



Project Evaluation Measures for Quality Assurance in India

Ram CHANDRA, V. P. RUPAM & Pooja THAKUR
Indira Gandhi National Open University, India

ramchandrasrd@gmail.com , vprupam@ignou.ac.in , thakurpooja20@gmail.com

ABSTRACT :

IGNOU offers more than 300 programmes including Certificate, Advanced Certificate, Diploma, Advanced Diploma, Degree, Master and Ph.D. programmes. Majority of these programmes are offered through a network of Regional Centres and Study Centres. Quality education has always been on the priority of IGNOU. In the professional programmes like Computer Programmes, Health Programmes, Educational Programme, Science Programmes, it has become more important. In Computer Programmes (BCA and MCA), in addition to practical components, there is a project work (CS-76 for BCA and CS-17 for MCA). A large number of these projects are submitted at Regional Centres across the country. The quality issues like copying the project, making fake guides, hiring proxy writers and purchasing the projects from the market etc. are some of the issues which need adequate attention of all concerned. The students submit their projects proposals at the respective Regional Centres. The project proposals are approved or disapproved by the approved evaluators. The students write the full projects and submit at the Regional Centre. Thereafter, the students are asked to report for the viva-voce at the Regional Centre. The approved evaluators evaluate the project and conduct the viva voce. We have analyzed large numbers of projects proposals (Synopsis) and final projects, the reasons for the rejections of the project proposals, similarity of the projects guided by the same evaluator, the comments given by the evaluators since 2007 covering about 3000 projects that were submitted at Regional Centre Delhi-I. We have observed that there are large number of projects which are of similar contents and title, variations in evaluation and comments vis-à-vis marks awarded by the evaluators. We have recommended some corrective measures to improve upon these issues for overall improvement in the quality of projects.

Keywords: Project Work in Distance Education, Evaluation, Quality Concerns, BCA, MCA, Evaluators

1. INTRODUCTION

The quality education in all possible modes is of utmost important. It has been addressed by several authors (Powar et.al, 2000, Chandra, R. and Singh, S. 2004, Kumar, A. and Dixit, J. 2006, Panda, S.

1999. IGNOU is the only Open University at the national level in India and is mandated to carry out two functions; (1) to design, develop and offer programmes through open and distance education at the national and international level and (2) to coordinate and maintain standards as an

apex body of the open and distance education systems in the country (Panda 1996). The quality concerns of the University are quite explicit in its outlined functions.

IGNOU has more than 300 programmes which are offered through a network of Regional Centres and Study Centres. IGNOU has given adequate importance to quality issues in delivering these programmes. Maintaining quality of education through the distance mode is always a challenge owing to the openness and flexibility of the system and having practical components.

MCA and BCA are two important professional programmes offered by the University which were launched in 1994 and 1996 respectively (Kumar and Dixit, 2006). The lab components are essential, apart from the theoretical sessions. The application skills of the students are tested through the project course (CS-17 for MCA and CS-76 for BCA) in the terminating semester of the programme duration. The project course is undertaken by the students at any industry /company after a brief orientation at the respective study centres/programme study centres.

The main objective of the BCA/MCA project work is to give the students an opportunity to develop quality software solution. The student should involve in all the stages of software development life cycle (SDLC) like requirements analysis, system design, software development/coding, testing and documentation, with an overall emphasis on the development of the reliable software systems. The primary emphasis of the project work is to understand and gain the knowledge of the principles of software engineering practices and develop good understanding of SDLC.

The topics selected should be complex and large enough to justify as a BCA/MCA project. The project should be genuine and original in nature and should not be copied from anywhere else.

We have tried to analyse the BCAMCA projects submitted and evaluated at RC Delhi-I by keeping all these factors in mind. The main emphasis is, however, is for BCA projects.

Ram Chandra and Moni Sahay (2008) have earlier analyzed the data corresponding to RC Patna for MCA projects only from the following two aspects:

1. Categorization on the basis of marks allotted and subsequent variations therein, across evaluators.
2. Categorization on the basis of comments given and subsequent testing of variation of comments vis-à-vis the marks given by each evaluator.

We have conducted the similar study on a larger scale for the Regional Centre Delhi-I. At present, NCR has four Regional Centres, Delhi-I, Delhi-II, Delhi-III and Noida. The Regional Centre Delhi-III was established in 2009 after bifurcating Regional Centre Delhi-I. However, this study pertains to the BCA projects corresponding to undivided Regional Centre Delhi-I.

The Regional Centre Delhi-I has recorded almost highest enrolment during last few years. The trend of total enrolment during past few years is presented in Table 1 along with enrolment in BCA programme and in Table 2 for MCA. It is under this background that quality issues in computer programmes especially in BCA programme become more important.

Table 1: Enrolment Trend in BCA during 2003-2009

Year	Total Fresh Enrolment	Enrolment in BCA	% enrolment in BCA programme with respect to total fresh enrolment
2003	20790	2273	10.93

2004	17083	1157	6.77
2005	17174	1545	9.00
2006	17102	2169	12.68
2007	19393	2349	12.11
2008	19232	2256	11.73
2009	22361	1935	8.65

Table 2: Enrolment Trend in MCA during 2003-2009

Year	Total Fresh Enrolment	Enrolment in MCA	% enrolment in MCA programme with respect to total fresh enrolment
2003	20790	1051	5.05
2004	17083	567	3.32
2005	17174	455	2.65
2006	17102	504	2.95
2007	19393	934	4.82
2008	19232	435	2.26
2009	22361	591	2.64

BCA/MCA PROJECTS

A large number of projects are submitted at the Regional Centre. Evaluation of projects is a huge task in the post submission phase as large numbers of projects are received at every Regional Centre and tremendous efforts are made to get the projects evaluated and subsequent conduct of the viva voce. It is here that quality issues become a point of concern. The author has earlier studied in detail, the quality issues with respect to BCA programme (Chandra and Singh 2004) and MCA projects (2008).

