QEC

NEWSLETTER

Capital University
of Science and Technology
Islamabad

Outcome Based Education "Implementation Model at CUST"
Seminar on "Outcome Based Education System"
Visit of NCEAC for the Accreditation of BS Computer Science Program
Visit of NCEAC for the Accreditation of BS Software Engineering Program
Alumni Survey Fall 2018

Table of Contents

Outcome Based Education "Implementation Model at CUST"

Outcome-based education (OBE) is a path-breaking trend in higher education that has focus on student's demonstration of learning at the end of the course and ultimately in a program. It accelerates innovation and illuminates the essence of competency education. It transforms learning experience by convergence of various educational inputs and processes including teaching, learning, skills, competencies, course content, and instruction that is made available to students. The quality of education in institutions is rigorously tested to determine whether they are robust and effective.

The implementation of OBE is increasing at institutes all over the world. Every institution has a unique OBE framework to develop desirable traits to make students competent and start a better professional career after graduation. In our previous newsletter, the process of Outcome based education system has been demonstrated. In this version, the process of implementation and improvement cycle is discussed.

The improvement in the quality of education is implemented through Continuous Quality Improvement (CQI) Cycle in three levels as defined by OBE.
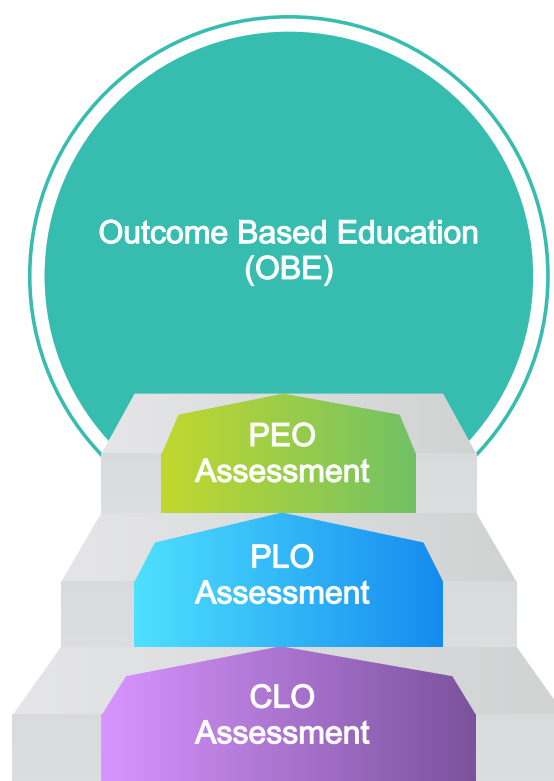
1. Program Education Outcomes (PEO) Level
2. Program Learning Outcomes (PLO) Level
3. Course Learning Outcomes (CLO) Level

The assessment of each level is done in a specific defined period. For example, the assessment of PEOs is done in the summer break. The assessment is done through Alumni and Employer Survey that has been conducted by QEC. QEC analyzes the Employer and Alumni Survey Reports against the defined KPIs and send the evaluations to the department. The concerned department discuss the evaluations in the departmental committee meeting followed by the Board of Studies and Board of Faculty. Finally, it is discussed in the Academic Council Meeting to finalize any appropriate measures. Afterwards, QEC monitors the implementation plan of remedial measures.

The assessment of PLOs is also made in the summer break. The assessment of PLOs is made in two ways; directly and indirectly. The direct assessment is done through final year project and Course Learning Outcomes (CLOs) of the respective courses mapped with the PLOs. Indirect assessment is done through Internship feedback and Exit Survey that is conducted at by the end of degree program. All the analysis is evaluated by the QEC against defined KPIs. The evaluations are sent back to the department. These evaluations are further discussed in the departmental meeting followed by the Board of Studies and Board of Faculty. The summary of recommendations of Board of Faculty is further sent to the Academic Council to discuss and take appropriate measures.

The assessment of Course Level CQI is made once in a semester. The assessment is done through Course Review Report (CRR) that is provided by the instructor at the end of the course. Its evaluation is done against the defined KPIs. Also, the student course evaluation is done through the CMS by the head of the department. The entire summary is forwarded to the QEC. In case of any deficiency in course delivery, teachers counseling or training is arranged. In case of deficiency in course contents, the department curriculum committee and Board of Studies review the complete course contents and take appropriate measures. QEC further monitors the implementation of the remedial measures.

