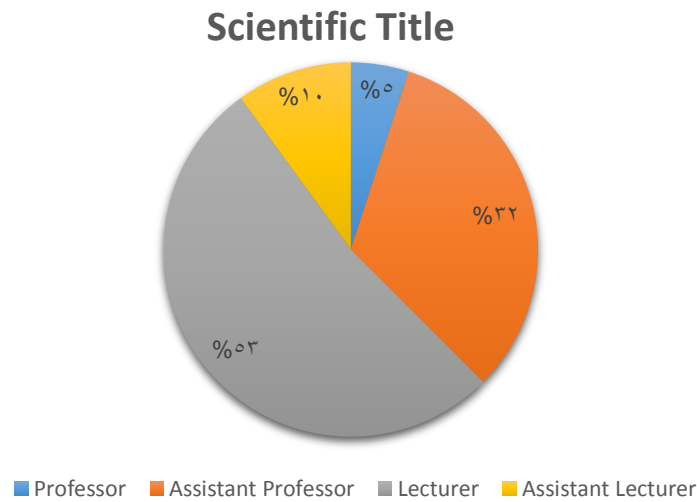
## **3. Results and discussion**

In the current study, the total number of participants and respondents was 40 heads of departments. As shown in Figure 1, among these 40 respondents, 34 of them were male and six were female, which constitutes 85% and 15% of the total respondents, respectively.



**Figure 1:** Distribution of respondents according to gender

Figure 2 shows the scientific title of the respondents. Regarding the scientific title of the respondents of the questionnaire, 53% of the respondents are lecturers, 32% are assistant professors, 10% are assistant lecturers, and only a small percentage held the title of professor, which was 5%.



**Figure 2:** Distribution of respondents according to scientific title

Speaking of the number of years of experience, all the respondents have one or more than one years of experience (Figure 3). The majority of the respondents (80%) have more than 10 years of experience. Respondents having 6 – 10 years of experience constituted 18% of the study, and only 2% of the respondents have 1 – 5 years of experience.

### Years of experience

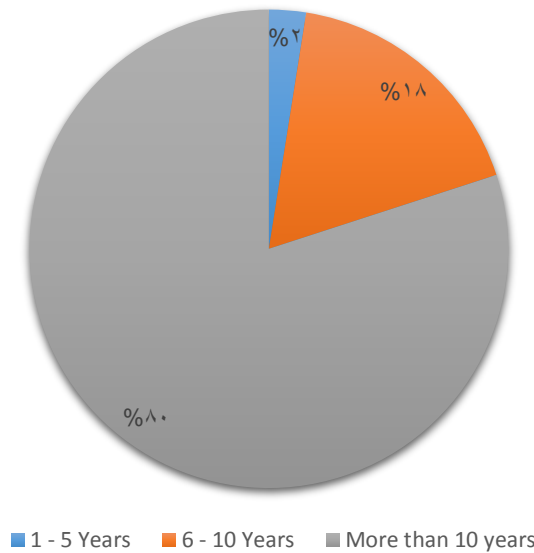


Figure 3: Distribution of respondents according to years of experience

### 3.1. TQM principles

This section presents the level of agreement of the heads of departments to the statements related to the quality of instructors and the appropriateness of university provisions as well as the learning environment.

#### 3.1.1. TQM principles related to the quality of instructors

Table 1 shows the number of respondents and their responses to each statement in the second section, part A, of the questionnaire. Along with this, the frequency and percentage for each response are calculated in the table. Regarding statement one, there are 24 responses as *agree*, and ten responses as *strongly agree*. Regarding questions two, six, eleven, and twelve, there are 23 responses as *agree* for each. Considering statements three, four, and eight, there are 18, 14, and 16 responses as *agree*, respectively. Furthermore, there are 19 *agree* responses for statements five and seven each, and 21 *agree* responses for statements nine and ten each. Speaking of the overall responses regarding each statement from statement 1 to statement 12, it can be seen that 50.83% of the respondents responded *agree* to the statements, and 18.54% responded *strongly agree*. These results are acceptable because more than half of the respondents showed that the quality of the instructors is good or very good. A similar study by Qada (2012) found that a combination of the percentage of agree and strongly agree responses was 54%. In another research study, Majid (2007) investigated the application of TQM principles by university instructors and reported that 80% of the instructors apply TQM principles. Moreover, less than one-seventh (15%) of the heads of departments disagreed with the statements related to the application of TQM principles by the instructors. This result is supported by the results obtained by Majid (2007) who also found that 16% of university instructors do not apply TQM principles. Around 12.1% of the respondents chose to be neutral, which means they neither agreed nor disagreed with the statements, and the response of only 3.54% of them was *strongly disagree*.



