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Research Article

Internal Evaluation of the Educational Performance of the University (Case Study of Malek Ashtar University of Technology)

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ABSTRACT

This research was conducted with the aim of internal evaluation of the faculties, with a special focus on identifying and analyzing the status of key factors affecting the quality of education and research. The main objective of this study was to determine the current status in various dimensions of the faculties, including students, faculty members, academic groups, educational and research affairs, and alumni. This research is applied in nature and employs a descriptive survey method to address the research questions. The statistical population of the study comprised all students, faculty members, heads of academic groups, and graduates of the university for the academic year 2023-2024.

To collect data, standardized and valid questionnaires, interviews, checklists, and university systems were utilized, and the collected data were analyzed using appropriate statistical methods. The results of these analyses revealed dissatisfaction in critical areas such as the quality and effectiveness of student counseling, the quality of teaching, the level of collaboration and interactions among different academic groups, and the lack of adequate research support for faculty members and graduate students.

Additionally, weak and insufficient communication with alumni and the presence of issues and obstacles in students' academic duration were identified as significant and serious challenges within the faculties. This research clearly demonstrates that conducting continuous and precise internal evaluations, combined with scientific data analysis, can play a vital role in enhancing the quality of education and research in faculties, creating a more dynamic, efficient, and satisfying educational and research environment for all stakeholders, and ultimately contributing to the elevation of the academic standing and credibility of the faculties at national and international levels.

Keywords: educational affairs, faculty, graduates, Internal evaluation, research affairs , research affairs, students , scientific groups.

1. Introduction

In today's world, universities, as the main centers of science and knowledge production and training of specialized human resources, play an unparalleled role in the progress and development of societies. Therefore, measuring and evaluating the educational performance of these institutions, with the aim of ensuring the quality level of educational services provided, identifying existing strengths and weaknesses, and continuously improving teaching-learning processes, is of great importance (Bazargan, 2008). University educational performance evaluation is a systematic and purposeful process that measures and analyzes the extent to which a university has achieved its set educational goals, taking into account existing facilities and resources as well as the expectations of various stakeholders (Sarmad et al., 2011). With the increasing demand for higher education and the diversification of expectations of stakeholder groups (including students, families, industries and organizations, and government institutions), the need for a precise and comprehensive evaluation of universities' educational performance is becoming more and more apparent. The results of these assessments can be a solid basis for making informed decisions in areas such as optimal resource allocation, reviewing and updating educational programs, improving the quality of teaching methods, and increasing the university's responsiveness to the needs of society (Mehralizadeh et al., 2016). Numerous studies have been conducted on the importance and various dimensions of educational performance assessment in higher

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education. For example, studies conducted in the field of teaching effectiveness show that regular and evidence-based assessments can significantly contribute to improving the quality of the teaching and learning process of students (Abbasi et al., 2019). Also, research in the field of quality assurance in higher education emphasizes the key role of educational performance assessment as one of the fundamental pillars of quality assurance systems (Rahmani et al., 2020). At the international level, numerous organizations and institutions have also worked to develop frameworks and standards for evaluating the educational performance of universities. These frameworks usually cover various aspects of educational performance, including the quality of curricula, the effectiveness of teaching methods, the level of student academic success, and the level of stakeholder satisfaction (UNESCO, 2019). In Iran, the issue of evaluating the educational performance of universities has also been raised as one of the basic priorities of higher education policies, and significant efforts have been made to establish and develop evaluation systems. However, achieving a comprehensive and efficient evaluation system that can continuously help improve the quality of education requires attention to challenges such as determining evaluation indicators appropriate to the context and goals of universities, collecting and analyzing valid and reliable data, and effectively utilizing evaluation results in decision-making processes. This article aims to examine various dimensions of educational performance evaluation at Malek Ashtar University of Technology and present the strengths and weaknesses of various dimensions of educational performance.