Seminar on "Outcome Based Education System"

Quality Enhancement Cell (QEC) provides support and trainings to the departments so that quality assurance procedures can be successfully implemented in the programs. In this regard, QEC at CUST organized a seminar on "Outcome Based Education (OBE) System" on Wednesday, 30th November 2018 for the faculty members of the Department of Pharmacy. This seminar will help the faculty of newly established department to implement the quality related procedures in their department.

22nd QAC Meeting

22nd QAC meeting was held on Monday, October 22, 2018. Dean QEC welcomed a new member, Dr. Nadia Shamshad Malik, as a representative of newly established Department of Pharmacy. The status and further plan on SAR for MS programs was discussed by the QAC members. QEC Calendar of Activities was also shared with all the QAC members and it was decided that in future, all the activities of QEC will be decided and finalized by the QAC members. Also, in the meeting, the review on Exit Survey – Spring 2018 and Course Feedback Reports - Spring 2018 was discussed.

23rd QAC Meeting

23rd QAC meeting was held on Friday, December 28, 2018. Dean QEC briefed the committee that the QEC Newsletter for Spring - 2018 has been published. The newsletter is distributed to all the departments at CUST and also shared with more than 130 HEIs of Pakistan. QAC members of non-engineering departments explained the status of SAR of their respective MS programs. The department of Computer Science has suggested some modifications which were incorporated in the Exit Survey Form with the consent of all QAC members. Dean QEC explained the committee that the Research Student Feedback Review Form had been finalized and Graduate Office will conduct the survey at the time of submission of final copy of thesis, as discussed with the Director of Graduate Office.

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Visit of NCEAC for the Accreditation of BS Computer Science Program

NCEAC team visited CUST for the accreditation of BS Computer Science Program on Monday, December 24, 2018. NCEAC visitation team was comprised of Dr. Suleman Mazhar (ITU, Lahore), as a convener and Dr. Syed Muhammad Ahsan (Qarshi University, Lahore).

The visitation team was given the briefing by the Head of Department of Computer Science, Dr. Nayyer Masood. The team then visited the classrooms, labs, library followed by one to one meeting with the faculty members. The course folders were also audited as a part of the visit. Finally, the visit was concluded an exit meeting with HoD CS, Dean FoC and Vice Chancellor of CUST.

NAVEERA FAZLUR RAHMAN (BCS151005)   WHAT STUDENTS AT CUST SAY?

I moved from Jeddah, Saudi Arabia to Pakistan a few years ago to pursue Bachelors in Computer Science. I was fortunate enough to be accepted into the venerated institution of CUST. What started as a timid situation for someone who was born and raised overseas, it evolved into the start of a new and exciting beginning, one that led to a profound journey of learning, growing and evolving. And here I am, after four years, a learned person ready to face the world. My time at CUST was nothing short of wonderful, and none of this was possible without the aid and support of the esteemed faculty at CUST. The ideal combination of my willingness to learn and the faculty's eagerness to teach has shaped me into a befitting software engineer. This university continuously encouraged me to participate in extracurricular activities which has heightened my confidence and helped me grow as an individual. These activities included of conducting interviews for the biannual newsletter, organizing seminars and activities and representing the university in competitions held by other highly esteemed universities. I am highly indebted to Capital University of Science and Technology for making me the person I am today.

Visit of NCEAC for the Accreditation of BS Software Engineering Program

Capital University of Science and Technology Islamabad launched BS Software Engineering program in 2015. On May 25, 2018 an application for accreditation (prepared by Dr. Muhammad Aleem), for the interim visit, was submitted to National Computing Education Accreditation Council (NCEAC). On the basis of desk audit report, NCEAC conducted an interim accreditation visit on Friday, October 19, 2018. Dr. Abdul Jalil from International Islamic University Islamabad was the convener of the evaluation committee. On the day of visit, the accreditation team was received by the Dean Faculty of Computing, Dr. Abdul Qadir and Head of Software Engineering Program. The team was given a briefing about Software Engineering Program by the head. The team then visited the classrooms, labs, library followed by one to one meeting with the faculty members. The course folders were also audited as a part of the visit. Finally, the visit was concluded on exit meeting with Head Software Engineering Program and Dean Faculty of Computing.

