



INTEGRATING PEC'S ACCREDITATION CRITERIA AND HEC'S SELF-ASSESSMENT CRITERIA FOR IMPROVING QUALITY IN HIGHER EDUCATION

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INTEGRATING PEC'S ACCREDITATION CRITERIA AND HEC'S SELF-ASSESSMENT CRITERIA FOR IMPROVING QUALITY IN HIGHER EDUCATION

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ABSTRACT

Purpose:

This paper is an attempt to propose a new model for assessing and improving quality in higher education by integrating both the criteria laid down by Pakistan Engineering Council and Higher Education Commission Pakistan. The model also takes into account the accreditation criteria of US Accreditation Board of Engineering & Technology (ABET).

Design/Methodology/Approach:

In the first step, quality assessment and accreditation criteria of the Higher Education Commission, Pakistan Engineering Council and Accreditation Board for Engineering and Technology (ABET), were analyzed for similarities, differences, relationships, inconsistencies, conflicts and gaps. Then based on this analysis, new set of criteria are proposed. The newly identified criteria are classified into suitable sets, which are then integrated into a new proposed model for quality assessment in higher education.

Findings:

The newly proposed model is being implemented at National Textile University Faisalabad. It is hoped that the new proposed model will not only meet the existing requirements of both HEC and PEC but is also more comprehensive and streamlined.

Originality/Value:

PEC, HEC and ABET have developed different criteria for the assessment of quality in higher education. Our humble endeavor is to integrate all these criteria into a new comprehensive model.

Keywords:

Academic; Quality; Assessment; Criteria; Model; Higher Education

INTRODUCTION

Quality of life of citizens of any nation is directly related to the quality of education in their respective country. Education is not just about memorizing some facts without any context and perspective. It is about bringing a positive cognitive and behavioral change in students, and helping them out in identifying, preserving and actualizing their potentials. It is not only about enabling them to solve technical problems in their professional life but also making them adept in successfully handling social situations in life by equipping them with universal values of integrity, honesty, trust, tolerance, fairness, equity and justice. Learning outcomes of any educational program must carry a balance between the 'professional competence' and a good 'moral character'. Against this backdrop, we can define 'Quality Education' as the one which ensures '*professional competence*' along with good '*moral character*' in students through a positive *cognitive* and *behavioral* change.

Quality assessment in education has been defined as "every structured activity which leads to a judgment of the quality of the teaching/learning process and/or research, whether self assessment or assessment by external experts" (Vroeijenstijn, 1995).

Quality of higher education has been a concern of universities since medieval ages. Two distinct models of quality in higher education can be traced back to the 13th century, i.e. the French model, vesting control in an external authority for quality assessment and the British model of self-governance, based on the peer review (Amaral, 2007).

PEC'S, HEC'S AND ABET'S CRITERIA

Different national and international bodies have proposed various criteria for the assessment of quality in higher education. A comparison of the criteria for assessment and accreditation of academic programs, developed by Pakistan Engineering Council (PEC, 2007), Higher Education Commission of Pakistan (HEC, 2006) and US Accreditation Board for Engineering and Technology (ABET, 2010) is given in Table 1. It is evident that the list of PEC's criteria is quite long as compared to HEC's and ABET's criteria. The list could be shortened by combining similar criteria. For example, the 'infrastructure' component in criterion 1 and 'facilities' in criteria 9 and 14 could be combined. The criterion 2, regarding 'finance' could be combined with criteria 20, 21 and 22, regarding operational & development budget, investment and internal resource generation. The criterion 23, regarding research and publications, could be combined with the criterion 3 (faculty). Similarly, criteria 12, 15, 16 and others related to students, could be covered in the criterion 8 (students). There is no PEC's criterion regarding continuous improvement. The HEC's self-assessment criteria do not take into account leadership or management, finances, and certain aspects regarding the students. Financial aspects are also not considered in ABET's criteria. Similarly, there is nothing regarding department's leadership or management.

Table 1 PEC’s, HEC’s and ABET’s criteria for assessment of academic programs

PEC’s Accreditation Criteria	HEC’s Self-Assessment Criteria	ABET’s Accreditation Criteria
1. Management & infrastructure of the institution	1. Program mission, objectives and outcomes	1. Students
2. Finances	2. Curriculum design and organization	2. Program educational objectives
3. Faculty	3. Laboratories and computing facilities	3. Program outcomes
4. Academic program	4. Student support and advising	4. Continuous improvement
5. Laboratory and allied staff	5. Process control	5. Curriculum
6. Library	6. Faculty	6. Faculty
7. Standard of instructions	7. Institutional facilities	7. Facilities
8. Students	8. Institutional support	8. Support
9. Academic building and other allied facilities		9. Program criteria
10. Annual cost per student		
11. Financial support to students		
12. Class size		
13. Office hours for academic counseling		
14. Other facilities for students		
15. Yield		
16. Dropouts		
17. Average duration		
18. Internship/practical training		
19. Quality of product		
20. Operational budget		
21. Development budget		
22. Investment and internal resource generation		
23. Research and publications		
24. Industrial linkages		
25. Website		

A NEW PROPOSED MODEL

A new proposed model, integrating the PEC’s, HEC’s and ABET’s criteria for quality assessment in higher education is given Table 2. The model consists of 11 educational quality criteria, each having a Plan-Do-Check-Act (PDCA) cycle for continuous

improvement. Based on the proposed model, a proforma has been developed for the assessment of quality of academic programs, which is given in the Table 3.