2. Theoretical foundations and research background

In the accreditation model that has recently been proposed in Iran with regard to its applications and the performance of some international accreditation institutions, the internal evaluation approach is mentioned as the first step in the accreditation and internal quality assurance of higher education institutions and centers. The results of the research show that internal evaluation has been accepted and institutionalized as the main basis of the quality assurance system in global experiences and can have a significant impact on planning to improve the quality of university education. In this type of evaluation, higher education systems gain insight into how their activities are carried out, which allows them to strive to improve quality and also eliminate their shortcomings. Internal evaluation of universities consists of collecting appropriate, relevant and up-to-date information from teachers, students, academic groups and graduates about the factors constituting the higher education unit in order to judge the quality of education and plan to improve it. In their internal evaluation, members of the higher education organizational unit (faculties) conduct evaluation by selecting factors, criteria, and indicators. In this type of evaluation, with the active participation of faculty members and students and based on data collected from all stakeholders of the evaluated system (administrators, faculty, students, graduates), the strengths, weaknesses, opportunities, and factors inhibiting the development of the higher education organizational unit are revealed, and appropriate suggestions for continuous quality improvement of the factors constituting the higher education organizational unit are presented in the form of an internal evaluation report. Therefore, the internal evaluation process, which is carried out by attracting the participation of all relevant and interested members to determine the extent of achievement of goals, shortcomings, weaknesses and strengths, and to consciously obtain information to improve methods and increase efficiency, is a way to develop and implement quality improvement policies to approach goals such as increasing accountability and responsibility and improving the self-regulatory process in the higher education system. Accordingly, in Iran, with the emphasis of the third and fourth national development plans on "continuous evaluation of universities, higher education centers, and public and private research institutions by the Ministry of Science, Research and Technology", the mission of scientific evaluation and accreditation of universities and higher education institutions was assigned to the National Education Evaluation Organization since 1379. Following the assigned responsibility, the Evaluation Organization took action to plan and guide the implementation of the internal evaluation process in the country's universities based on the accreditation model. In this regard, this process has been implemented in 178 university educational groups so far and its report has been compiled, and it is being implemented in approximately 600 other educational groups. A noteworthy point in this regard is that today the need to pay attention to the quality of education and improve it through evaluation has been felt, so that the owner Experts believe that if quality assessment is well designed and implemented, it will ensure the success of educational programs.

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In the present era, which is accompanied by tremendous scientific and technological developments and increased competition in the national and international arenas, quality has become one of the fundamental axes of the development and survival of organizations, especially higher education institutions. Universities and higher education centers, as the main custodians of the production and transfer of knowledge and the training of specialized human resources, play an unparalleled role in the progress of societies, and therefore, paying attention to quality and its continuous improvement in all aspects of their activities is essential and inevitable (Pourkarim et al., 2020; Zelfigol, 2014; Harvey, 1995). In the meantime, educational groups, as the main cores and fundamental executive units in universities, are directly responsible for providing educational and research services, and therefore, the quality of their performance will have a direct impact on the overall quality of the higher education system (Yousefi et al., 2016; Lomas, 2007). Quality assessment, as a systematic process for assessing the current situation, identifying strengths and weaknesses, and providing solutions for improvement, is considered one of the key tools in managing and ensuring quality in higher education (Salehi et al., 2019; Staffelbeam and Shinkfield, 2007). This assessment can be carried out at different levels and with different approaches. One of the most important and basic types of assessment is "internal assessment". Internal assessment is a process in which members of an educational group or an institution themselves review and analyze their performance, processes, resources, and achievements to assess the extent to which predetermined goals and quality standards are being achieved (Bazargan, 2002; Farahmand et al., 2013). Due to the direct participation of faculty and staff, this type of assessment leads to a deeper understanding of issues and challenges and paves the way for real and sustainable improvements. Paying attention to the internal evaluation of educational groups is important because these groups, as the smallest planning and implementation unit of educational and research activities, have a direct role in shaping students' learning experiences, guiding scientific research, and ultimately the university's outputs (Sharifi et al., 2017). Accurate identification of factors affecting quality at this level, including the quality of faculty members, curricula, teaching-learning methods, facilities and equipment, and management and leadership of the group, can serve as the basis for corrective and developmental measures. The results of internal evaluation not only help to continuously improve quality within the group itself, but can also provide valuable data for external evaluation and accreditation processes and help the university's accountability to society and stakeholders (Abbaspour et al., 2015). In Iran, in line with global trends, attention to quality and the establishment of evaluation systems in higher education have grown significantly in recent decades. The Ministry of Science, Research and Technology and the Ministry of Health, Treatment and Medical Education have developed and announced various models and frameworks for internal evaluation and quality assurance in universities and educational groups (Khaleghi et al., 2018). However, the effectiveness of these evaluations and the extent to which their results are used to truly improve quality have always been one of the main concerns of the higher education system. Therefore, research on how to conduct efficient internal evaluations, identify key indicators and components of quality at the level of educational groups, and examine the challenges and solutions ahead is of particular importance. This article is also written in this regard and with the aim of examining in more depth the concept of internal quality evaluation in educational groups and its various dimensions. In recent decades, the vital role of the higher education system in training specialized human resources, producing knowledge, and providing specialized services on the one hand, and considering the challenges it faces, such as the increasing development of universities and higher education institutions to meet social demand, the knowledge-based economy, and the development of information technology, etc., on the other hand, paying attention to the quality of universities and higher education institutions has become more necessary than ever before, in order to achieve success in achieving goals and maximize efficiency and effectiveness given the limited resources. In these circumstances, if universities want to fulfill their missions optimally, it is necessary to gain the confidence of their stakeholders (society, government, faculty, students, etc.) that academic efforts are of the required quality, and to use the necessary mechanisms to improve quality. Since evaluation is one of the mechanisms for improving quality, universities must evaluate themselves and create conditions for continuous improvement of their quality. Therefore, today, universities and higher education systems in different countries are seeking to continuously evaluate their quality by using various strategies.

