

IMPLEMENTATION OF HIGHER EDUCATION COMMISSION STANDARDS FOR M.SC ELECTRONICS PROGRAM

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Abstract

Program evaluation is a systematic process used to investigate the effectiveness of a program. The Higher Education Commission has developed the Performance Evaluation Standards for the Higher Education Institutions (HEIs). This study was directed to the evaluation of master of electronics program on the bases of these performance evaluation standards developed by Higher Education Commission and checked their practical implementations. The data were collected from Questionnaires and check list. IBM SPSS Statistics Version 20 was used for analysis of data. Analysis was done by finding the individual means of respondents. Each standard was treated separately. Findings analysis showed that student standard was between the uncertain and agreement level, faculty standard was found tending towards agreement level and resources standard was found inclining towards uncertain level. Collectively all the standards found between the interval of uncertain and agreement levels. As deficiencies were found in all the standards implementation used for evaluation purpose, therefore the program needed improvement regarding these standards.

Keywords: Performance Evaluation Standards, MSc Electronics Program, Higher Education Commission

1. INTRODUCTION

A word "Performance" is used in different context as desired. In Oxford dictionary this word is defined as "A task or operation seen in terms of how successfully it is Performed". Usually this word is used in combination with other words to make it more meaningful e.g. organizational performance, academic performance, job performance, employee performance etc.

Standards mean drawing a bottom line for performances. Performance tells what is done and standards tell how well it is being done. Hence performance standards can be defined as "A performance standard is a management-approved expression of the performance threshold(s), requirement(s), or expectation(s) that must be met to be appraised at a particular level of performance" (developing-performance-standards, 2015). Different performance standards are set to evaluate the performance of different programs.

According to the National Research Council, (2001) "standards serve as a basis of educational reform across the nation as educators and policy makers respond to the call for a clear definition of desired outcomes of schooling and a way to measure student success in terms of these outcomes". State as well as local

teachers play very important role in improving learning outcomes through development and implementation of standards throughout the country.

In a research paper Pounder, (1999) refers that “over the past two decades, institutions of higher education worldwide have come under pressure to demonstrate effective performance. Their response has been to borrow the quality concept from industry and place it at the centre of institutional performance assessment in higher education.”

Pakistan Higher Education Commission (HEC) has also developed performance evaluation standards for higher education institutions for significant initiative of performance based institutional recognition. Some of the performance standards set by HEC are Mission Statement and Goals, Planning and Evaluation, Organization and Governance, Integrity, Faculty, Students, Institutional Resources, Academic Programmes and Curricula, Public Disclosure and Transparency, Assessment and Quality Assurance and Student Support Services. Evaluation of institutions is done on the basis of these standards to check the performance. “The Higher Education Commission has taken a significant initiative of performance based institutional recognition and started up with primary step of outlining the Performance Evaluation Standards for the Higher Education Institutions (HEIs) to be used for the purpose”. (Batool, 2010)

Keeping master degree programs and performance standards in view, in order to find the level of achievement of this program on the basis of evaluation standards, this study was conducted to evaluate masters of Electronics two years program on the basis of performance evaluation standards set by the higher education commission.

1.1. Statement of the problem

Program evaluation is a systematic process used to investigate the effectiveness of a program. As Standards are used for the evaluation of educational programs, therefore, for the analysis of the performance of master degree programs; this study was directed for "Implementation of Higher Education Commission Standards for MSc Electronics Program"

1.2. Objectives of the Study

Following were the objectives of the study:

1. To evaluate the input of the master program.
2. To check the practical implementation of HEC performance standards.

1.3. Research Questions

This study was focused to explore the answers of following questions

1. What measures can be taken for the masters' programs performance evaluation.
2. Are the performance evaluation standards of HEC practically implementable?

1.4. Limitations

The main limitation of this study was that official documents review could not be included as no external evaluator was involved in this evaluation study.