Table 2 The proposed model for quality assessment of academic programs in higher education

Phase	EDUCATIONAL QUALITY CRITERIA										
	1. Leadership	2. Organization	3. Program	4. Students	5. Faculty	6. Lab & Support Staff	7. Facilities	8. Finances	9. Teaching & Learning	10. Process Control	11. Partnerships
Plan	Vision; Values; Mission; Strategic Plan	Departmental Organogram; Board of Studies; Faculty Board; Academic Council	Voice of the Customer/Stakeholders; Program Educational Objectives; Program Outcomes; Scheme of Studies;	Eligibility Criteria; Admission Criteria; Intake Plan; Quota; Class Size	Hiring/Eligibility Criteria; Evaluation & Promotion Criteria; Student:Teacher ratio; Teaching Load; Faculty Development Plan	Hiring/Eligibility Criteria; Evaluation & Promotion Criteria; Student:Staff ratio; Work Load; Staff Development Plan	Classrooms; Labs; Equipment; Computing Facilities; Library Resources; Faculty Offices; Student & Faculty Accommodation; Auditorium; Sports Facilities; Faculty & Student Transport	Operational Budget; Development Budget	Course Learning Outcomes (CLOs); Lesson Plans; Assignments; Teaching Methods; Assessment Criteria	Authorities & Responsibilities; Standard Operating Procedures; Service Rules; Academic Rules; Discipline Rules	Industrial linkage; Collaboration with other national and international universities
Do	Strategy Deployment	Program Design & Review	Program Implementation	Admissions; Orientation; On-campus Learning; Internships; Counseling; Exams; Placement	Hiring; Training; Teaching; Research; Consultancy	Lab Practicals	Facilities Deployment & Utilization	Internal Resource Generation; External Resource Generation; Expenditures	Teaching & Learning	Implementation of SOPs, Rules & Regulations	Industrial visits; students' internships and placement in industry; joint programs, student/ faculty exchange with other universities
Check	Management Review	Review Effectiveness of Organogram and Performance of Board of Studies; Faculty Board; Academic Council	Graduating Students' Feedback; Employers' Feedback; Alumni Feedback	Drop-outs; % Yield; Avg. Grades; Avg. Duration for Degree Completion; Avg. Time to Find Job; Avg. Starting Salary; Acceptance in foreign Universities	Faculty Qualification; Students' Feedback; Publications; Patents; Consultancy Projects; Faculty Training Impact Assessment; Turn-over; Exit Interviews	Staff Qualification; Students' Feedback' Staff Training Impact Assessment; Turn-over; Exit Interviews	Review Adequacy & Utilization of Facilities	Review Income & Expenditures	Review Course Files, End-semester Assessment of CLOs & End-Semester Results;	Review Effectiveness of Authorities & Responsibilities, Standard Operating Procedures, Service Rules, Academic Rules, Discipline Rules	Review the effectiveness of industrial linkages and other university collaborations.
Act	Revise/Improve Strategic Plan	Revise/Improve Organogram, Board of Studies, Faculty Board, Academic Council	Revise/Improve Program	Revise/Improve Eligibility Criteria, Admission Criteria, Intake Plan, Quota, Class Size; Counselling & Placement	Assure Faculty Training & Development; Take measures to Improve Faculty Hiring, Retention and Teaching/ Research/ Consultancy mix.	Assure Staff Training & Development; Take measures to Improve Staff Hiring & Retention.	Improve Adequacy & Utilization of Facilities	Improve Resource Generation & Utilization; Revise Budget	Revise/Improve Lesson Plans, Question Papers & Teaching Methods	Revise/Improve Authorities & Responsibilities, Standard Operating Procedures, Service Rules, Academic Rules, Discipline Rules	Revise/improve industrial linkage and collaborations.

Table 3 Proforma for quality assessment of academic programs

Program Name:		Department:					
Assessor:		Date:					
Instructions:							
Use the scale given below for the assessment according to the given criteria.							
1-Strongly Disagree 2-Disagree 3-Somewhat Agree 4-Agree 5-Strongly Agree							
#	Criteria	W	Score				
			1	2	3	4	5
1	LEADERSHIP						
1.1	The department's leadership has defined its vision, values and mission, taking into consideration input from the key stakeholders.		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
1.2	The department's vision, values and mission statement are well-publicized and known by a significant number of key stakeholders.		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
1.3	The leadership's personal actions reflect commitment to the department's core values.		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
1.4	The leadership has developed a strategic plan for the accomplishment of the department's mission and vision.		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
1.5	The leadership has effectively deployed the strategic plan for the accomplishment of the department's mission and vision.		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
1.6	The leadership has created an environment and culture that is conducive to the accomplishment of the department's mission and vision.		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
1.7	The leadership has defined key performance indicators of the department, which are periodically reviewed for continual improvement.		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2	ORGANIZATION						
2.1	The department has a well-defined organizational structure.		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2.2	The departmental board of studies is in place.		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2.3	The faculty board is in place.		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2.4	The academic council is in place.		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2.5	The meetings of the board of studies, faculty board and academic council are held regularly for program design and/or review, and the minutes of the meetings are properly recorded.		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3	PROGRAM						
3.1	A mechanism is in place for obtaining the voice of the customer/stakeholders, for design and review of the academic program.		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3.2	The program educational objectives are well-defined, taking into consideration the voice of the customers/stakeholders.		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3.3	The program learning outcomes are well-defined.		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3.4	Scheme of studies and curriculum are well-defined and meet the HEC/PEC guidelines.		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3.5	A mechanism is in place for obtaining the feedback of graduating class, to assess the achievement of program learning outcomes.		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3.6	A mechanism is in place for obtaining the feedback of alumni and the graduates' employers, to assess the achievement of program educational objectives.		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3.7	A mechanism is in place to revise/improve the program scheme of studies and/or curriculum, based on the feedback of graduating class, their employers and the alumni.		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Table 3 ...continued.