This paper focuses on the following issues for BCA/MCA projects:

- (1) Similarity of the projects
- (2) Copying of the projects
- (3) Contents of the projects
- (4) Large variations among the evaluators for awarding marks of projects

We have suggested some measures to overcome some of the above mentioned issues.

EVALUATION OF PROJECTS

In IGNOU, BCA/MCA projects guidelines indicate that the projects should be evaluated and commented on various aspects such as analysis, design, testing, coding and security. A brief discussion of these items is given below:

Analysis: A specification regarding the concerned system on which the project is based is to be given here. It is basically a requirement gathering process, specifying on the software to understand the nature of the programme to be built.

Design: The programme structure of the project is to be given and explained through flowcharts and pseudo codes / algorithms.

Coding: It performs the task of translating design into a machine readable form.

Security: It covers the aspects of risk, exposure and costs and specifies measures such as passwords and encryption to safeguard the software.

Testing: The test method and the test levels are introduced here along with the future scope of modifiability, portability and the reusability.

Report organization: It relates to the overall systematization and presentation of the project.

However, the evaluators usually don't give their comments on all these aspects. Some evaluators even don't give any comments or some ornamental type of comments like ok, good, average etc.

assigned certain number of project proposals for approval and then to evaluate the project, conducts viva voce and award marks.

The comment sheets of evaluation for more than 1000 BCA projects have been analyzed, which were evaluated by 40 evaluators. The details are given in Table 3. A total of 1718 projects have been evaluated by 40 evaluators in 5 sessions. The similar details for MCA are given in Table 4. Here 1121 projects have been evaluated by 33 evaluators in 4 sessions.

DATA ANALYSIS FOR PROJECT EVALUATION: BCA AND MCA

The Regional Centre gets BCA projects evaluated by inviting approved evaluators. Each individual evaluator is

CYCLES OF PROJECTS PROPOSAL SUBMISSION AND APPROVAL

In IGNOU, there are two cycles for the submission of (1) project proposals (Synopsis), (2) final project and (3) finally project evaluation. This is shown below:

	Project proposal submission	Project Submission	Project Evaluation
Cycle 1 →	April-June	July-September	January-March
Cycle 2 →	October-December	January-March	July-September

The project proposals (synopsis) submitted in the cycle 1 (April-June) session is evaluated and the students are informed about their approved/ not approved status. The students prepare the final projects and submit in July-September session. These are then evaluated in January.-March session. Similarly the project proposals (synopsis) submitted in the cycle 2 (October-December) are finally submitted in January-March and then evaluated in July-September session.

The project proposals submitted, approved and rejected during the years 2007, 2008 and 2009 are given in Tables 5-8 for BCA. These tables also give the data of projects submitted, finally evaluated and viva conducted along with failed and pass status. The similar data for

MCA are given in Tables 9-12.

The projects submitted and approved for BCA are given in Fig. 1 and for MCA in Fig. 2. The project proposals submitted, approved, projects submitted, viva conducted and pass status is shown in Figs, 3 to 6. The results for MCA are given in Figs. 7-10.

The status of unsuccessful candidates vis a vis project proposal submitted is shown in Fig. 11. The similar results for MCA are given in Fig. 12. The category of projects under the heading canceled includes the projects submitted without approval, like twice in a session etc.

Table 3: Evaluators and Project Evaluation for BCA

S. NO.	Evaluator Code	July-Sep 2007	Jan-March 2008	July-Sep 2008	Jan-March 2009	July-Sep 2009	Total Projects	%
1	M0701	14	12	13	25	22	86	5.1
2	M0702	13	11	14	18	17	73	4.25
3	M0703	11	11	23	16	19	80	4.07
4	M0704	0	9	12	19	18	58	3.04
5	M0705	0	11	14	19	0	44	2.57
6	M0706	0	0	16	20	0	36	2.1
7	M0707	0	0	13	20	17	50	2.10
8	M0708	0	0	14	17	0	31	1.09
9	M0713	0	0	11	20	18	49	2.09
10	B0714	15	0	0	0	0	15	0.87
11	M0715	0	0	13	19	9	41	2.38
12	M0716	0	0	12	20	18	50	2.09
13	M0717	3	15	12	18	18	66	3.09
14	B0718	18	15	23	19	17	92	5.04
15	M0719	0	0	0	0	0	0	0.00
16	M0720	0	0	0	0	20	20	1.17
17	M0721	0	0	10	20	9	39	2.27
18	M0722	0	11	11	20	0	42	2.45
19	B0723	14	14	24	16	0	68	3.10
20	M0724	10	11	11	17	10	59	3.44
21	M0725	0	10	13	18	17	58	3.37
22	M0726	0	0	13	19	7	39	2.27
23	B0727	18	15	21	17	20	91	5.30
24	B0728	18	0	0	0	0	18	1.04
25	B0729	15	15	24	16	17	87	5.06
26	B0730	14	0	0	0	0	14	0.81
27	M0732	10	13	12	17	20	72	4.20
28	M0733	0	0	0	18	18	36	2.10
29	M0734	0	0	9	0	0	9	0.52
30	B0736	0	0	23	20	19	62	3.6
31	M0737	0	10	11	0	0	21	1.23

32	M0738	11	11	12	12	18	64	3.78
33	B0739	14	12	0	0	0	26	1.52
34	M0740	11	11	32	1	19	74	4.30
35	M0741	0	0	13	20	15	48	2.80
36	M0742	0	0	13	17	18	48	2.80
37	B0743	0	0	23	14	20	57	3.32
38	M0744	0	0	0	17	17	34	1.00
39	M0745	0	0	0	19	9	28	1.63
40	M0746	0	0	0	20	16	36	2.01
TOTAL		226	231	481	585	462	1718	100.00