1.5. Delimitations

As the research was done independently, without any involvement of official evaluators and financial aid from any agency or institution, therefore data collection was only delimited to teaching faculty and students, through questionnaires. Official documents were not reviewed in this study. Other delimitations, due to time and resources constraints were,

1. This research was delimited to the universities of Islamabad
2. Performance standards were also delimited to Students, Faculty and Resources.
3. Students were delimited to only 3rd and 4th semesters (session 2015) of universities for data collection.

1.6. Significance of the Study

This study could be significant in the following ways

1. It will provide guidance in the planning and evaluation of educational programmes.

2. It will be helpful in the organization and governance of universities
3. It will facilitate the students to select a university that meets with HEC performance standards
4. It will be helpful for HEC to check practical implementation of its performance standards
5. It will help the institutions to improve their educational performance.
6. It will be helpful in educational reforms.

1.7. Methodology

Evaluation is a process that critically examines a program. It involves collecting and analyzing information about a program's activities, characteristics, and outcomes. Its purpose is to make judgments about a program, to improve its effectiveness, and/or to inform programming decisions (Patton, 1987).

1.7.1 Research Design

Descriptive study was used to evaluate the performance of established MSc Electronics programme. Research was designed in form of surveys and observations. Two Questionnaires and Check list was prepared. Questionnaires were filled by the students and faculty and check list was filled by the researcher herself during the personal visit to the universities.

1.7.2 Population

Four universities in Islamabad offering MSc Electronics program, after fourteen years of education, 75 students of 3rd and 4th semesters (session 2015), 38 faculty members were the population of this study.

1.7.3 Sampling

All population of the study was selected as sample therefore; Whole population sampling technique was used.

1.8 Data Analysis

Analysis of data was done by the descriptive and inferential methods. For analysis IBM SPSS Statistics Verson20, software was used.

To ensure the privacy and confidentiality, the universities are abbreviated as A, B, C, D throughout the paper.

Five point Likert scale was given values as given below for data analysis

Strongly agreed= "5" Agreed = "4" Uncertain = "3" Disagree= "2" Strongly Disagree = "1"

SECTION-1

1.8.1 Student Standard

This part contains the analysis of data collected for "Student Standard" evaluation.

Table 1.8.1.1 Analysis of opinions of Faculty and Students from four universities independently about Student Standard

universities	respondents	Mean
A	faculty	3.3542
	student	3.3810
B	faculty	3.7917
	student	2.8284
C	faculty	3.8333
	student	3.4242
D	faculty	3.6944
	student	3.7500

Table 1.8.1.1 shows the mean values of the responses of Faculty and Students separately for four universities. A mean value, for faculty responses, is 3.3542 which are between the uncertain and agreed scale but more likely tends towards the uncertain. A mean value, for student responses, is 3.3810, which is between the uncertain and agreed scale but more likely tends towards the uncertain. B mean value, for faculty responses, is 3.7917, which is between the uncertain and agreed scale but more likely tends towards

the agreed scale. B mean value, for student responses, is 2.8284, which is between the uncertain and disagreed scale but more likely tends towards the uncertain. C mean value, for faculty responses, is 3.8333, which is between the uncertain and agreed scale but more likely tends towards the agree scale. C mean value, for Student responses, is 3.4242, which is between the uncertain and agreed scale but more likely tends towards the uncertain. D mean value, for faculty responses, is 3.6944, which is between the uncertain and agreed scale but more likely tends towards the agreed. D mean value, for student responses, is 3.7500, which is between the uncertain and agreed scale but more likely tends towards the agreed scale.

1.8.2 Faculty Standard

This part contains the analysis of data collected for “Faculty Standard” evaluation. This section is subdivided into three parts.