4 STUDENTS						
4.1	Students' eligibility criteria for the program are well-defined and approved by the academic council.		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4.2	Students' admission criteria for the program are well-defined and approved by the academic council.		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4.3	Students' intake plan, class-size, quota, etc. are well-defined and approved by the academic council.		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4.4	Students' eligibility criteria, admission criteria, class size, etc. are in conformance with the HEC/PECs guidelines.		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4.5	A mechanism is in place for students' orientation after admission.		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4.6	A mechanism is in place for students' counseling.		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4.7	A mechanism is in place for students' internship.		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4.8	A mechanism is in place for students' placement in jobs after graduation.		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4.9	A mechanism is in place for reviewing students' overall key performance indicators (such as % yield, drops-outs, average grades, average duration for degree completion, average time for finding job after graduation, average starting salary and acceptance in foreign universities).		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4.10	A mechanism is in place for taking necessary actions (e.g. revising/improving eligibility & admission criteria, class size, counseling, placement etc.) based on the review of students' key performance indicators).		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5 FACULTY						
5.1	Eligibility criteria for faculty members are well-defined and are in conformance with HEC/PEC guidelines.		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5.2	All existing faculty members fulfill the HEC/PEC qualification criteria for their posts (e.g. Professor, Associate Professor, Assistant Professor, and Lecturer)		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5.3	A mechanism is in place for attaining students' feedback on the faculty members.		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5.4	A mechanism is in place for faculty evaluation by peers and HODs/deans.		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5.5	The student: teacher ratio is as per HEC/PEC guidelines (based on the core faculty only).		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5.6	Faculty teaching load and teaching/research/consultancy/management mix is appropriate.		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5.7	A faculty development/training plan is in place.		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5.8	Sufficient resources/budget is allocated annually for faculty development/training.		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5.9	Sufficient incentives are in place for attracting and retaining high quality faculty.		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5.10	A mechanism is in place for reviewing faculty's key performance indicators (such as students' feedback, peers and HOD's feedback, number of publications, consultancy projects, patents, etc.) and taking necessary action for continual improvement.		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6 LAB AND SUPPORT STAFF						
6.1	Eligibility criteria for lab and support staff (e.g. admissions, admin., library, IT, finance, and examination staff members) are well-defined and are in conformance with HEC/PEC guidelines.		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6.2	All existing staff members fulfill the HEC/PEC qualification criteria for their posts.		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Table 3 ...continued.

6.3	A mechanism is in place for attaining students' feedback on the lab and support staff members.		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6.4	A mechanism is in place for staff evaluation by peers and HODs.		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6.5	Sufficient number of lab and support staff is available		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6.6	A staff development/training plan is in place.		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6.7	Sufficient resources/budget is allocated for staff development/training.		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6.8	Sufficient incentives are in place for attracting and retaining high quality staff.		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6.9	A mechanism is in place for reviewing staff's key performance indicators (such as students', peers and HOD's feedback, etc.) and taking necessary action for continual improvement.		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7	FACILITIES						
7.1	The department has a sufficient number of classrooms, well-equipped with audio-visual aids.		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7.2	The department has a sufficient number of labs, work stations and lab equipment to fulfill the requirement of the practical work included in the program scheme of studies.		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7.3	All lab equipment is fully operational and in working condition.		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7.4	All labs are periodically upgraded by adding the latest equipment.		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7.5	The lab space and equipment are well-maintained and occupational health and safety guidelines are followed in the labs.		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7.6	The lab equipment are fully utilized for practical work, and research and development.		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7.7	Work instructions are in place for all key equipment.		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7.8	Sufficient computing facilities and web services are available for the faculty, staff and the students.		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7.9	Sufficient and up-to-date library resources (books, journals, CD-ROMS, educational videos, digital library, databases, etc.) are available to fulfill the needs of the academic program as well as for updating the knowledge of the faculty members.		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7.10	Sufficient number of suitable faculty offices is available.		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7.11	Hostel accommodation is available for a significant number of students.		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7.12	Faculty accommodation is available for a significant number of faculty members.		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7.13	Auditorium facilities are adequate for seminars, convocation and extra-curricular functions.		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7.14	Adequate sports facilities are available for the students, faculty and staff.		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7.15	Transport facilities are available for the students, faculty and staff.		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7.16	All university facilities and the campus are well-maintained and well-utilized.		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7.17	A mechanism is in place for periodic review of the adequacy, maintenance and utilization of the facilities and for taking necessary actions for continual improvement.		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7.18	The department's website is well-maintained and regularly updated.		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Table 3 ...continued.