Table 4: Evaluators and Project Evaluation for MCA

S. NO.	Evaluator Code	July-Sep 2007	Jan-March 2008	July-Sep 2008	Jan-March 2009	Total	%
1	M0701	13	13	10	9	45	4.01
2	M0702	18	14	12	15	59	5.26
3	M0703	17	12	7	0	36	3.21
4	M0704	14	12	10	12	48	4.28
5	M0705	12	14	10	8	44	3.93
6	M0706	14	14	11	13	52	4.64
7	M0707	14	12	11	9	46	4.10
8	M0708	12	13	9	8	42	3.75
9	M0709	14	0	0	0	14	1.25
10	M0710	14	0	0	0	14	1.25
11	M0711	14	0	0	0	14	1.25
12	M0713	12	13	10	10	45	4.01
13	M0715	15	10	9	8	42	3.75
14	M0716	2	13	11	10	36	3.21
15	M0717	0	14	8	9	31	2.77
16	M0720	1	11	11	7	30	2.68
17	M0721	0	15	16	9	40	3.57
18	M0722	15	13	9	7	44	3.93
19	M0724	13	14	10	8	45	4.01
20	M0725	13	13	11	13	50	4.46
21	M0726	0	10	10	10	30	2.68
22	M0732	12	12	10	19	53	4.73
23	M0733	13	0	0	11	24	2.14
24	M0734	13	12	9	0	34	3.03
25	B0736	12	0	0	0	12	1.07
26	M0737	13	14	11	0	38	3.39
27	M0738	11	15	12	8	46	4.10
28	M0740	13	13	9	4	39	3.48
29	M0741	0	0	10	8	18	1.61

30	M0742	0	0	11	9	20	1.78
31	M0744	0	0	0	9	9	0.80
32	M0745	0	0	0	12	12	1.07
33	M0746	0	0	0	9	9	0.80
Total		314	296	257	254	1121	100.00

Table 5: BCA (CS-11/76) Project Proposal Submitted and Accepted

S. no	Status of Synopsis	April –June 2007	October – December 2007	April – June 2008
1.	Submitted	427	364	683
2.	Approved	282	253	571
3.	Not approved	143	110	110
4.	Cancelled	02	00	02
Total		427	364	683

Table 6: BCA (CS-11/76) Project Submitted and Viva Conducted

S. No	Status	July – September 2007	January – March 2008	July – September 2008
1.	Submitted	238	238	512
2.	Viva attended	226	231	481
3.	Viva not attended	12	06	29
4.	Failed	79	46	69
5.	Passed	147	185	412
6.	Cancelled	00	01	02
Total		238	238	512

Table 7: BCA (CS-11/76) Project Proposal Submitted and Accepted

S. no	Status	October –December 2008	April- June 2009
1.	Submitted	743	619
2.	Approved	667	572
3.	Not approved	76	47
Total		743	619

Table 8: BCA (CS-11/76) Project Submitted and Viva Conducted

S. No	Status	January – March 2009	July- September 2009
1.	Submitted	637	513
2.	Viva attended	585	00
3.	Viva not attended	50	00
4.	Failed	123	00
5.	Passed	461	00
6.	Cancelled	02	00
7.	Result Pending	01	00
Total		637	513

Table 9: MCA (CS-17/MCSP060) Project Proposal Submitted and Accepted

S. no	Status of Synopsis	April –June 2007	October – December 2007	April – June 2008
1.	Submitted	595	393	350
2.	Approved	473	330	304
3.	Not approved	121	63	46
4.	Cancelled	00	00	00
5.	International Division	01	00	00
Total		595	363	350

Table 10: MCA (CS-17/MCSP060) Project Submitted and Viva Conducted

S. no	Status	July – September 2007	January –March 2008	July – September 2008
1.	Submitted	333	317	278
2.	Viva attended	314	296	257
3.	Viva not attended	18	18	20
4.	Failed	49	26	20
5.	Passed	265	270	237
6.	Cancelled	01	03	01
Total		333	317	278

Table 11: MCA (CS-17/MCSP060) Project Proposal Submitted and Accepted

S. No	Status	October –December 2008	April- June 2009
1.	Submitted	371	376
2.	Approved	324	309
3.	Not approved	47	67
Total		371	376

Table 12: MCA (CS-17/MCSP060) Project_Submitted and Viva Conducted

S. No	Status	January – March 2009	July- September 2009
1.	Submitted	285	273
2.	Viva attended	254	00
3.	Viva not attended	31	00
4.	Failed	42	00
5.	Passed	207	00
Total		285	273