Table 1.8.2.1 Analysis of opinions of Faculty and Students from four universities independently

universities		Respondents	Mean
A	Faculty standard mean	Faculty	3.5417
		Student	3.6905
B		Faculty	3.9167
		Student	3.5392
C		Faculty	3.7500
		Student	3.4394
D		Faculty	4.0278
		Student	3.8750

Table 1.8.2.1 shows the mean values of the responses of Faculty and Students separately for four universities. A mean value, for faculty responses, is 3.5417 which is between the uncertain and agreed scale but slightly tends towards the agreed scale. A mean value, for student responses, is 3.6905, which is between the uncertain and agreed scale but tends towards the agreed level. B mean value, for faculty responses, is 3.9167, which is between the uncertain and agreed scale however tends towards the agreed scale. B mean value, for student responses, is 3.5392, which is between the uncertain and disagreed scale however tends towards the agreed level. C mean value, for faculty responses, is 3.7500, which is between the uncertain and agreed scale but more likely tends towards the agree scale. C mean value, for Student responses, is 3.4394, which is between the uncertain and agreed scale but more likely tends towards the uncertain level. D mean value, for faculty responses, is 4.0278, which is between the agreed and strongly agreed scale however tends towards the agreed. D mean value, for student responses, is 3.8750, which lie in the uncertain and agreed scale but tends towards the agreed scale.

1.8.3 Resources Standard

This part contains the analysis of data collected for “Resources Standard” evaluation.

Table 1.8.3.1. Analysis of opinions of Faculty and Students from four universities independently

universities		respondents	Mean
A	Resources standard means	faculty	3.5577
		student	3.2253
B		faculty	3.8846
		student	2.8281
C		faculty	3.3846
		student	3.0979
D		faculty	3.9744
		student	3.1923

Table 1.8.3.1 shows the mean values of the responses of Faculty and Students separately for four universities. A mean value, for faculty responses, is 3.5577 which is between the uncertain and agreed scale but slightly tends towards the agreed scale. A mean value, for student responses, is 3.2253, which is between the uncertain and agreed scale but tends towards the uncertain level. B mean value, for faculty responses, is 3.8846, which is between the uncertain and agreed scale however tends towards the agreed scale. B mean value, for student responses, is 2.8281, which is between the uncertain and disagreed scale however tends towards the uncertain level. C mean value, for faculty responses, is 3.3846, which is between the uncertain and agreed scale but more likely tends towards the uncertainty. C mean value, for Student

responses, is 3.3846, which is between the uncertain and agreed scale but more likely tends towards the uncertain level. D mean value, for faculty responses, is 3.9744, which is between the uncertain and agreed scale but more tends towards the agreed scale. D mean value, for student responses, is 3.1923, which is between the uncertain and agreed scale but more tends towards the agreed scale.

SECTION-2

In this section abbreviations for yes and no are used as

Y = Yes, N= No

Summary of Facilities in All Universities is presented in Tabular Form below:

1.8.4 Table for facilities available for Faculty Standard

Sr. no	University/statements	A	B	C	D
Faculty standard	Selection criteria exists	Y	Y	Y	Y
	Promotion criteria exists	Y	N	N	N
	Periodic-Evaluation mechanism exists	Y	Y	Y	Y

On the basis of data in table 1.8.4 it can be said that, all the four universities have selection criteria and regular evaluation mechanism. Only "A" has promotion criteria. Usually selectee is not aware of the selection criteria and promotion criteria. Faculty evaluation criteria exists however results are not shared with the teachers for performance improvement.

Table 1.8.5 facilities available for Student Standard

Sr. no	University/statements	A	B	C	D
Student standard	Admission criteria	Y	Y	Y	Y
	Policies about admission, retention and dropouts	Y	Y	Y	Y
	Program admission statement	Y	Y	Y	Y
	Credit transfer	Y	Y	Y	Y
	Fee structure	Y	Y	Y	Y
	Merit criteria	Y	Y	Y	Y
	Self-finance	Y	Y	Y	Y
	Scholarships	Y	Y	Y	Y
	Grants	Y	Y	Y	Y
	Loans	N	N	N	N
	Refund	N	N	N	N
	Assessment mechanism	Y	Y	Y	Y
	Grading mechanism	Y	Y	Y	Y

Table 1.8.5 shows the, Admission criteria, policies, program mission statement, credit transfer, fee structure, merit criteria, self-finance, assessment and grading mechanism, exists in all four universities. "C" and "A" have limited scholarships for some students. No university is providing any kind of Grants and loans facilities to needy students. No mechanism exists for refunding of fee in any university.