SANIA MALIK (MBAR153009) — WHAT STUDENTS AT CUST SAY?

I am a student of MBA regular program at Department of Management and Social Sciences. I have studied from Punjab Group of Colleges and therefore CUST was the first choice for me for higher studies. The university culture, I believe is the strength of CUST. I have found very disciplined and well-organized operations that are its good aspect and this disciplined environment makes the learning environment very conducive for us. The university provided me platforms to learn, apply knowledge and to gain life-long skills. Being an MBA student, we have good knowledge, along with great opportunity to apply that knowledge in real time. The department keeps a balance between learning and practical implementation through balanced curriculum. Along with studies university encourages extracurricular activities to ensure that students can learn to maintain a balance between studies and physical and mental health. Events such as marketing gala and business research conferences have given me an opportunity to apply my knowledge and skills in real time which has actually given me confidence. My academic projects have opened my ways to gain hand on experience and exposure to well-established organizations like Edhi Foundation and Telenor.

Alumni Survey Fall 2018

The implementation of Outcome Based Education (OBE) system in higher education institutions has realized to design programs that are relevant and appropriate to market needs. In this regard, Alumni Survey is one of the most important factors to get the real insight of the market trends. Through the alumni survey various parameters of the graduates are analyzed, outcomes of alumni in terms of job satisfaction, the competencies acquired at the institute like critical thinking, interpersonal skills etc. This analysis is very helpful for the internal and external demands for assessment, accountability, and market driven research in higher education. Further, the outcomes approach to alumni assessment rests on the assumption that institutional quality and effectiveness can be appraised on what alumni have accomplished in the years following degree completion. Job satisfaction, income, occupational attainment, engagement in civic and political activities, and tolerance for diversity are the primary domains of this approach. This approach also examines collegiate experiences and does so by including assessment of alum's general satisfaction of the institution, the quality of the instruction received, the extent to which the college prepared them for the job, and whether or not they would enroll again.

Quality Enhancement Cell (QEC), in coordination with Corporate Linkage Office, at Capital University of Science and Technology has conducted the Alumni Survey. This Survey is conducted to get the feedback of

alumni of CUST, about their current job performance, satisfaction about their academic program at CUST and its relevancy to the job. The feedback is important and fruitful for the improvement of the academic program and to align the future strategy of the department accordingly. 78 alumni of BS Computer Science Program, 48 alumni of BS Electrical Engineering Program, 10 alumni of BS Civil Engineering Program, 64 alumni of BS Mechanical Engineering Program, 73 alumni of Bachelors of Business Administration Program and 88 alumni of Master of Business Administration Program participated participated in this survey.

SANIA FAROOQ (BBA151037) — WHAT STUDENTS AT CUST SAY?

I am a student of Department of Management and Social Sciences, CUST. There are number of aspects of this university on which I can share my point of view but I would like to share the most important among all. Here I got a lot of opportunities to learn and apply my skills. I got the opportunity to be a part of a team who has organized National Level Business Plan Competition 2018. I was also a member of a team who organized World NGO day held in the university. I have also participated in International Job Expo and Student Expo held at Pak-China Center. The type of activities has given me a lot of exposure and sharpened my skills which ultimately motivated me to launch my own brand of dresses with name "Style Addict". I have also actively participated in the various activities for the marketing of BS-Psychology program marketing in different colleges which was launched by Department of Management and Social Sciences. If I talk about my learning experience, that is very good. In fact the teachers here are highly qualified and they are always ready to cooperate in a friendly manner and provide guidance whenever required. It was actually a great opportunity for me to be a part of CUST environment and I would recommend others also to experience the CUST environment for personality grooming and to be an active learner.

Interview of

Dr. Rashid Ali

Associate Professor, Mathematics, QAC Member from the Department of Mathematics

Tell us about your qualification and academic profile.