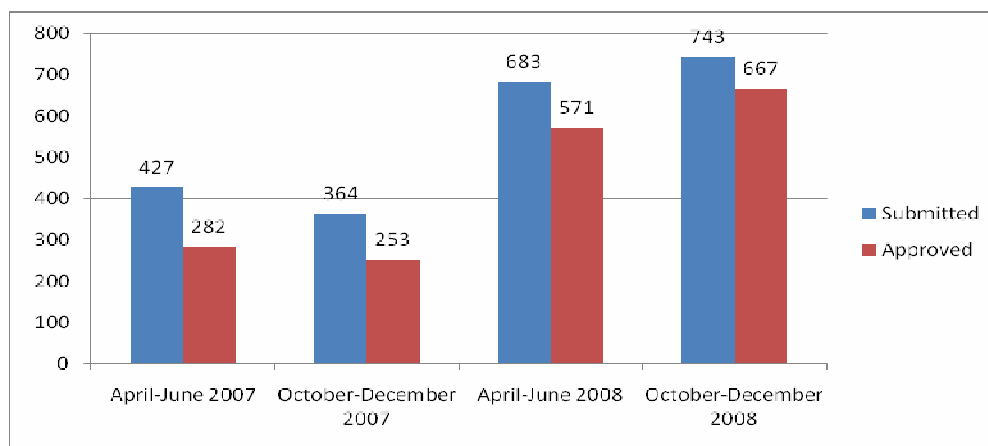


Fig. 1: Project Proposals Submitted and Approved for BCA

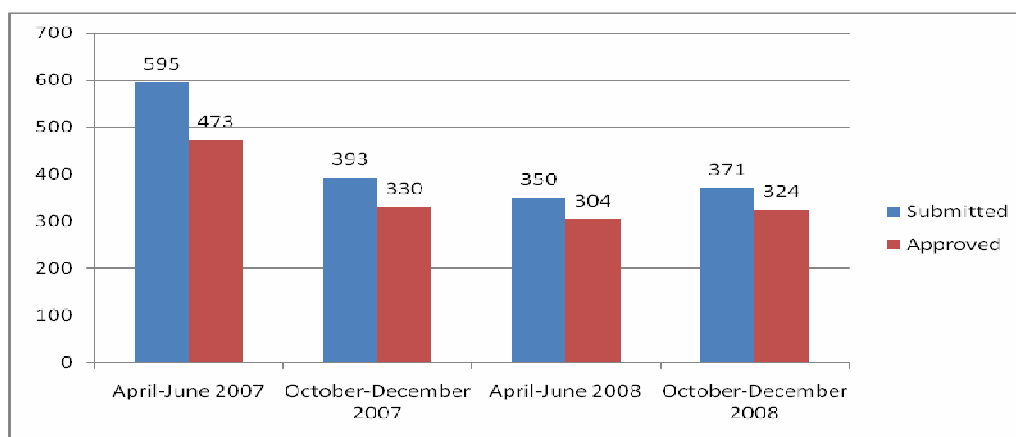


Fig. 2: Project Proposals Submitted and Approved for MCA

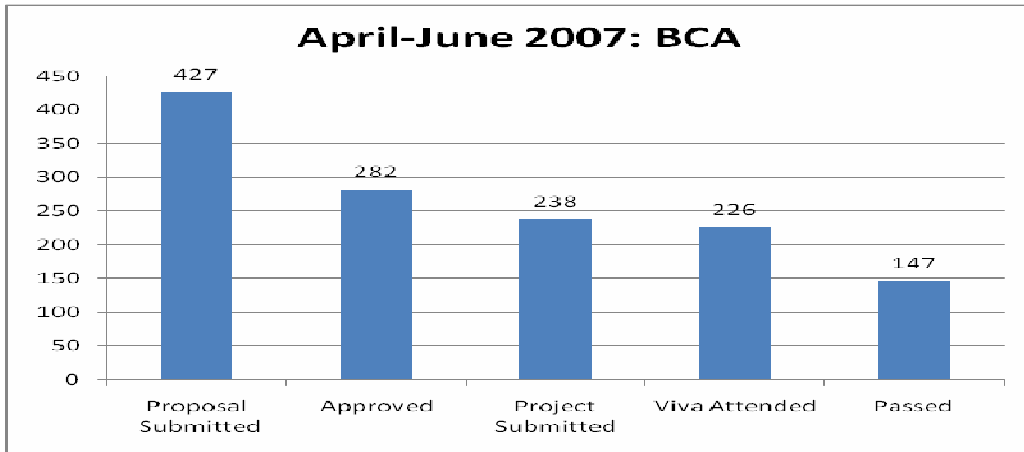


Fig. 3: BCA Projects Status for April-June 2007

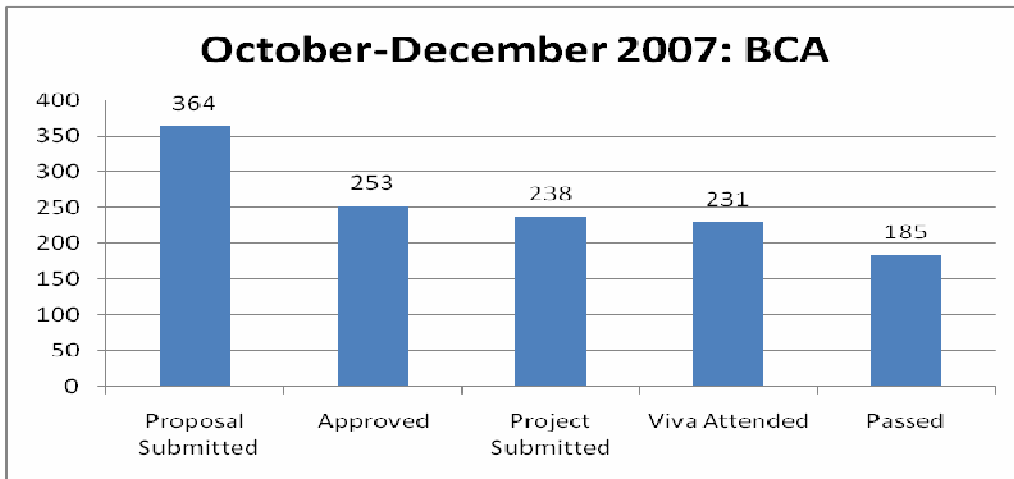


Fig. 4: BCA Projects Status for October – December 2007

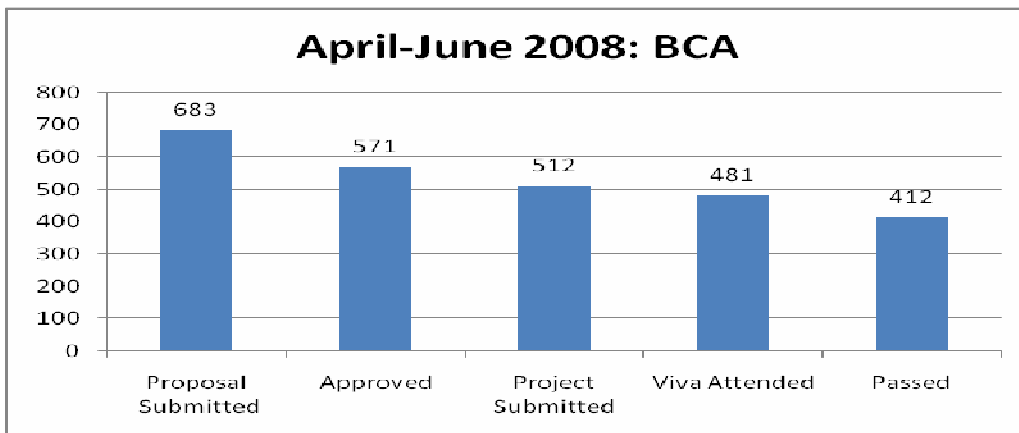


Fig. 5: BCA Projects Status for April – June 2008