8	FINANCES								
8.1	The department has adequate and sustainable financial resources for recurring expenses.		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8.2	The department has adequate financial resources for development expenses.		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8.3	The department has a plan for internal and external resource generation.		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8.4	The department has reasonable autonomy in financial matters.		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8.5	A mechanism exists for planning and review of the departmental budget, resource generation and utilization, and taking necessary actions for continual improvement.		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9	TEACHING AND LEARNING								
9.1	The weekly learning outcomes of all the courses of the academic program are well-defined (as per Bloom's taxonomy) and communicated to the students.		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9.2	Faculty members use proper lesson plans for their lectures.		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9.3	Teaching methodologies and techniques, used by the teachers, are appropriate to the course content.		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9.4	Students' assessment and grading criteria are well-defined and communicated to students by the faculty members.		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9.5	Course files are well-maintained by the faculty members as per HEC/PEC guidelines.		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9.6	Question papers are well-set taking into account the assessment of all levels of students' learning outcomes, i.e. knowledge, comprehension, application, analysis, synthesis and evaluation (as per Bloom's taxonomy).		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9.7	Head of the department conducts monthly reviews with individual faculty members to check whether the course specifications are being followed by the faculty members; whether the quality and content of teaching is satisfactory; whether sufficient numbers of assignments/quizzes are given; and whether the course files are properly maintained.		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9.8	A mechanism is in place for end-semester assessment of achievement of course learning outcomes, review of end-semester results to take necessary actions for continual improvement.		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
10	PROCESS CONTROL								
10.1	Authorities and responsibilities of the Head of the Department, faculty members and the staff are well-defined and communicated to the stakeholders.		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
10.2	Standard operating procedures (SOPs) are in place for important tasks, jobs and issues.		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
10.3	Academic rules (including admissions, probation, examinations, use of unfair means, plagiarism, etc.) and student discipline rules are well-defined and communicated to the students.		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
10.4	Faculty and staff service rules (including, appointments, promotions, leaves and discipline, etc.) are well-defined and communicated to the stakeholders.		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
10.5	All rules, regulations, and SOP's are properly implemented in letter and spirit.		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
10.6	A mechanism exists for reviewing all rules, regulations and SOP's for their effectiveness and taking necessary actions for continual improvement.		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
11	PARTENERSHIPS								
11.1	The department has established strong industrial linkage for faculty visits, students' internships and job placement.		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
11.2	The department has effective national and international collaborations with other universities for joint academic and research programs, faculty and student exchange, etc.		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

SELF-ASSESSMENT RESULTS AND DISCUSSION

Based on the proposed model, self-assessment of BSc. Textile Engineering Program at National Textile University Faisalabad, was conducted by getting feedback on the proforma given in Table 3, from 20 core Textile Engineering Faculty members. The average scores obtained for different criteria are given in figures 1-11. A score below 1 may be considered as poor, 1-2 as fair, 2-3 as average, 3-4 as good and 4-5 may be considered as excellent.

1.1 LEADERSHIP

It can be observed in figure 1 that the score in most of the leadership criteria is good. The score is excellent in criterion 1.3 (the leadership's personal actions reflect commitment to the department's core values). The lowest score is in criterion 1.5, which implies that the leadership should make more effort to effectively deploy the strategic plan for the accomplishment of the department's mission and vision.

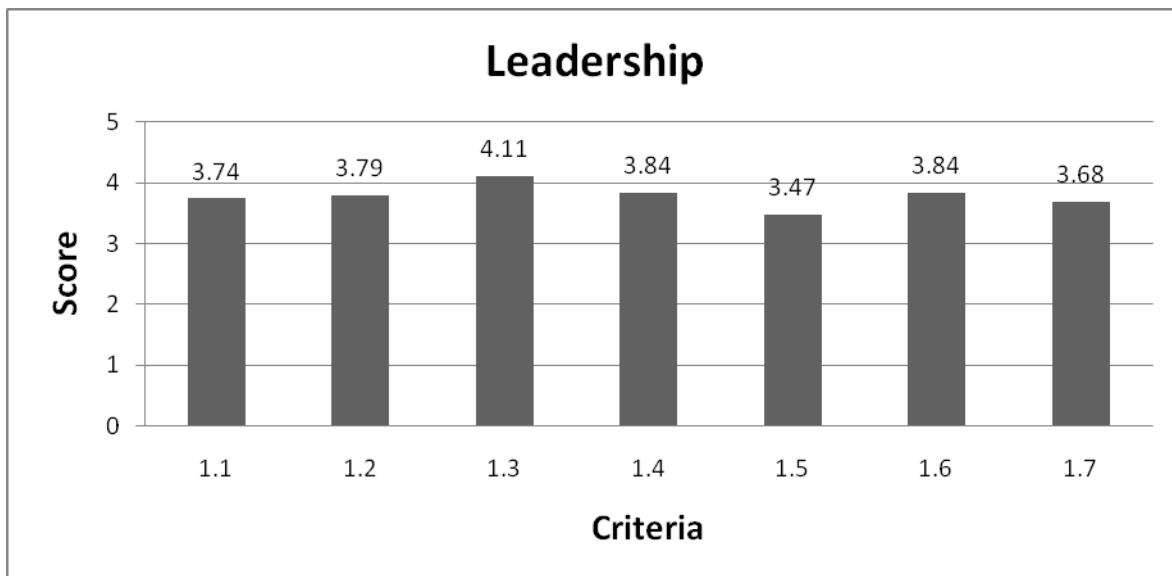


Figure 1 Leadership score

1.2 Organization

The organization score is given in figure 2. The lowest score is in criterion 2.5 which means that the meetings of the board of studies, faculty board and academic council should be held more regularly for program design and/or review and the minutes of the meetings should be properly recorded.