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Research Objectives

This study attempted to determine whether the effective components in the internal evaluation process in the university's educational units were desirable? To answer this question, this study attempted to extract and examine the desirability of the internal evaluation process in 10 faculties of Malek Ashtar University of Technology based on the factors obtained from the analysis of the aforementioned reports, and by stating its weaknesses, provide suggestions for improving the quality of internal evaluation implementation.

Accordingly, the most important questions that this study seeks to answer are:

1. What is the result of evaluating the current educational situation of the faculties?

2. What is the current situation of students in the faculties?

3. What is the current situation of the faculty in the faculties?

4. What is the current situation of the scientific group in the faculties?

5. What is the current situation of educational affairs in the faculties?

6. What is the current situation of research affairs in the faculties?

7. What is the current situation of graduates in the faculties?

3. Methodology

This study uses a descriptive-survey approach with the aim of evaluating the educational performance of the university. Given the multidimensional nature of educational performance, using the above approach allows for the collection of comprehensive data and a deeper analysis of the subject.

3.1. Population, Sample and Sampling Method

The statistical population of this study includes all managers of scientific groups, 35 people, all faculty members, 330 people, all students in postgraduate education, 1800 people, and graduates, 800 people, in the academic year 1402-1403.
Managers of scientific groups: For the subpopulation of managers of causal groups, considering the number of 35 groups, the complete census method has been used.
In order to collect the required data from faculty members and postgraduate students, simple random sampling method was used. The sample size for each group is determined using the Cochran formula as follows:

$$n = \frac{\frac{z^2 pq}{d^2}}{1 + \frac{1}{N}\left[\frac{z^2 pq}{d^2} - 1\right]}$$

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Students: Considering a 95% confidence level and a 5% margin of error, the sample size required to conduct a random sampling of 1,800 students would be approximately 317. Faculty members: Considering a 95% confidence level and a 5% margin of error, the sample size required to conduct a random sampling of 330 faculty members would be approximately 178. Graduates: Considering a 95% confidence level and a 5% margin of error, the sample size required to conduct a random sampling of 800 graduates would be approximately 260. 3-2- How to collect data: Indicators should be used to compare the current and desired situation and ultimately make more accurate and impartial judgments about the quality of the education system and the extent to which its goals have been achieved. In this study, since there was no standard in advance, first the criteria related to each factor were determined, then for each of the criteria, using literature review or consensus of the members, indicators of the desired state of each factor were determined. In this way, several criteria were considered for each of the factors to be evaluated and several indicators for each criterion. Then, the indicators were scored by the university evaluators and the final score was extracted by the specialized committee for each faculty.

Factors and criteria used in faculty evaluation:

In the internal evaluation of faculties, various factors and criteria are used to measure the quality and overall performance of the faculties. These factors are divided into different categories as mentioned below:

1. Student-related factors

•Student satisfaction: Survey on the quality of teaching, facilities and services.

•Faculty-student ratio: General survey and student-professor ratio in classes.

•Academic performance: GPA and exam results.

2. Faculty-related factors

•Education and experience: Review of the educational level and research experiences of faculty members.

•Teaching quality: Evaluation of teaching methods and student satisfaction with them.

•Research activities: Number of published articles and research projects.

3. Faculty-related factors

•Intergroup collaboration: Review of collaboration and synergy between different groups.

•Diversity of disciplines: Review of the diversity and up-to-dateness of the disciplines offered.

4. Faculty-related factors

•Registration and course selection process: Review of the efficiency of the registration and course selection system.

•Curricula: Analysis of course content and their coherence.

5. Faculty-related factors

** •Financial support**: The process of providing financial resources for research projects.

•Research opportunities: Available facilities and resources for conducting research.

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Alumni-related factors

•Continuity modeling: Assessing the university's relationship with alumni and their interactions.
•Employment status: Examining the employment status of alumni and their level of satisfaction.
Criteria

1. Satisfaction level: Evaluation based on a survey of stakeholders.

2. Graduation rate: Percentage of students who successfully graduate.

3. Quality of educational programs: Examination of the relevance of course content to the needs of the labor market.

4. Research funding: Amount of financial resources allocated to students' research activities.

5. Number of articles and presentations: Examination of the number of research articles published in scientific journals and conferences

These factors and criteria help to create a comprehensive and accurate overview of the educational and research status of the faculties and can be used in the internal evaluation process.

Given that the comprehensiveness of faculty evaluation depends on a systemic approach and consideration of input, process, and output factors of educational groups, this issue has also been examined as one of the factors affecting the desirability of conducting the evaluation. A review of the evaluation reports shows that various factors were used in the evaluation of the faculties. Considering the specific conditions of Malek Ashtar University of Technology, the factors considered along with the scores related to each factor are as follows in Table 1:

Table 1: Factors evaluated by the faculties along with the corresponding scores

Score	*Factors evaluated*	*Row*
170	*Students*	1
110	*Graduates*	2
210	*Academic group*	3
190	*Educational affairs*	4
190	*Research affairs*	5
130	*Faculty*	6
1000	*Total points*	

Data collection tools

In this study, various tools will be used to collect the required data, including:

The tools examined for data collection included special questionnaires for faculty members (Appendix 1), special questionnaire for graduates (Appendix 2), and special questionnaire for students (Appendix 3), respectively, consisting of 28, 11, and 16 3-point Likert questions from desirable to undesirable with a scoring scale of desirable (10), relatively desirable (5), and undesirable (0). The reliability of the questionnaires was examined and confirmed through the Cronbach's alpha method ($\alpha = 0.76$, $\alpha = 0.78$, $\alpha = 0.76$).