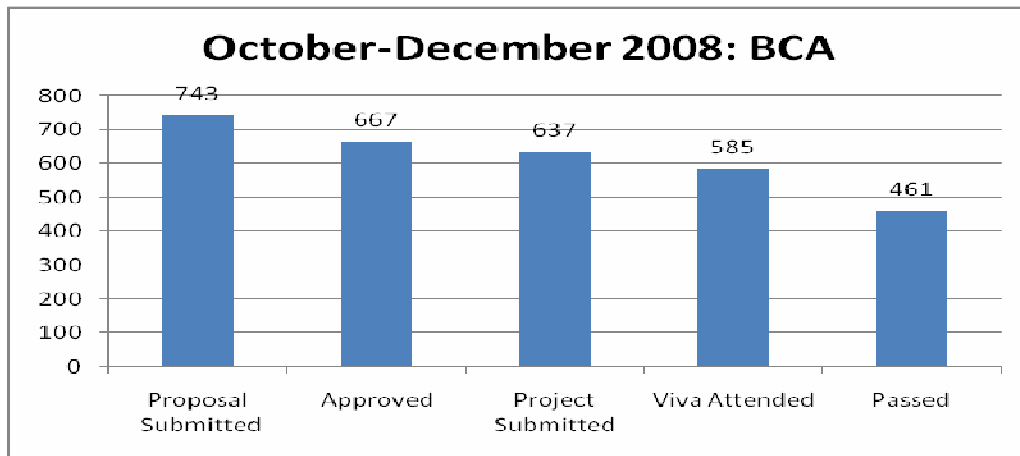


Fig. 6: BCA Projects Status for October – December 2008

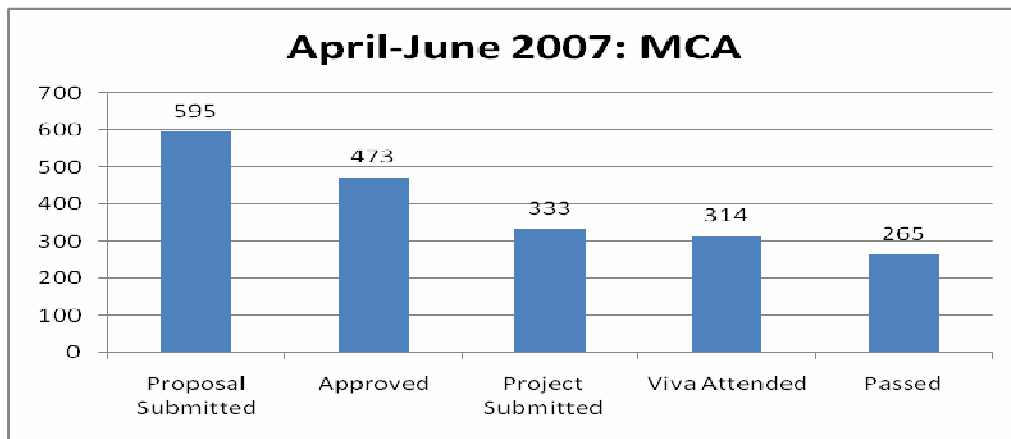


Fig. 7: MCA Projects Status for April – June 2007

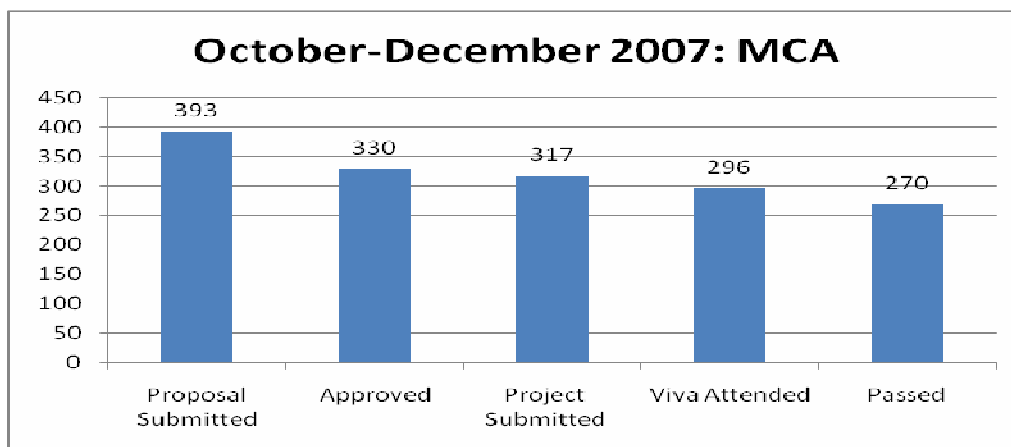


Fig. 8: MCA Projects Status for October – December 2007

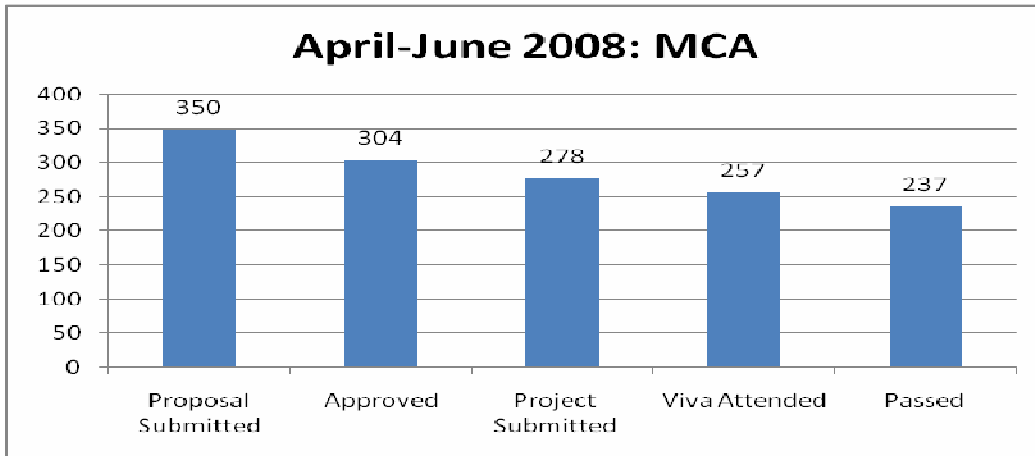


Fig. 9: MCA Projects Status for April – June 2008

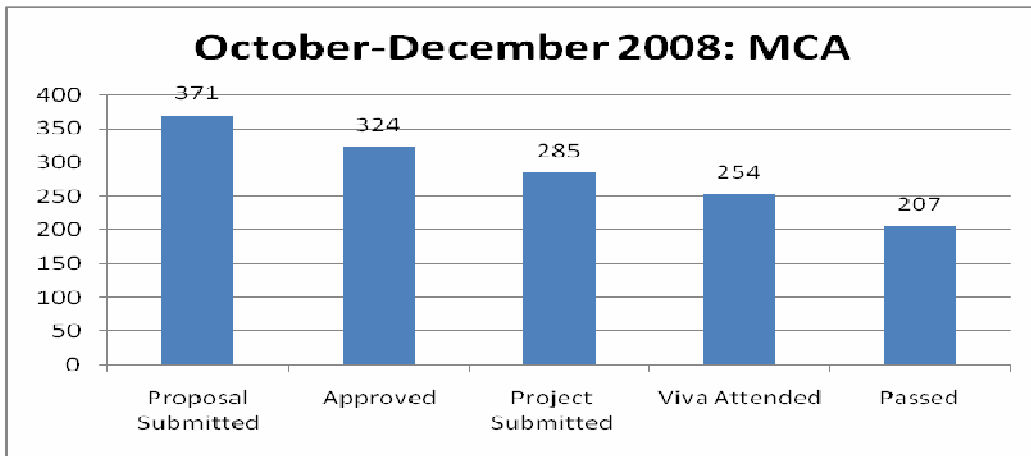


Fig. 10: MCA Projects Status for October – December 2008

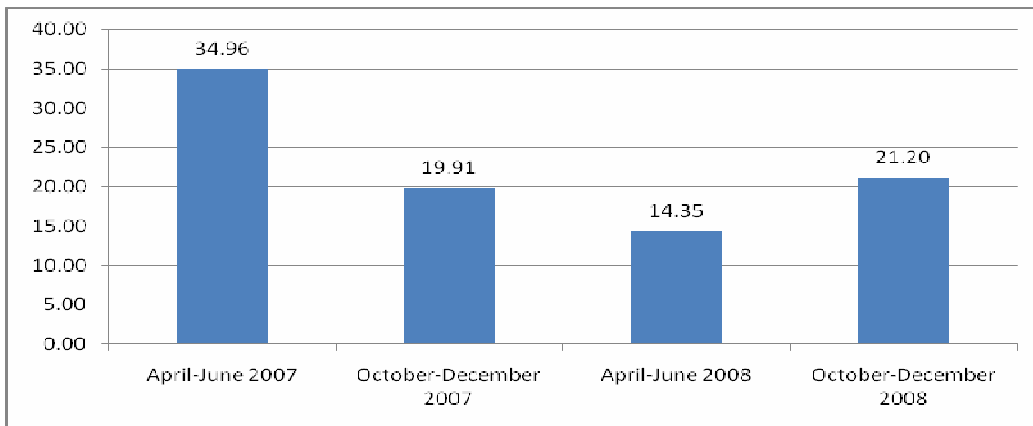