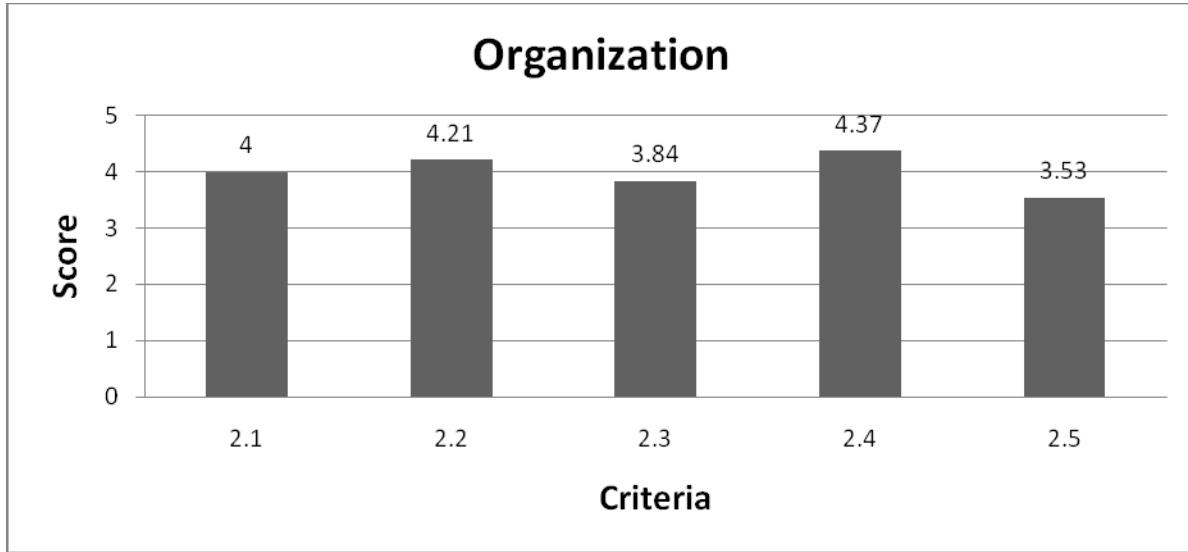


Figure 2 Organization score

1.3 Program

The average assessment score about the study program is depicted in figure 3. It can be noticed that the top score is obtained in criterion 3.4, which means that the program scheme of studies and curriculum are well-defined and meet HEC/PEC guidelines. However, a relatively poor score has been obtained in criteria 3.1, 3.6 and 3.7 which implies that there is need for improving the mechanism of taking feedback from the key program stakeholders, such as alumni and graduates' employers for program design and review.

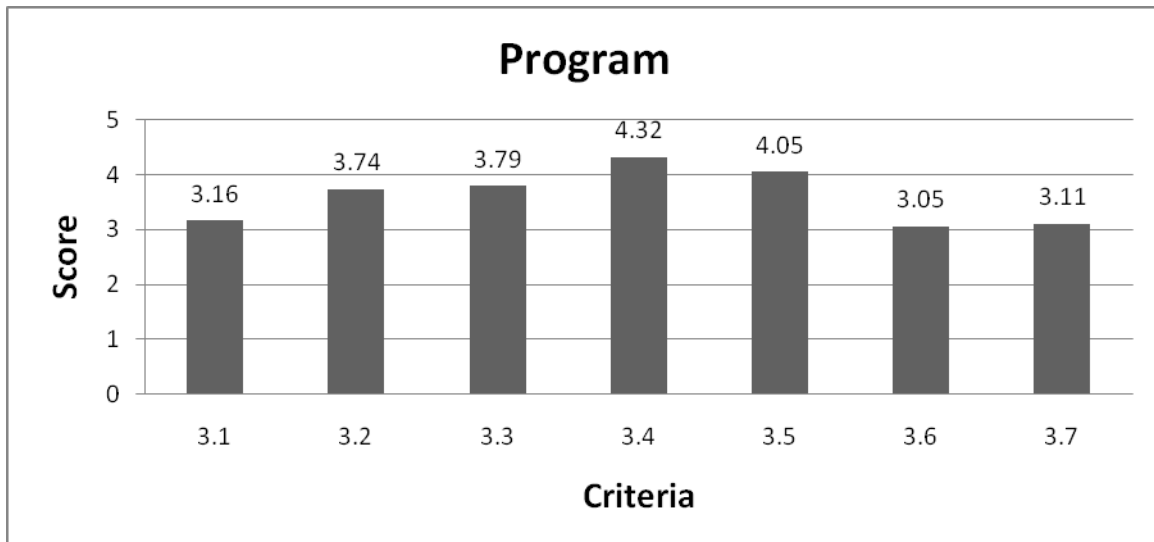


Figure 3 Program score

1.4 Students

The students score in figure 4 indicates good to excellent results for all criteria except 4.9 and 4.10. This means that there is need for improvement in the mechanism for reviewing students' overall key performance indicators and for taking necessary actions based on this review.