Also, the Golestan University Community System, the Vice-Chancellor for Research and Technology database, the space and equipment review checklist, and semi-structured interviews with department managers, faculty members, students, and officials related to education were used to obtain more in-depth information about processes, challenges, and solutions for improving educational performance. Documents and documents related to the university's educational performance, including previous evaluation reports, educational regulations and guidelines, curricula, and student data were also used as tools to verify the indicators completed by the faculties, which are presented in Table 2:

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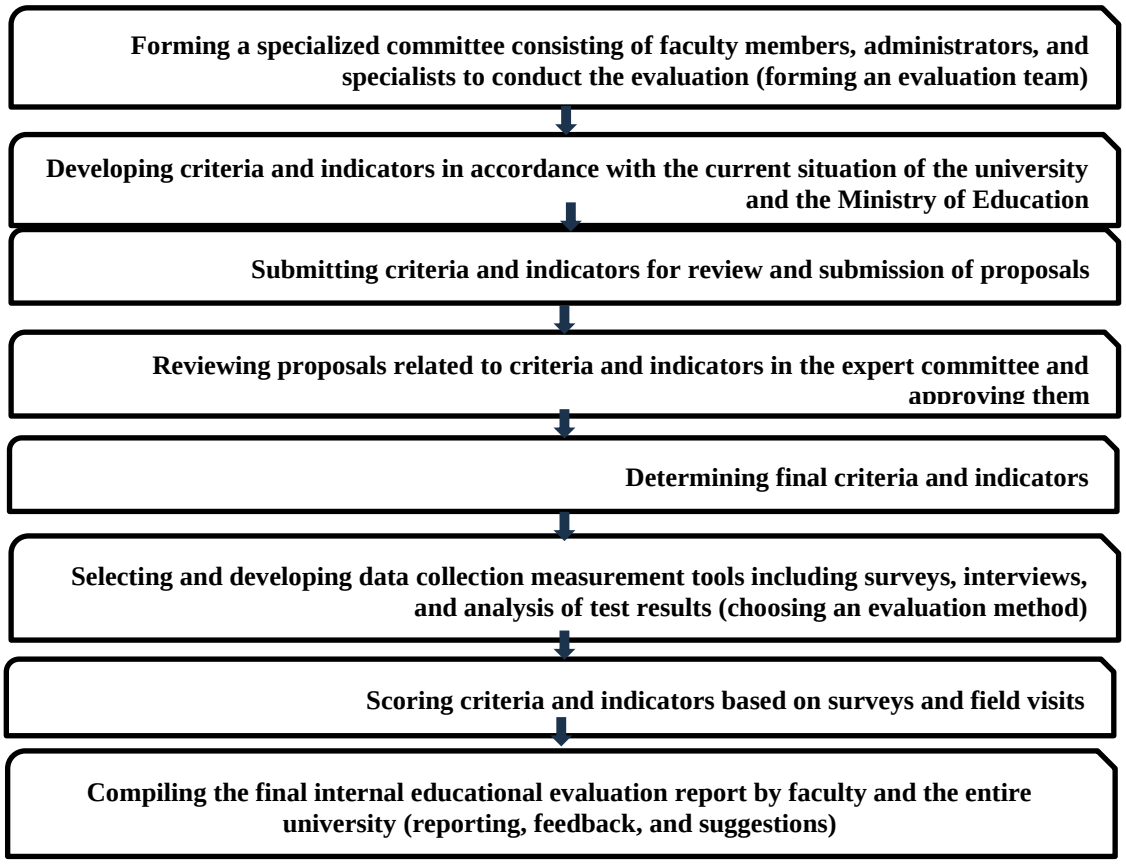
Table 2: Data collection tools with the number of questions evaluated

Number of questions assessed	Data collection tool	Row
28	Questionnaire for faculty members	1
11	Questionnaire for graduates	2
16	Questionnaire for students	3
36	Golestan University System	4
9	Databank of the Vice-Chancellor for Research and Technology	5
Semi-structured interviews, documentation, and space and equipment checklists		6

3-4- Data Analysis Methods

The data collected in this study were analyzed using descriptive statistical methods (such as mean, standard deviation, frequency, percentage) using Excel software. Also, qualitative data (from interviews and document review) obtained from the interviews were analyzed through thematic analysis. In this method, after implementing the interview text, semantic units related to the research topic are identified and categorized and the main themes are extracted. Documents and evidence were also examined using the content analysis approach and information related to educational performance was extracted and organized. Finally, the results of quantitative and qualitative data analysis were interpreted in a combined manner and based on them, practical suggestions were presented for improving the educational performance of the university.