Table 1.8.6. Facilities listed for Resources Standard

Sr. no	University/statements	A	B	C	D
Resources Standard	Teaching staff	Y	Y	Y	Y
	Separate department building	Y	N	N	N
	Admin staff	Y	Y	Y	Y
	Course Coordinator	Y	Y	Y	Y
	Lab Assistants	Y	N	N	Y
	Physicians	Y	N	N	N
	Consultants	Y	N	N	N
	Library	Y	Y	Y	Y
	Drinking Water	Y	Y	Y	Y

	Staff rooms	Y	N	N	N
	Common room	Y	N	N	N
	Cafeteria	Y	Y	N	N
	Lecture halls	Y	Y	Y	Y
	Medical Centre	Y	N	N	N
	Computer lab	Y	Y	Y	Y
	Practical laboratory	Y	y	y	Y
	Internet facility	Y	Y	Y	Y
	Website	Y	Y	Y	Y
	Journal / Magazine	N	N	N	N

Table 1.8.6 describes that “A” provides teachers, admin staff, lab assistants, physician and consultants. B provides teachers, admin staff and course coordinator however there is no lab assistant, physician and consultant available. C also provides teachers, admin staff and course coordinator however there is no lab assistant, physician and consultant available. D provides teachers, admin staff lab assistant and course coordinator however physician and consultant are not available. A has a separate department building for electronics program. It also providing facilities of drinking water, library, staff rooms, and common room for girls, cafeteria, lecture hall and medical facilities however cafeteria food quality is poor and water filters are not replaced on time. Computer lab exists at departmental level but only few computers are functioning properly. Practical laboratories are available but they are partially equipped. Internet facility is provided to both the students and teachers. Electronics department has its own website as well but not updated since four years however university website is up to date and provides all information about faculty and enrolled students. Only selected journals and magazines are available however department is not launching its own journal. B has no separate department building for electronics program. Students are providing facilities of drinking water, cafeteria, lecture hall at university level however cafeteria food quality is poor, very expensive for students and environment is also not good. Computer lab is available with internet facility but students cannot use freely. Practical laboratories are not fully equipped. Library is also containing very limited stock of books. There is no common room for students and also any staff room for teachers. Electronics department does not have any website however university website is present with very limited information, no information available about faculty of Electronics and enrolled students. No department journal is available. C has no separate department building for electronics program. Students have facilities of drinking water, lecture hall and library with limited books at university level however cafeteria, common room, staff room and medical facilities are not present. Computer lab is available with internet facility. Practical laboratories are present with less equipment. Electronics department does not have any website however university website is present but it does not contain any information about faculty and students of electronics program. No departmental journal is available. D also has not separate department building for electronics program. Students and teachers have facilities of drinking water, lecture hall, internet and library at university level however cafeteria, common rooms, staff rooms and medical centre are not available. Computer lab and Practical laboratories are available. No separate website and departmental journal are available for Electronics program is available. Website also does not provide any information about faculty and enrolled students in MSc Electronics program.

2 FINDINGS

Findings were based on the analysis of checklist and Questionnaires. This section was further divided as findings on the basis of three Standards, indicated below.

2.1 Findings about Student Standard Based on Universities

This part is divided in four sub categories based on universities under study.

2.1.1. Student Standard and “A” University

Findings from Questionnaires

I. Separate analysis of both respondents’ responses shows that the mean lies between uncertain and agreement level. However responses inclined towards uncertain level.

Findings from Checklist

II. Admission criteria, policies, program mission statement, credit transfer, fee structure, merit criteria, self-finance, assessment and grading mechanism.

III. “A” has limited scholarships for some students

IV. University is not providing any kind of Grants and loans facilities to needy students.

V.No mechanism exists for refunding of fee in university.

2.1.2. Student Standard and “B” University

Findings from Questionnaires

I. Separate analysis of both respondents responses shows that the mean of faculty lies between uncertain and agreement level but incline toward agreement, however, B student response lie between disagree and uncertain and inclining towards uncertain.