Fig. 11: % of Unsuccessful BCA Projects wrt Those Who Attended Viva

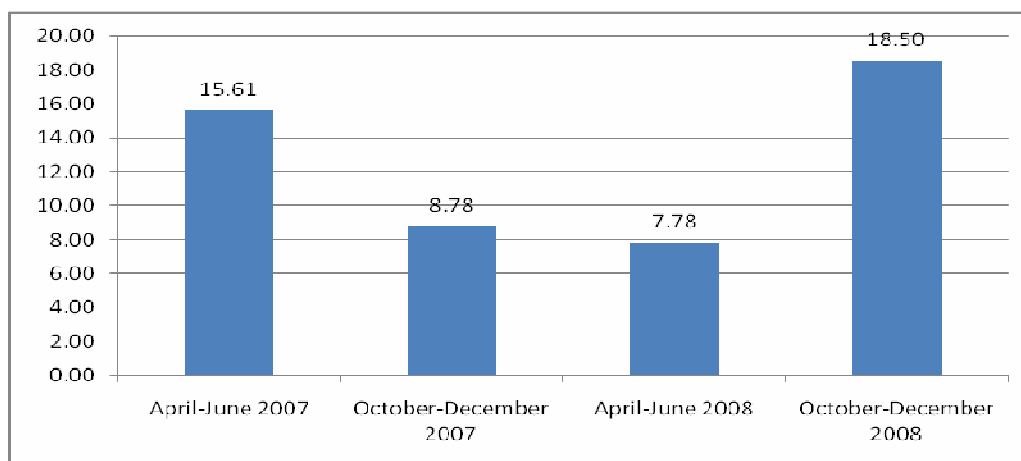


Fig. 12: % of Unsuccessful MCA Projects wrt Those Who Attended Viva

PROJECT TITLES WIDELY USED FOR BCA

There is a very select group of projects which students have used. The titles in each group are many. The details

of the project titles used by the BCA students for the session April-June 2007 are given in Table 13. The titles used for MCA are of similar type.