4- The framework and process of educational evaluation of faculties:



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5- Findings

Question 1-Result of the internal evaluation of the current educational status of the faculties.

In this section, the relevant explanations are provided regarding the results of the educational evaluation of the university faculties in terms of the total score obtained, as well as the status of the faculties in terms of 6 factors (students, scientific groups, faculty members, educational affairs, research affairs, and graduates). Initially, the status of the total evaluation score assigned to each faculty is presented in the form of Table 3 and Chart 1.

Table 3: Total score (specialized committee score) regarding the current status of the faculties

Score ceiling	Total assessment score 1402	Total components
1000	661	Faculty of Materials
	646	Faculty of Electrical Engineering
	645	Faculty of Aerospace Engineering
	629	Faculty of Chemistry
	608	Faculty of Materials and Manufacturing Technology
	586	Faculty of Science
	581	Faculty of Computer Science
	576	Faculty of Mechanics
	529	Faculty of Defense
	517	Faculty of Industries

The findings of Table 3 show the total score of the faculties based on the score of the specialized committee.
Question 2- The status of the student factor in the faculties
The results of the educational evaluation conducted by the student factor in the faculties are presented in the form of Table 4 and the corresponding Chart 2. Regarding the student factor, the evaluated criteria are: student acceptance and academic progress (8 questions), student participation in the group's educational programs (1 question), student interaction with faculty members (5 questions), and student interest and awareness of the field of study and the job market (3 questions), which in total includes 17 questions and 170 points.

Table 4: Student factor score regarding the current status of the faculties

Score ceiling	Total assessment score 1402	Student Component
170	106	Faculty of Electrical Engineering
	104	Faculty of Aerospace Engineering
	102	Faculty of Industry
	102	Faculty of Science
	98	Faculty of Chemistry
	96	Faculty of Materials and Manufacturing Technology
	95	Faculty of Computer Science
	93	Faculty of Materials Science
	92	Faculty of Defense
	87	Faculty of Mechanics

The findings in Table 4 show the status of the student component score in the faculties based on the specialized committee score.

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Question 3- The status of faculty members in the faculties
The results of the educational evaluation of faculty members in the faculties of the university are presented in the form of relevant tables and graphs. Regarding the faculty members, the evaluated criteria are: the composition of the faculty members (3 questions), the educational activities of the faculty members (3 questions), and the characteristics of the faculty members and the promotion process (7 questions), which in total includes 13 questions and 130 points.

Table 5: Faculty member score regarding the current status of the faculties

Score ceiling	Total assessment score 1402	Faculty Components
130	102	Faculty of Materials
	100	Faculty of Science
	98	Faculty of Materials and Manufacturing Technology
	93	Faculty of Aerospace
	92	Faculty of Chemistry
	90	Faculty of Computer Science
	89	Faculty of Mechanics
	88	Faculty of Electrical Engineering
	86	Faculty of Defense
	77	Faculty of Industries

The findings of Table 5 show the status of the faculty component in the faculties based on the score of the specialized committee.

Question 4- The Status of the Academic Group Factor in the Faculties

The results of the educational evaluation conducted by the academic group factor in the faculties of the university are presented in the form of the relevant table and chart. Regarding the academic group factor, the evaluated criteria are: mission and goals of the group (2 questions), group management (9 questions), group resource development process (1 question), group regulations and approvals (2 questions) and participation of faculty members in educational planning (7 questions), which in total includes 21 questions and 210 points.

Table 6: The score of the academic group factor regarding the current status of the faculties

Score ceiling	Total assessment score 1402	Department Components
210	183	Faculty of Aerospace
	179	Faculty of Materials
	176	Faculty of Electrical Engineering
	170	Faculty of Materials and Manufacturing Technology
	160	Faculty of Computer Science
	154	Faculty of Chemistry
	150	Faculty of Mechanics
	137	Faculty of Defense
	133	Faculty of Science
	118	Faculty of Industry

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The findings of Table 6 show the status of the scientific group score in the faculties based on the score of the specialized committee.

Question 5- The status of the educational affairs factor in the faculties

The results of the educational evaluation conducted by the educational affairs factor in the faculties of Malek Ashtar University of Technology (during the two evaluations of 2010 and the current evaluation of 2013) are presented in the form of the relevant table and chart. Regarding the educational affairs factor, the evaluated criteria are: students' educational affairs (6 questions), compliance with approved educational regulations (4 questions), personnel and educational facilities (4 questions), and credits, duties and tuition fees (5 questions), which in total includes 19 questions and 190 points.

Table 7: The score of the educational affairs factor regarding the current status of the faculties

Score ceiling	Total assessment score 1402	Scientific Group Components
190	139	Faculty of Materials
	127	Faculty of Chemistry
	122	Faculty of Electrical Engineering
	121	Faculty of Science
	119	Faculty of Aerospace
	107	Faculty of Defense
	104	Faculty of Mechanics
	96	Faculty of Computer Science
	92	Faculty of Industries
	87	Faculty of Materials and Manufacturing Technology

The findings of Table 2-5 and Chart 2-9 show the status of the student component score in faculties based on the score of the specialized committee.