Findings from Checklist

I.Admission criteria, policies, program mission statement, credit transfer, fee structure, merit criteria, self-finance, assessment and grading mechanism exists.

II.University is not providing any kind of Grants and loans facilities to needy students.

III.No mechanism exists for refunding of fee in university.

2.1.3. Student Standard and “C” University

Findings from Questionnaires

i.Separate analysis of both respondents' responses shows that the mean lies between uncertain and agreement level. Student's response bows towards uncertain and faculty response tends toward agreement.

Findings from Checklist

i.Admission criteria, policies, program mission statement, credit transfer, fee structure, merit criteria, self-finance, assessment and grading mechanism exist.

ii.“C” has limited scholarships for some students

iii. University is not providing any kind of Grants and loans facilities to needy students.

iv.No mechanism exists for refunding of fee.

2.1.4. Student Standard and “D” University

Findings from Questionnaires

i.Separate analysis of both respondents' responses shows that the mean lie between uncertain and agreement level. However tends towards agreement.

Findings from Checklist

i.Admission criteria, policies, program mission statement, credit transfer, fee structure, merit criteria, self-finance, assessment and grading mechanism exist.

ii.University is not providing any kind of Grants and loans facilities to needy students.

iii.No mechanism exists for refunding of fee in the university.

2.2 Findings about Faculty Standard

In this section findings about four universities are discussed, which are given below.

This part is again divided in four sub categories based on universities under study.

2.2.1. Faculty Standard and “A” University

Findings from Questionnaires

i.Separate analysis of both respondents responses shows that the mean lie between uncertain and agreement level. However responses tend towards agreement level

Findings From checklist

i.“A” selection criteria and regular evaluation mechanism.

ii. “A” has promotion criteria.

- iii. Usually selectee is not aware of the selection criteria and promotion criteria.
- iv. Faculty evaluation criteria exists however results are not shared with the teachers.

2.2.2. Faculty Standard and "B" University

Findings from Questionnaires

- i. Separate analysis of both respondents' responses shows that the mean lies between uncertain and agreement level that inclines towards agreement.

Findings From checklist

- i. Selection criteria and regular evaluation mechanism is present
- ii. No promotion criteria.
- iii. Usually selectee is not aware of the selection criteria and promotion criteria.
- iv. Faculty evaluation criteria exists however results are not shared with the teachers.

2.2.3. Faculty Standard and "C" University

Findings from Questionnaires

- i. Separate analysis of both respondents' responses shows that the mean lies between uncertain and agreement level. However faculty response tends toward agreement and students response tends slightly towards uncertain

Findings From checklist

- I. University has selection criteria and regular evaluation mechanism.
- II. No promotion criteria.
- III. Usually selectee is not aware of the selection criteria and promotion criteria.
- IV. Faculty evaluation criteria exists however results are not shared with the teachers for performance improvement

2.2.4. Faculty Standard and "D" university

Findings from Questionnaires

- i. Separate analysis of both respondents' responses shows that the mean of students lies between uncertain and agreement level, however, D faculty response lies at agreement level.

Findings from Checklist

- I. University has selection criteria and regular evaluation mechanism.
- II. No promotion criteria.
- III. Usually selectee is not aware of the selection criteria and promotion criteria.
- IV. Faculty evaluation criteria exists, however, results are not shared with the teachers for performance improvement

2.3 FINDINGS ABOUT RESOURCES STANDARD

This part is again divided in four sub categories based on universities under study. In this section findings about four universities are discussed, which are given below

2.3.1. Resources Standard and "A" University

Findings from Questionnaires

Separate analysis of both respondents' responses shows that the mean lies between uncertain and agreement level with students' response tends toward uncertain faculty response slightly tends towards agreement

Findings From checklist

Human Resources

“A” provides qualified teachers, admin staff, lab assistants, physician and consultants.