**Table 1:** Level of agreement of respondents regarding part A statements

NO.	Statements	Level				
		Strongly disagree	Disagree	Neutral	Agree	Strongly agree
1	Commit to the teaching strategies and principles	1	4	1	24	10
2	Collaborate with colleagues for scientific advancement	1	3	4	23	9
3	Participate in training to improve their scientific level	2	8	5	18	7
4	Participate in foreign language courses	2	9	8	14	7
5	Use modern teaching tools and e-teaching methods and skills	2	6	1	19	12
6	Respect students' talents, skills, and opinions	1	1	6	23	9
7	Skilled in providing appropriate teaching, learning, and team working environment	1	6	7	19	7
8	Are benefited from the TQM training programs	1	9	8	16	6
9	Develop themselves on their own in terms of science and knowledge through various activities and training	2	7	4	21	6
10	Encourage colleagues to improve themselves	1	8	5	21	5
11	Participate in making decisions and solving problems	2	5	4	23	6
12	Have the ability to identify the strengths and weaknesses of the university	1	6	5	23	5
<b>Frequency</b>		17	72	58	244	89
<b>Percentage (%)</b>		3.54	15.00	12.08	50.83	18.54

## .1.2. TQM principles related to the learning programs and learning environment

The number of respondents and their responses to statements 13 – 20 in the second section, part B, of the questionnaire are shown in Table 2. The majority of the respondents either agreed or disagreed with the statements. For statements 13 – 20, the respondents who responded *disagree* were 11, 16, 12, 12, 20, 11, 13, and 7, respectively, and 17, 13, 13, 18, 10, 13, 17, and 17 respondents responded *agree*. Overall responses to statements 13 – 20 were as follows: 11.25% strongly disagreed with the statements, 31.88% disagreed with the statements, 15.63% were neutral, 36.88% agreed to the statements, and only 4.38% of the respondents showed their strong agreement to the statements. A study conducted by Qada (2012) showed that 50% of the respondents showed their disagreement and strong disagreement collectively with the learning environment statements, and this result is similar to the result of the current study where 43.13% of the respondents showed similar opinions.

**Table 2:** Level of agreement of respondents regarding part B statements

NO.	Statements	Level				
		Strongly disagree	Disagree	Neutral	Agree	Strongly agree
13	University encouragement in academic and financial terms	4	11	7	17	1
14	Availability of modern technological devices and tools for teaching purposes	4	16	6	13	1
15	Improve and modify curricula and learning programs to suit learners' demands and skills	2	12	10	13	3
16	Suitability of the number of learners in each hall	5	12	3	18	2
17	Availability of proper halls and modern teaching tools	6	20	3	10	1
18	Employing TQM experts for training instructors	3	11	12	13	1
19	Availability of libraries, electronic libraries, and scientific journals	5	13	3	17	2
20	Providing training, seminars, and workshops in various fields	7	7	6	17	3
<b>Frequency</b>		36	102	50	118	14
<b>Percentage (%)</b>		11.25	31.88	15.63	36.88	4.38

### 3.1.3. Overall mean of the implementation of TQM principles

The standard deviation and mean along with the corresponding level for each statement in the questionnaire are tabulated in Table 3. Regarding part A statements, which are related to the instructors' skills, abilities, and teaching methods (quality of instructors), it is observed that the mean is 3.74, corresponding to the *agree* level. However, the mean for the statements in part B of the questionnaire, which are about the quality of the teaching programs and the learning environment, was found to be 2.91, which is less than the mean of part A, with a level of *neutral*. After all, the overall mean value is calculated to be 3.32 with a level of *neutral*. This result is in agreement with the results that Al-Qaruti and Al-Mutairi (2007) obtained when investigating whether TQM principles are applied at the University of Kuwait. They also found out that the overall mean is 3.36 with a level of *neutral*. This result shows that the overall response of the heads of departments of SUE for the implementation of TQM principles in SUE is *neutral*.