Question 6- Status of Research Affairs Factor in Faculties

The results of the educational evaluation conducted by the Research Affairs Factor in faculties of Malek Ashtar University of Technology (during the two evaluations of 2010 and the current evaluation) are presented in the form of the relevant table and chart. Regarding the Research Affairs Factor, the evaluated criteria are: research affairs of theses, dissertations, etc. (10 questions), research activities of students (3 questions), and research activities of faculty (6 questions), which in total includes 19 questions and 190 points.

Table 8: Research Affairs Factor Score (2010 and 2013) Regarding the Current Status of Faculties

Score ceiling	Total assessment score 1402	Research Affairs Component
190	128	Faculty of Materials
	121	Faculty of Aerospace
	119	Faculty of Electrical Engineering
	112	Faculty of Materials and Manufacturing Technology
	108	Faculty of Chemistry
	106	Faculty of Mechanics
	100	Faculty of Computer Science
	98	Faculty of Industries
	95	Faculty of Science
	92	Faculty of Defense

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The findings of Table 2-6 and Chart 2-11 show the status of the research affairs component in faculties based on the score of the specialized committee.

Question 7- Status of the Alumni Factor in Faculties

The results of the educational evaluation conducted by the Alumni Factor in faculties of Malek Ashtar University of Technology (during the two evaluations in 2010 and the current evaluation) are presented in the form of the relevant table and chart. Regarding the Alumni Factor, the evaluated criteria are: continuing education of graduates (2 questions), relationship with graduates after graduation (3 questions), scientific articles and works of graduates (3 questions), and career fate of graduates (3 questions), which in total includes 11 questions and 110 points.

Table 9: Alumni Factor Score Regarding the Current Status of Faculties

Score ceiling	Total assessment score 1402	Graduates' Component
110	50	Faculty of Chemistry
	45	Faculty of Materials and Manufacturing Technology
	40	Faculty of Computer Science
	40	Faculty of Mechanics
	35	Faculty of Electrical Engineering
	35	Faculty of Science
	30	Faculty of Industry
	25	Faculty of Aerospace
	20	Faculty of Materials Science
	15	Faculty of Defense

The findings of Table 9 show the status of the alumni component score in the faculties based on the score of the specialized committee.

Question 8- Status of the percentage of realization of the factors in the entire university:

In order to obtain an overall perspective on the realization rate of the 6 factors under study (students, alumni, faculty, educational affairs, research affairs and scientific group) and to compare them in this regard, the percentage of realization of each factor was calculated according to the score of the specialized committee and is presented as follows in the table 10:

Table 10. Status of the percentage of realization of the factors in the entire university according to the score of the specialized committee

Factor realization rate in percentage (specialized committee)	Maximum score for each factor	University average	Factors
74	210	156	Academic Group
71	130	92	Faculty
58	190	111	Research Affairs
58	170	98	Educational Affairs
57	190	108	Students
31	110	34	Alumni

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As the results of Table 10 and Chart 8 show, in terms of the score of the specialized committee, the factors of the scientific group (74%) and the faculty (71%) have the highest points and are considered the university's strengths, respectively.

Also, the factors of educational affairs (58%), students (58%), research affairs (57%), and graduates (31%) are in the next ranks, and it is necessary to take more measures to improve the situation of these components, especially the graduates factor.

6. Discussion and Conclusion

Today, quality is at the forefront of most organizations, and it can be said that improving quality is one of the most important tasks that every institution faces. There are different definitions of quality in the literature of the field of education. But what is most comprehensive of all is seeing the organization in the mirror. This study aimed to evaluate and analyze the educational performance of 10 academic units of Malek Ashtar University of Technology based on the six factors of students, graduates, faculty, scientific group, educational affairs, and research affairs, and to identify the strengths and areas for improvement and to present suggestions for improving the quality of the educational process of the faculties. In addition to examining the five main factors, the status of the seniority and duties of the faculties was also examined and analyzed. In order to obtain an overall perspective on the level of realization of the five factors under study (students, graduates, faculty, educational affairs, research affairs, and scientific group) and to compare them in this regard, the percentage of realization of each factor was calculated according to the score of the specialized committee and presented as follows in Table 11:

Table 11. Status of the percentage of realization of factors in the entire university according to the evaluation of the specialized committee

Desirability level	Factor realization rate in percent (specialized committee)	University average	Maximum score for each factor	Factors
Desirable	74	156	210	Academic Group
Desirable	71	92	130	Faculty
Relatively desirable	58	111	190	Educational Affairs
Relatively desirable	58	98	170	Students
Relatively desirable	57	108	190	Research Affairs
Undesirable	31	34	110	Alumni

Based on the results of Table 4-1 and Chart 4-1, in terms of the expert committee score:

The following factors, in order, are considered to have the highest scores and strengths of the university:

1- Academic Department (74%)

2- Faculty (71%)

3- Educational Affairs (58%)

4- Students (58%)

5- Research Affairs (57%)

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7. Strengths, problems, and limitations of the research:

A very positive point of this research was the formation of a specialized working group at the university consisting of representatives of interested departments such as the Vice President for Education and Postgraduate Education, the Vice President for Management Development and Strategic Planning, the Vice President for Research and Technology, and the University Inspectorate, which led to the process of compiling and collecting evaluation indicators based on the indigenous characteristics of Malek Ashtar University of Technology.