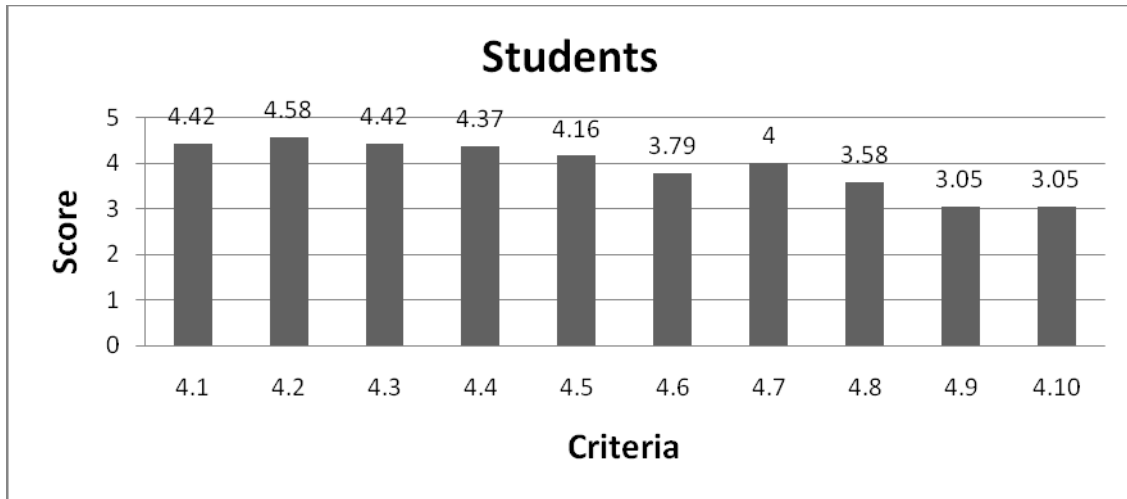


Figure 4 Students score

1.5 Faculty

Faculty score given in figure 5 shows very poor results for criteria 5.6-5.9. This means that faculty teaching lead and teaching/research/consultancy/management mix-up needs to be rationalized (criterion 5.6), faculty development/training plans should be put in place (criterion 5.7), sufficient resources should be allocated for faculty development (criterion 5.8) and sufficient incentives should be introduced for attracting and retention of good quality faculty (criterion 5.9).

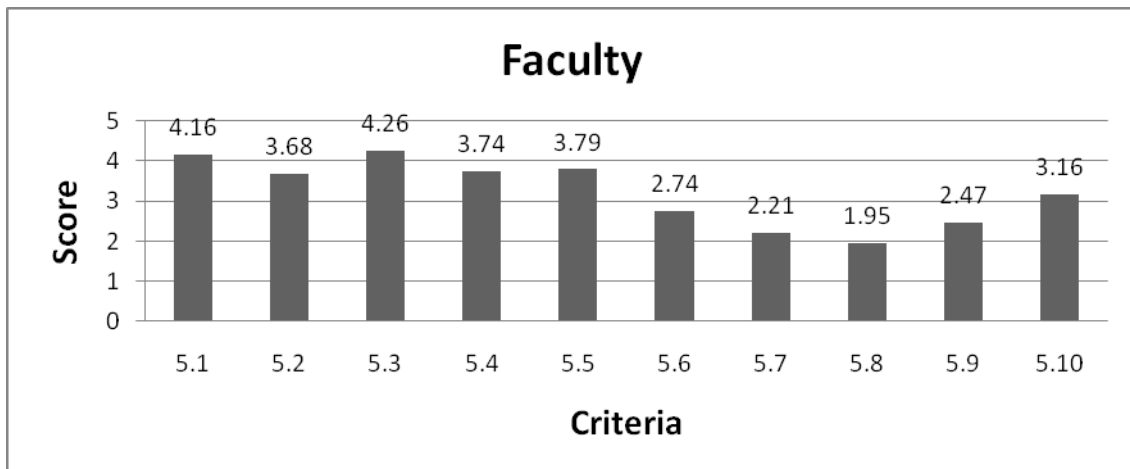


Figure 5 Faculty score

1.6 Lab and support staff

It is clear from figure 6 that the overall results are not very good regarding lab and support staff. There is need for taking students' feedback about lab and support staff (criterion 6.3), a mechanism for staff evaluation by peers and HOD's (criterion 6.4), a staff development/training plan (criterion 6.6), sufficient resources for staff development (criterion 6.7), sufficient incentives for attracting and retaining good staff (criterion 6.8) and a mechanism for reviewing key performance indicators of staff and taking necessary action (criterion 6.9)

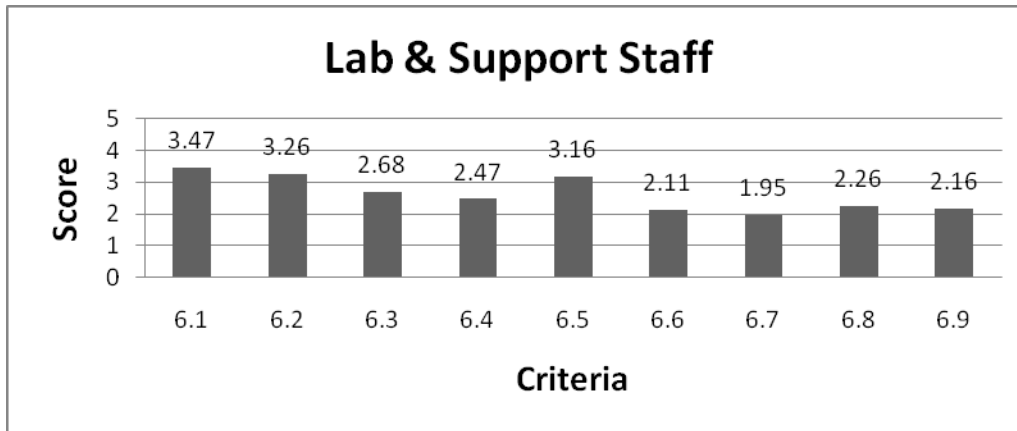


Figure 6 Lab & support staff score

1.7 Facilities

According to facilities results given in figure 7, there is need for improvement in the availability of classrooms well-equipped with audio-visual aids (criterion 7.1). Similarly, labs need to be upgraded with the latest equipment (criterion 7.4). Computing and web facilities for the faculty and students need to be improved (criterion 7.8). There is need for more faculty accommodation at the campus (criterion 7.12). Auditorium facilities are inadequate (criterion 7.13) and sports facilities also need to be improved (criterion 7.14).