**Table 3:** Mean and standard deviation for each statement and overall parts A and B

NO.	Statements	Mean	Standard Deviation	Level
1	Commit to the teaching strategies and principles	3.95	0.959	Agree
2	Collaborate with colleagues for scientific advancement	3.90	0.928	Agree
3	Participate in training to improve their scientific level	3.50	1.155	Agree
4	Participate in foreign language courses	3.38	1.170	Agree
5	Use modern teaching tools and e-teaching methods and skills	3.83	1.174	Agree
6	Respect students' talents, skills, and opinions	3.95	0.846	Agree
7	Skilled in providing appropriate teaching, learning, and team working environment	3.63	1.030	Agree
8	Are benefited from the TQM training programs	3.43	1.083	Agree
9	Develop themselves on their own in terms of science and knowledge through various activities and training	3.55	1.108	Agree
10	Encourage colleagues to improve themselves	3.53	1.037	Agree
11	Participate in making decisions and solving problems	3.65	1.051	Agree
12	Have the ability to identify the strengths and weaknesses of the university	3.63	0.979	Agree
<b>Part A</b>		3.74	1.00712	Agree
13	University encouragement in academic and financial terms	3.00	1.109	Neutral
14	Availability of modern technological devices and tools for teaching purposes	2.78	1.097	Neutral
15	Improve and modify curricula and learning programs to suit learners' demands and skills	3.08	1.071	Neutral
16	Suitability of the number of learners in each hall	3.00	1.219	Neutral
17	Availability of proper halls and modern teaching tools	2.50	1.109	Disagree
18	Employing TQM experts for training instructors	2.95	1.011	Neutral
19	Availability of libraries, electronic libraries, and scientific journals	2.95	1.218	Neutral
20	Providing training, seminars, and workshops in various fields	3.05	1.280	Neutral
<b>Part B</b>		2.91	0.82820	Neutral
<b>Overall Mean</b>		3.32	0.80248	Neutral

### 3.2. Correlation between part A and part B

Table 4 depicts the correlation between the quality of the instructors and the learning programs and learning environment by calculating Pearson correlation coefficients. The Pearson correlation coefficient was found to be 0.525 with a significance level of 0.001. This result, therefore, shows that there is a strong correlation between the teaching quality of the instructors and learning programs and the learning environment provided by the university. This result is in agreement with the results of Qada (2012), who also found that the correlation between TQM and the learning environment is strong.

**Table 4:** Correlation between statements of part A and part B

<b>Pearson Correlation</b>	<b>Part B</b>
<b>Part A</b>	0.525
<b>Sig. (2-tailed)</b>	0.001
<b>N</b>	40

### 3.3. Limitations of the study

There are several limitations to the current study. For example, the responses that were received were not from all the heads of departments. The results would have been more reliable if all the heads of departments of SUE participated in the study. Another limitation could be the sample and population of the study. If the instructors and students were also part of the research study, there could have been more accurate and reliable results as instructors and students are great role players in the TQM system.

### 4. Conclusions and recommendations

The main objectives of this study were to introduce total quality management and to investigate the extent to which total quality management principles are applied at Salahaddin University – Erbil. The results of this study show that around 70% of the respondents agreed and strongly agreed collectively with the statements regarding the quality of instructors which means that they apply the principles of TQM. Furthermore, around 43% of the respondents did not agree or strongly disagreed with the statements regarding the appropriateness of the learning programs and learning environment, and this needs to be taken into consideration. However, the overall mean is 3.32 which indicates that the application of TQM principles in SUE is neutral.

The researcher states that the results are acceptable; however, the level of the application of TQM principles in SUE should be increased, especially in terms of the university providing more suitable learning programs and environment, because there is a strong correlation between the application of TQM principles by the instructors and the appropriateness of the learning programs and environment provided by the institution. The researcher recommends that SUE should provide students with proper halls to increase their passion for better study. The researcher further recommends that the university should increase the availability of modern technological devices and provide instructors with more advanced and interactive tools for teaching purposes.

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