Also, asking for opinions from faculties regarding the compiled evaluation indicators is another positive point of this research, and in addition to asking for the participation of faculties, their opinions were applied instead of the faculties in finalizing the indicators, and it has a stronger scientific basis as much as possible.

The most important problems that existed in this research were:

-1The most important limitation that we faced in carrying out the project is the gap that is felt in the field of self-evaluation and transparency culture in the university group and unit. Considering the positive results of implementing the evaluation and applying its results in various universities, it is suggested that steps be taken to structure it to spread the culture of evaluation in the university community and institutionalize evaluation in the university.

-2The lack of a coherent and active database to collect and update information related to various factors, especially in relation to graduates, slowed down the process of accessing relevant information. It is suggested that steps be taken to create an active and updated database in this field.

-3Also, the lack of familiarity and mastery of the faculties over the evaluation process in the initial stages of the work and finally

-4The time-consuming process of creating consensus and relative agreement between the members of the specialized committee and the faculties regarding the factors, criteria, and indicators to be evaluated
are among other limitations of this research.

-8Practical suggestions

-1-8Suggestions for improving the quality of the factors under study

According to the findings of the research, in order to follow up on the evaluation results, the need to form a committee to review the findings of this research and design corrective programs in the faculties is felt more than ever. The following are suggestions for improving the status of the factors under study:

-2-8Suggestions for improving the status of the scientific groups factor:

One of the important factors under evaluation is the scientific groups factor, which are considered important and key elements in the university unit. There are approximately 35 scientific groups in the faculties, and their importance in decision-making and the scientific growth and progress of the university is undeniable. It should be noted that the high scientific level and the group management experience strengthen the group and improve decision-making in various cases. Also, having sufficient management experience and experience for the group manager helps to make the right decisions in sensitive situations. The importance of decision-making is such that regarding the activities carried out by the group and the provision of entrepreneurship education programs, it should be done in a way that brings the best results. For this reason, it is possible to familiarize students with their field by holding seminars and lectures and clarify the areas of entrepreneurship for students. Similarly, the group management should think of measures regarding the development of the group that will cooperate and connect with industries and organizations as well as other educational groups of Malek Ashtar University of Technology and, if necessary, other universities and centers. Of course, achieving this requires sincere and scientific cooperation of the faculty members and relative independence of the group in regulating the group's activities and also allocating budget to the relevant group. The importance of this issue leads to examining the level of satisfaction of the group members with the group manager during each semester. By strengthening the position of evaluation in the university and especially the evaluation of the relevant group in consecutive 6-month periods, not only the opinions of the faculty members are examined, but also the opinions of other group members, especially students, are taken into account. The group manager can attract the students' attention and take the necessary measures to solve their problems. For this reason, the available resources can be used in the best way and efficiency and effectiveness can be increased. It is also necessary that the organizational structure and management, the missions, the goals and educational and research policies are clearly

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communicated to students and faculty members of all groups, and that the faculty officials and group managers should involve students and faculty members more in the formal processes of the faculty.
Other suggested items include:
-Preparing and compiling documented and comprehensive instructions on planning and evaluating group activities with the participation of all faculty members;
-Drafting regulations on research qualifications and how to conduct research by faculty members;
-Motivating and encouraging faculty members to increase their participation in planning group activities;
-Evaluating faculty members' educational activities by students using a scientific model
-Developing a group development plan (human, physical, financial, etc.);
-Studying the fields and trends needed by the country and taking steps to create and launch them;
-Developing and creating a mechanism to evaluate the research activities of faculty members and groups by the university;
-Planning to attract and increase outstanding faculty members.
-3-8Suggestions for improving the status of the faculty factor:
The next factor to be evaluated is the faculty members, who are important and key elements in the university unit and play an important role in the group. Considering that nearly 330 faculty members are working at Malek Ashtar University of Technology and considering the importance of faculty members as the scientific arms of the country's defense industries, it is undeniable to pay attention to improving the quality of faculty members. The most important suggestion that can be made in this regard to improve the status of the faculty is to attract experienced faculty members, which can have a significant impact on improving the group; because the ratio of faculty members to students and the ratio of faculty members at different scientific levels is at an undesirable level.
Also, the existence of a documented and written program regarding the publication of research works by faculty members motivates them.
Creating a suitable environment for cooperation and exchange of experience and information between faculty members within the group in various scientific, research, welfare and service fields and solving the problems of study opportunities of faculty members will improve their scientific level.
Also, the presence of faculty members with relevant degrees in the desired field will provide students with appropriate and sufficient information, which will create interest in them.
Other suggested items include:
-Providing and arranging the necessary opportunities and incentives to strengthen the scientific capacity of faculty members;
-Paying attention to the quantity and quality of research activities alongside the educational activities of faculty members;
-Strengthening the spirit of research and investigation by faculty members and creating a mechanism for faculty members to write at least one article;
-Providing the environment for joint research activities and creating the necessary motivations and incentives in this regard;
-Providing appropriate facilities and facilities to faculty members;
-Making arrangements to increase the time that faculty members and students spend at the university.
-Implementing a stronger incentive and motivational mechanism in reviewing the results of faculty member evaluations
-Providing conditions for transferring the educational experiences of experienced faculty members to newly hired members;
-Allocating the necessary credit and providing an appropriate incentive mechanism for faculty members to participate in teaching and learning workshops, especially new teaching methods;