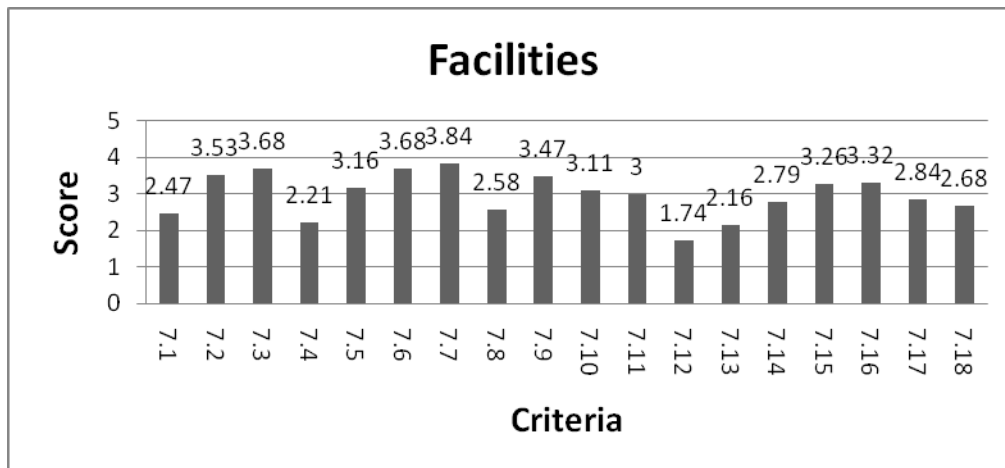


Figure 7 Facilities score

1.8 Finances

It is evident from figure 8 that overall score for departmental finances are not good. There is need for enhancement of recurring and development budget for the department (criteria 8.1-8.2). The department needs to better plan internal and external resource generation (criterion 8.3). The department needs to be given more autonomy in financial matters (criterion 8.4) and there is a need for a better mechanism for planning and review of departmental budget, resource generation and utilization (criterion 8.5)

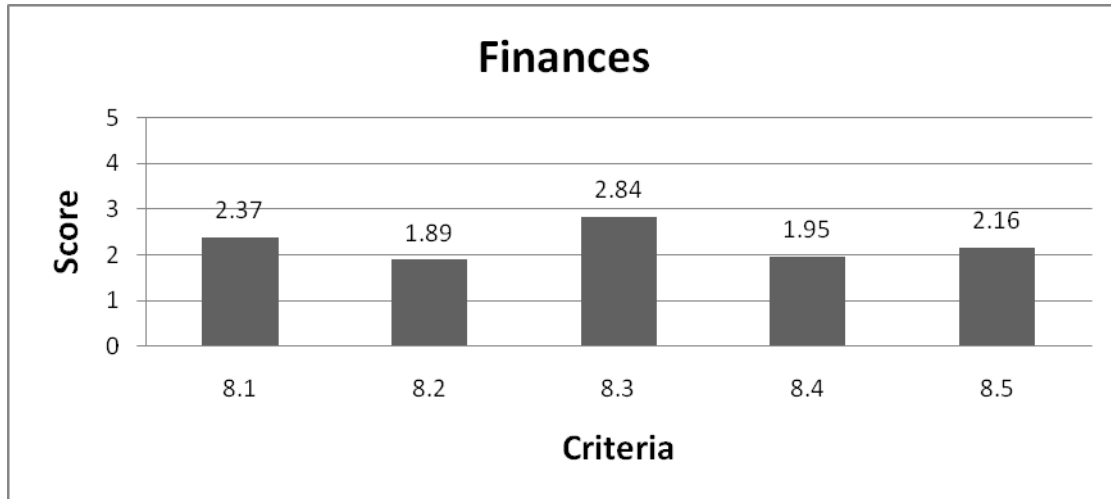


Figure 8 Finances score

1.9 Teaching and Learning

Overall teaching and learning results are good, as given in figure 9. It means that the teaching and learning process of BSc. Textile Engineering program is quite satisfactory at present, although there is always a room for further improvement.