Physical Resources

A has a separate departmental building for electronics program. It is also providing facilities of drinking water, library, staff rooms, and common room for girls, cafeteria, lecture hall and medical facilities. However cafeteria food quality is poor and water filters are not replaced on time. Computer lab exists at departmental level but only a few computers are functioning properly. Laboratories for performing practical are available but they are partially equipped. Internet facility is provided to both the students and teachers. Electronics department has its own website as well but not updated since four years however university website is up to date and provides all information about faculty and enrolled students. Only selected journals and magazines are available however department is not launching its own journal.

2.3.2. Resources Standard and “B” university

Findings from Questionnaires

I. Separate analysis of both respondents’ responses shows that the mean of faculty response lies between uncertain and agreement that inclines towards agreement level however B, student response lies between disagree and uncertain that tends towards uncertain.

Findings from Checklist

Human Resources

II. B provides teachers, admin staff and course coordinator however there is no provision of lab assistant, physician and consultant.

Physical Resources

III. B has no separate department building for electronics program. Students are provided facilities of drinking water, cafeteria, and lecture hall at university level. However cafeteria food quality is poor, very expensive for students and environment is also not good. Computer lab is available with internet facility but students cannot use freely. Practical laboratories are not fully equipped. Library is also containing very limited stock of books. There is no common room for students and staff room for teachers. Electronics department does not have any website however; university website is present with very limited information, no information available about faculty of Electronics and enrolled students. No department journal is available.

2.3.3. Resources Standard and “C” University

1. Findings from Questionnaires

Separate analysis of both respondents’ responses shows that the mean lies between uncertain and agreement level that tend towards uncertain.

2. Findings From checklist

Human Resources

C also provides teachers, admin staff and course coordinator but there is no lab assistant, physician and consultant available.

Physical Resources

C has no separate departmental building for electronics program. Students have facilities of drinking water, lecture hall and library with limited books at university level however cafeteria, common room, staff room and medical facilities are not present. Computer lab is available with internet facility. Practical laboratories are present with less equipment. Electronics department does not have any website however university website is present but it does not contain any information about faculty and students of electronics program. No departmental journal is available.

2.3.4. Resources Standard and “D” University

Findings from Questionnaires

Separate analysis of both respondents’ responses shows that the mean lie between uncertain and agreement level. Where faculty response tends towards agreement and students response tends toward uncertain

Findings from Checklist

Human Resources

“D” provides teachers, admin staff lab assistant and course coordinator however physician and consultant are not available.

Physical Resources

D also has no separate departmental building for electronics program. Students and teachers have facilities of drinking water, lecture hall, internet and library at university level however, cafeteria, common rooms, staff rooms and medical centre are not available. Computer lab and practical laboratories are available. No separate website and departmental journal are available for Electronics program. Website also does not provide any information about faculty and enrolled students in MSc Electronics program.

3 CONCLUSION

This study was conducted to check the implementation of the higher education standards for MSc Electronics Program. Three main Standards selected for this purpose were Student Standard, Faculty Standard and Resources Standard.

Program evaluation based on “Student Standard” showed that this standard needed improvement as in three universities students’ responses inclined towards uncertain level and in one university it was tending towards agreement level. In three universities faculty responses were found tending towards agreement level and in one university it was inclined towards uncertain. Admission criteria, policies, program mission statement, credit transfer, fee structure, merit criteria, self-finance, assessment and grading mechanism exists in all four universities. “C” and “A” have limited scholarships for some students. No university is providing any kind of Grants and loans facilities to needy students. No mechanism exists for refunding of fee in any university.

Program evaluation based on “Faculty Standard” showed that this standard is in better condition as compare to Student and Resources Standards, as most responses were found tending towards agreement level and in one university faculty response was found at agreement level. All the four universities have selection criteria and regular evaluation mechanism but only one has promotion criteria. Usually selectee is not aware of the selection criteria and promotion criteria. Faculty evaluation criteria exists however results are not shared with the teachers for performance improvement.

Program evaluation based on “Resources Standard” showed that this standard needed great improvement as mostly responses tend towards uncertain level in this program for all universities under consideration. Deficiencies were found in human resources as well as physical resources. Lack of maintenance was also found regarding physical resources.

Overall this program needed improvement in all universities under study as deficiencies was found in all the standards implementations used for evaluation.

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