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-4-8Suggestions for improving the student factor:

Since students are an important element in higher education and their progress and promotion can lead to the promotion of the university, therefore, paying attention to their needs and demands is an effective step in improving the educational group and, consequently, the promotion of the university. Informing and creating awareness in any case motivates individuals and clarifies the path to achieving the goal for the individual. Therefore, holding meetings for students during their studies by the educational group and expressing the goals of the group and the desired field not only creates motivation and interest in students, but also removes ambiguities and makes it possible to achieve goals.

Another factor in creating interest in the field and academic progress in students is their participation in the teaching and research activities of faculty members, which helps to consolidate the material in the minds of students.

Lack of interest and awareness of the field and the presence of visiting professors with lower academic levels and inappropriate teaching increase student dissatisfaction and, as a result, their lack of academic progress. Therefore, paying attention to the above-mentioned issues will improve the group's situation.

Also, appropriate interaction between faculty members and students will increase the quality of this factor.

Other suggested items include:

-Adopting an optimal mechanism based on new approaches to educational planning to create a proper balance between male and female students;

-Greater emphasis by the group and professors on conducting research activities by students and encouraging them to research, write, and translate;

-Adopting an appropriate mechanism to strengthen students' awareness of the labor market situation in the group's academic fields and preparing an annual plan for interaction with relevant organizations and executive bodies and a correct understanding of emerging job opportunities;

-Greater empathy and sympathy by the group and professors with students in resolving academic problems and strengthening their scientific self-confidence;

-Greater supervision by the group over the teaching process of visiting professors from other groups or professors invited from outside the faculty;

-Greater attention by the group to strengthening student scientific associations;

-Reviewing the methods of evaluating students' academic progress and adopting new and effective methods;

-Obtaining students' opinions on the desirability of the content and syllabus of the courses and their compliance with their expectations;

- -5-8Suggestions for improving the status of the graduates:
- One of the fruits of higher education in any educational group is its graduates, and this fruit will be fruitful when it has efficient graduates with appropriate scientific and practical knowledge that meets the needs of society and the labor market. The lack of an alumni association in the relevant group causes little information about them and is one of the reasons for the lack of motivation to study at higher levels. The existence of this association connects graduates with the group and makes them aware of information in the field of continuing their education and employment, which can lead to their progress. It also provides access to a small number of graduates in the evaluation process.
- Also, a study of the employment of graduates showed that it was not of the desired quality, one of the reasons for this could be due to the outdated content of the educational programs, which requires a revision of the curricula. It is also necessary to conduct ongoing research and studies on the career fate of graduates in order to determine their main needs. Other suggestions for improving the quality of graduates include:
- -Through follow-up studies, the most important needs of graduates and employers in relation to content and training courses should be examined, and the results should be taken into account in the design and development of training courses
- -Creating a database of graduates to be aware of the future career and academic fate of graduates and foreseeing the necessary mechanism for receiving the reports needed for follow-up studies;
- -Establishing an alumni association and establishing contact with graduates;

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- -Following up on the scientific and research activities of graduates and strengthening such activities among graduates;
- -Using top graduates in the scientific and research activities of groups.
- -6-8Suggestions for improving the status of the research affairs factor:
- There is a significant difference in the research affairs factor between faculties. It seems that research policies and activities in the university unit have not been implemented in a coordinated and coherent manner. The research factor can be brought closer to the desired state by providing facilities for the use of study opportunities by the members of the academic staff, making their promotion conditional on research and research activities, organizing research method workshops and familiarizing students and professors with research methods, creating the necessary conditions for the application of research results, as well as rewarding structures and activities.
- -7-8Suggestions for improving the educational situation:
- In order to improve the educational situation of the faculties, the following are suggested:
- -A measure should be devised to address the concern about the low quality of incoming students by creating motivational mechanisms
- -In order to provide quality laboratory courses, laboratory equipment, consumables, and materials need to be renovated and equipped
- -More funds should be allocated for equipping laboratory materials and facilities
- -Strict selection causes the loss of some talented and quality students, so the relevant institutions should be more tolerant and tolerant in this regard as much as possible.
- -The provisions of the educational commissions should be implemented more strictly for students

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