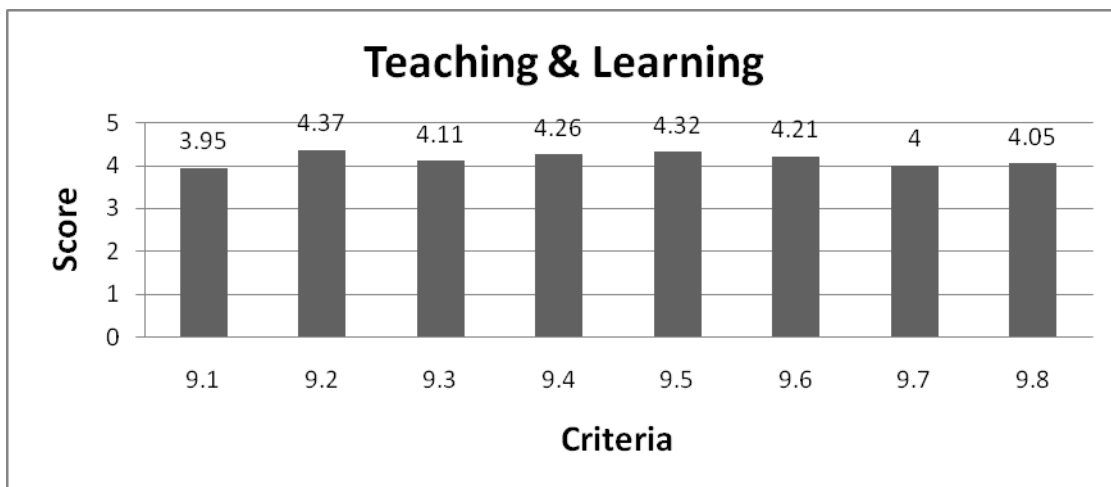


Figure 9 Teaching & learning score

1.10 Process control

It appears from figure 10, that the results of process control are not as good as the teaching and learning process. There is need for improvement in the definition and clarification for responsibilities and authorities, and mechanism for defining and reviewing all rules, regulations and SOPs.

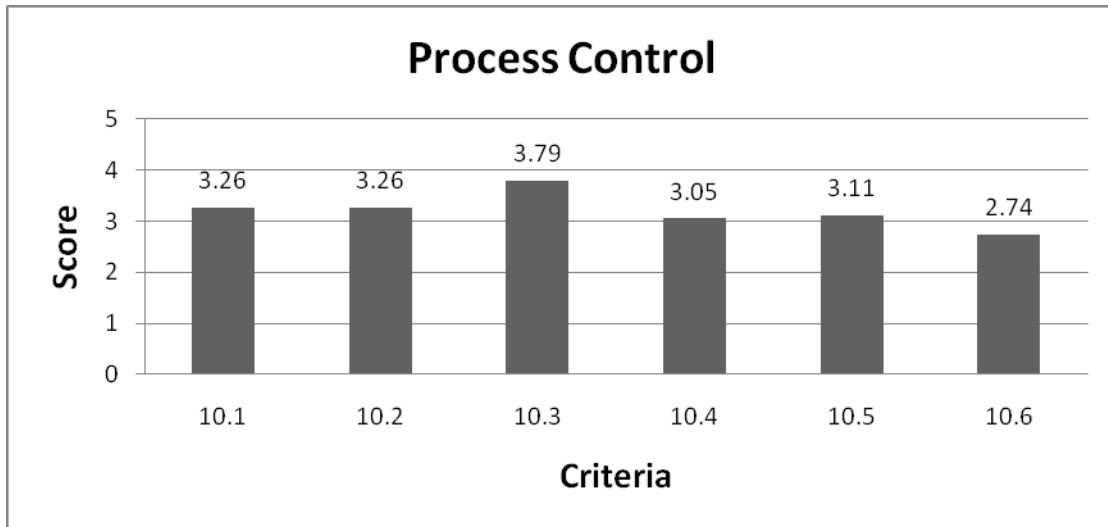


Figure 10 Process control score

1.11 Partnerships

The results about partnerships with the industry and other universities are about average, as given in figure 11. There is need for further strengthening the industrial linkage for student internships and job placement (criterion 11.1). There is also need for more collaboration with other national and international universities for faculty and student exchange and joint degree and research programs (criterion 11.2)

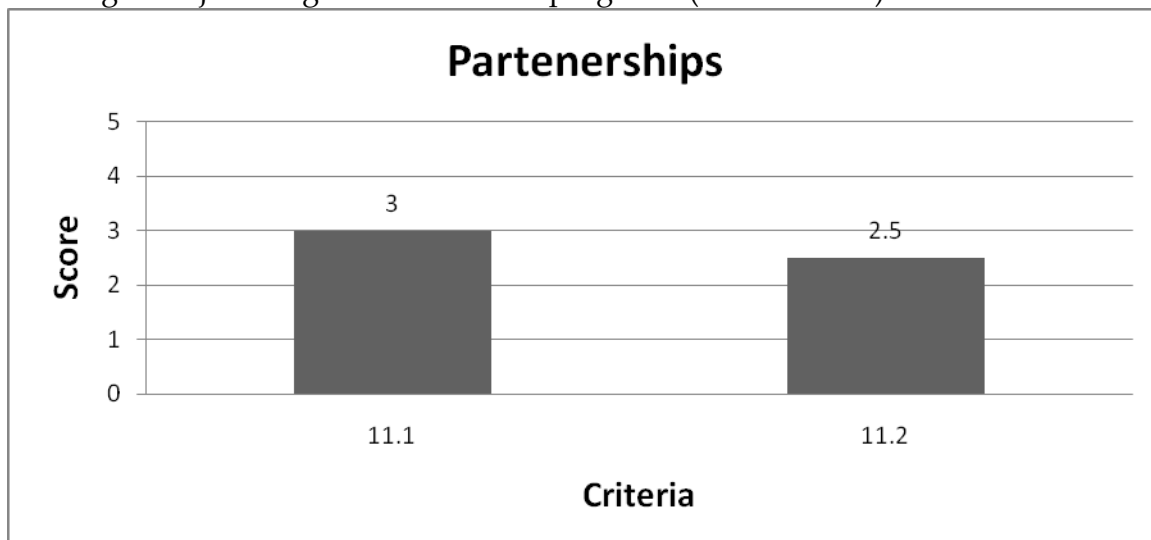


Figure 11 Partnerships score

SUMMARY

A new model has been developed for the assessment of quality of academic programs. The model integrates the self-assessment criteria of the HEC and accreditation criteria of PEC and ABET. The new model is more comprehensive and streamlined and is currently being implemented at National Textile University Faisalabad for self-assessment of various academic programs.

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