Table 13: Broad Group of Titles used by Students of BCA (April-June 2007)

Main Group	Project Titles
Banking System	Banking System
Computer Management	Computer institute information system Computer maintenance system Computer resource management system Computerized share trading system Computerized hotel processing
Customer Management	Customer call tracking system Customer care administration Customer care centre Customer interaction system Customer relationship management system Customer sales support system Customer service management
E-Services	E-banking E-post office system E-shop management E-thana (electronic police station) E-ticketing for airline

Hospital Management	Hospital management system Hospital management system
Hotel Management	Hotel & restaurant management system Hotel management system Hotel management system for hotel conclave Hotel reservation system
Integrated Services Management	Integrated flight information system Integrated LPG management system Integrated resort business processing system
Online Services	On line marriage shopping On line shopping Online auction system Online banking system On-line book shop Online customer relationship system Online customer support system for Berger paints Online DTC bus ticketing system Online employee tracking system Online evaluation test Online examination system Online grievance system Online information & registration system of hcl-cdl Online information system for commonwealth game 2010 Online investment management on portfolio Online job search engine Online job search system Online leave management system Online license management Online marketing & information system Online marriage bureau Online personal investment management system Online product management system using barcode reader Online project management system Online sales and inventory management system Online shopping Online shopping tool Online transaction management system Online travel management system Online vehicle tracking system
Retail	Retail jobs mart Retail management system Retail resource planning & management system Rffir automation

Sale	Sale & purchase system Sale automation system Sales & distribution management system Sales management system Sales monitoring system Sales order management system
School Management	School information system School management administration system School management system
Workshop Management	Workshop management system Workshop billing system
Web	www.academician.co.in www.delhijobs.com www.ellibsbookstore.com www.leading-technology.net www.marriageshopping.net www.networkigzone.com

PROJECTS GUIDES AND NUMBER OF GUIDED PROJECTS

The status of projects guided by 98 projects guides is given in Table 14. Here we have included those project guides who have guided more than 3 projects. It is clearly written on the format which is to be signed by the project guide that “a guided should not guide more than 8 students of BCA at any point of time.” Therefore, for two sessions the number of projects to be guided should not exceed 16. One project guide however, has guided as many as 28 projects. We have

tried to see how many students were able to clear their projects. A quick view is given in Table 15.

It can be seen that there were 12 project guides who supervised 3 students each and all the students were able to clear the projects. There were 3 project guides who supervised 4 projects each for their successful completion. There were 2 projects guides who supervised 5 projects each for their successful completion. This indicates that if a guide supervised less number of projects, the chances of 100% success are maximum. This is obvious because the guide is able to give adequate attention to the students.

Table 14: Project Guide for BCA and Success Rate

S.No.	Code of Guide	No of Projects	Fail	Pass	%Pass
1	BCA-G1	28	9	19	68
2	BCA-G2	16	5	11	69
3	BCA-G3	15	5	10	67
4	BCA-G4	14	5	9	64
5	BCA-G5	13	2	11	85
6	BCA-G6	13	2	11	85
7	BCA-G7	13	3	10	77
8	BCA-G8	13	2	11	85

9	BCA-G9	12	2	10	83
10	BCA-G10	12	5	7	58
11	BCA-G11	12	2	10	83
12	BCA-G12	11	1	10	91
13	BCA-G13	11	3	8	73
14	BCA-G14	10	3	7	70
15	BCA-G15	10	2	8	80
16	BCA-G16	10	3	7	70
17	BCA-G17	10	2	8	80
18	BCA-G18	10	2	8	80
19	BCA-G19	10	2	8	80
20	BCA-G20	10	5	5	50
21	BCA-G21	10	3	7	70
22	BCA-G22	9	4	5	56
23	BCA-G23	9	3	6	67
24	BCA-G24	9	4	5	56
25	BCA-G25	9	3	6	67
26	BCA-G26	9	3	6	67
27	BCA-G27	9	3	6	67
28	BCA-G28	8	4	4	50
29	BCA-G29	8	2	6	75
30	BCA-G30	8	2	6	75
31	BCA-G31	8	2	6	75
32	BCA-G32	8	2	6	75
33	BCA-G33	8	1	7	88
34	BCA-G34	8	3	5	63
35	BCA-G35	8	3	5	63
36	BCA-G36	8	1	7	88
37	BCA-G37	7	3	4	57
38	BCA-G38	7	1	6	86
39	BCA-G39	7	1	6	86
40	BCA-G40	6	1	5	83
41	BCA-G41	6	1	5	83
42	BCA-G42	6	1	5	83
43	BCA-G43	6	2	4	67
44	BCA-G44	6	1	5	83
45	BCA-G45	6	0	6	100
46	BCA-G46	6	2	4	67
47	BCA-G47	6	1	5	83
48	BCA-G48	6	1	5	83
49	BCA-G49	5	0	5	100

50	BCA-G50	5	2	3	60
51	BCA-G51	5	0	5	100
52	BCA-G52	5	2	3	60
53	BCA-G53	5	1	4	80
54	BCA-G54	5	4	1	20
55	BCA-G55	5	2	3	60
56	BCA-G56	5	1	4	80
57	BCA-G57	4	3	1	25
58	BCA-G58	4	2	2	50
59	BCA-G59	4	2	2	50
60	BCA-G60	4	2	2	50
61	BCA-G61	4	0	4	100
62	BCA-G62	4	2	2	50
63	BCA-G63	4	1	3	75
64	BCA-G64	4	1	3	75
65	BCA-G65	4	0	4	100
66	BCA-G66	4	1	3	75
67	BCA-G67	4	0	4	100
68	BCA-G68	4	3	1	25
69	BCA-G69	4	0	4	100
70	BCA-G70	4	1	3	75
71	BCA-G71	3	1	2	67
72	BCA-G72	3	1	2	67
73	BCA-G73	3	1	2	67
74	BCA-G74	3	1	2	67
75	BCA-G75	3	2	1	33
76	BCA-G76	3	0	3	100
77	BCA-G77	3	1	2	67
78	BCA-G78	3	0	3	100
79	BCA-G79	3	0	3	100
80	BCA-G80	3	0	3	100
81	BCA-G81	3	0	3	100
82	BCA-G82	3	0	3	100
83	BCA-G83	3	1	2	67
84	BCA-G84	3	0	3	100
85	BCA-G85	3	1	2	67
86	BCA-G86	3	0	3	100
87	BCA-G87	3	1	2	67
88	BCA-G88	3	1	2	67
89	BCA-G89	3	1	2	67
90	BCA-G90	3	0	3	100