Dr. Rashid: In 1991, I joined Quaid-i-Azam University (QAU), Islamabad, for the degree of Master of Science in Mathematics. Later, I completed my M. Phil in Mathematics with distinction from the same university in 1994. During this study, I got an opportunity to work under the supervision of Professor Dr. Ismat Beg and defended the research-thesis on "The Study of Probabilistic Spaces". Due to my interest in computing, I continued my studies and obtained the Post Graduate Diploma from the Department of Computer Science of QAU in 1996.
I started my teaching career in 1996 by joining International School of Management Science as a lecturer in Mathematics and then joined Mohammad Ali Jinnah University as a Lecturer to teach variety of undergraduate mathematics courses to students in the Department of Computer Sciences, Management Sciences and the Department of Electronics Engineering.

In 2006, I won HEC (Higher Education Commission of Pakistan) Overseas Scholarship for PhD studies in Germany. From 2007 to 2011, I completed my PhD studies in the field of Algebraic Cryptography from The Faculty of Informatics and Mathematics, University of Passau, Germany. During this period, I participated in many conferences and workshops in different cities of Germany and countries like Austria, Spain and Italy. At this point, I would also like to acknowledge HEC for its contribution in promoting Higher Education in Pakistan by providing scholarships to the Pakistani scholars for their PhD studies in different developed countries of the world.

At present, I am working as an Associate Professor in the Department of Mathematics, Capital University of Science and Technology, Islamabad. My area of expertise includes algebraic cryptography, cryptanalysis and fixed point theory. I have published many articles in W and X category international journals. Moreover, 28 M Phil and 2 PhD students have successfully defended their theses under my research supervision. Currently I am supervising 5 PhD and 7 M Phil students.

What is your opinion about the quality standards in academic institutions of Pakistan?

Dr. Rashid: The academic institutions play a crucial role in the

development of a country and hence of a prosperous society. Therefore, in my opinion, to establish the quality standards in education should be the top priority of the academic institutions of Pakistan. Quality Assurance Agency of HEC is playing a remarkable role to improve the overall enhancement of quality in higher education. On the other hand, performance of the universities heavily depends on both the school and college education. I believe that there is a great need to focus on the
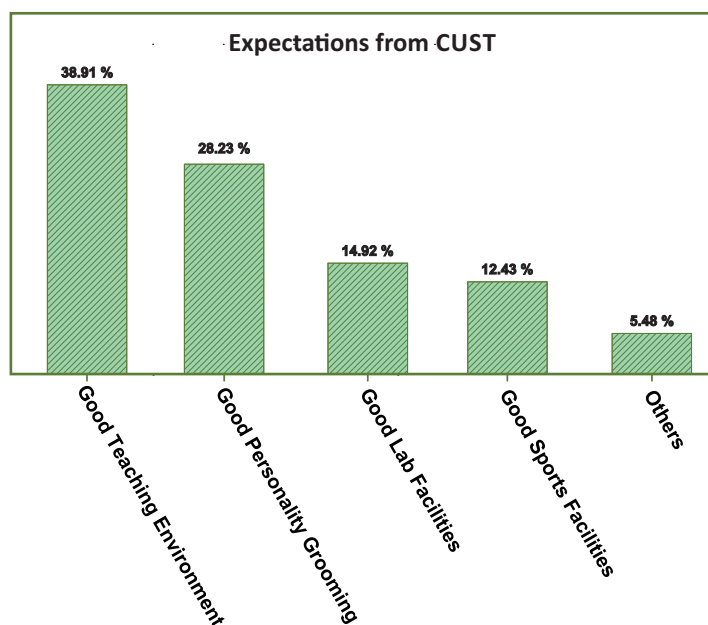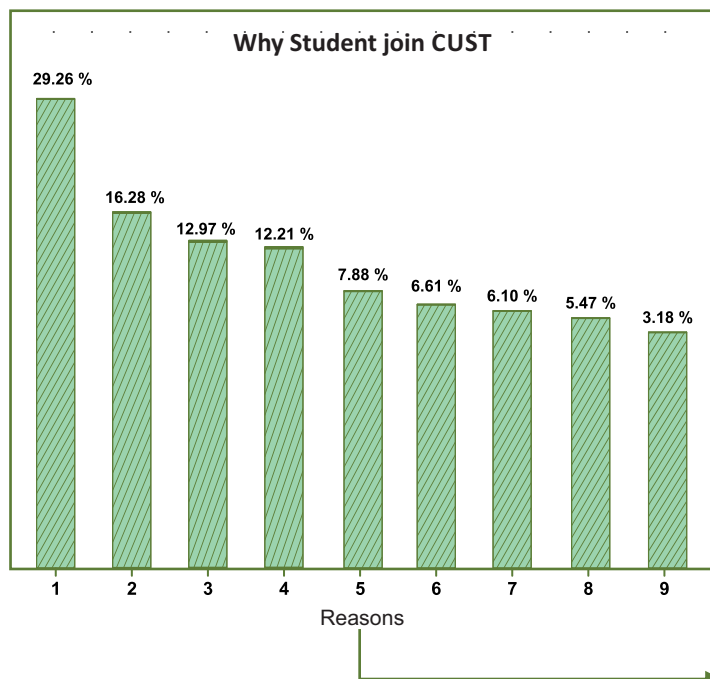
quality standards in primary as well as secondary education in the country. Meeting quality standards, particularly in secondary education, will automatically improve the quality of higher education in the entire country. It is worth mentioning that Capital University of Science and Technology not only established quality standards for local bodies like HEC or PEC but also for the international quality standard associations like Washington Accord, USA.

What are the current quality-related activities in your Department of Mathematics?

Dr. Rashid: The primary objective of our department is to support all the departments of the university by providing qualified and experienced instructors for mathematics and humanities courses. My colleagues are fully aware of the philosophy of the Outcome Based Education (OBE). All courses are designed to meet CLOs and their mapping with appropriate PLOs and hence with PEOs. I am also a member of Quality Enhancement Cell (QEC) of CUST to represent the Department of Mathematics and participate in periodic QAC meetings for effective execution of quality standards in the department provided by HEC, Pakistan. Starting Spring 2019 semester, the department will also be applying OBE philosophy to its graduate curriculum for the academic degree of M. Phil in Mathematics

Freshman Survey for Fall-2018

Freshman Survey was conducted for the new intake of Faculty of Engineering, Faculty of Computer Science and Faculty of Management Sciences. Questionnaire's covering the various aspects of the university was asked to know about their backgrounds and expectations that they have from CUST. A total of 303 students from all the faculties participated in the survey.

Expectations from CUST

Category	Percentage
Good Teaching Environment	38.91 %
Good Personality Grooming	28.23 %
Good Lab Facilities	14.92 %
Good Sports Facilities	12.43 %
Others	5.48 %

Why Student join CUST

Reason	Percentage
1	29.26 %
2	16.28 %
3	12.97 %
4	12.21 %
5	7.88 %
6	6.61 %
7	6.10 %
8	5.47 %
9	3.18 %

Reasons

Reasons

1. Living at Islamabad/ Rawalpindi was Important
2. My parents advised
3. Good Quality of education
4. I personally wanted to be admitted here
5. It is easy to reach here
6. Friend Suggested
7. Discipline and ethical environment is good here
8. Some of my friends/siblings are studying here
9. Other reason

Exit Survey for Fall-2018

Exit Survey was conducted for the graduating batch of Department of Computer Science, Department of Biosciences and Department of Management and Social Sciences. A total of 397 students participated in the survey.

Feedback About Teaching Faculty

Category	Percentage
Highly Dissatisfied	6.52 %
Dissatisfied	5.79 %
Uncertain	16.66 %
Satisfied	43.47 %
Highly Satisfied	27.53 %

Feedback About Lab Facilities

Category	Percentage
Highly Dissatisfied	12.31 %
Dissatisfied	15.21 %
Uncertain	19.56 %
Satisfied	31.88 %
Highly Satisfied	21.01 %

Feedback About Personal Grooming and Learning Environment

Category	Percentage
Highly Dissatisfied	6.52 %
Dissatisfied	7.97 %
Uncertain	28.98 %
Satisfied	39.85 %
Highly Satisfied	16.66 %