91	BCA-G91	3	1	2	67
92	BCA-G92	3	1	2	67
93	BCA-G93	3	0	3	100
94	BCA-G94	3	3	0	0
95	BCA-G95	3	1	2	67
96	BCA-G96	3	0	3	100
97	BCA-G97	3	0	3	100
98	BCA-G98	3	2	1	33
	Total	644	173	471	73

Table 15: Success Rate of Projects with Number of Projects Guided

S. No	Success Rate (%)	No. of Projects Guided by each Project Guide	No. of Project Guides
1.	100	6	1
2.	100	5	2
3.	100	4	3
4.	100	3	12

EVALUATORS COMMENTS FOR BCA PROJECTS

It is very difficult to analyze the evaluator's comments for all the evaluators. We have, however, summarized the comments for few evaluators and are given below:

Ram Chandra and Moni Sahay (2008) have made an attempt to see the variations in terms of marks allotted and comments made by each evaluator. This has been done by classifying the comments made in 7 categories. As the column for making comments in the comment sheet was an

open ended, a variety of comments were given by the evaluators. The same is true here. Each evaluator has chosen his/her own way in giving the comments and awarding the marks. There seems to be no correlation between the comments and marks awarded.

Evaluator (M0722)

This evaluator has evaluated 9 projects and gave no comments. The variation of marks varies from 122 to 151. One can understand the difficulty or the reasons for such a large variation in marks in absence of any comment.

S. No.	Comments	Marks Project	Viva	Total
1.	Blank (no comments)	117	34	151
2.	Blank (no comments)	94	28	122

Evaluator (M0723)

A close examination of the comments shows that for first two students, the

comments are not favorable but the projects have been cleared.

S.No.	Comments	Marks Project	Viva	Total
1.	<ul style="list-style-type: none"> No ER diagram No test code 	76	30	106
2.	<ul style="list-style-type: none"> Table and ER diagram are incorrect No testing is done 	75	25	100
3	<ul style="list-style-type: none"> No test cases No knowledge of the subject 	76	12	88
4	<ul style="list-style-type: none"> No testing No ER diagram No process logic 	56	12	68

Evaluator (M0703): The Evaluator has given comparatively detailed comments.

S.No.	Comments	Marks Project	Viva	Total
1.	<ul style="list-style-type: none"> The report didn't contain testing The SRS* didn't improve the standard Very poor performance Student is not able to design DFD level Doesn't understand concept of DFD 	55	15	70
2.	<ul style="list-style-type: none"> Very brief SRS No testing included Viva performance well Understand fundamental concept of the project 	85	30	115
3	<ul style="list-style-type: none"> DFD and data base tables covered in detail No test case have been included Good performance in viva 	90	30	120

(*Software Requirement Specification)

Evaluator (M0702): The Evaluator has given comparatively detailed comments.

S.No.	Comments	Marks Project	Viva	Total
1.	<ul style="list-style-type: none"> Title mentioned differently at different places ERD incorrect PR not properly verified No comments in the coding Doesn't have enough knowledge command in the project under taken Need to improve software development knowledge software coding knowledge ,testing skills and implementation skills 	80	27	107

2.	<ul style="list-style-type: none"> • PR not properly organized • Seem to be copied • No test cases • Have not worked on the project • No knowledge of the DFD's, ERD's data base 	27	03	30
3	<ul style="list-style-type: none"> • DFD's incorrect not represented the data items • Security limited • Has knowledge in the project handled • Need to improve communication skills 	104	41	145

Evaluator (M0704): The comments given are of mixed type.

S.No.	Comments	Marks Project	Viva	Total
1.	<ul style="list-style-type: none"> • This is a typical data base application for "Insurance Management System" • The candidate has done the system analysis design and coding 	86	30	116
2.	<ul style="list-style-type: none"> • The project was developed in J2ER* • The candidate has idea of system analysis and design 	80	25	105
3	<ul style="list-style-type: none"> • The candidate has developed the system in VB net + SQL server for banking transaction processing • The candidate has no basic idea of the system analysis, design and coding 	40	07	47
4	<ul style="list-style-type: none"> • The candidate has done the project as JSP. • Has good knowledge of system analysis and design and DBMs. 	83	25	108

(*Java2 Runtime Environment)

Evaluator (M0707): The evaluator has given the comments which are not technical in nature. For example, simply starting marginal, average, above average is not sufficient.

S.No.	Comments	Marks Project	Viva	Total
1.	<ul style="list-style-type: none"> • Overall performance is average 	83	27	110
2.	<ul style="list-style-type: none"> • Overall performance is above average 	90	31	121
3	<ul style="list-style-type: none"> • Overall performance is good 	101	33	134
4	<ul style="list-style-type: none"> • Candidate is not having any knowledge about contents of the report • Viva performance is poor • It appears project has not been done by candidate 	77	13	90
5.	<ul style="list-style-type: none"> • Marginal case 	79	25	104

CHANDRA, RUPAM & THAKUR

Evaluator (M0713): The evaluator has simply stated, poor, very poor, below average, good, very good etc. One can see the contradiction; a candidate with poor performance is cleared.

S.No.	Comments	Marks Project	Viva	Total
1.	• Very poor performance	75	15	90
2.	• Poor performance	75	25	100
3.	• Very poor performance	90	20	110
4.	• Below average	90	25	115
5.	• No idea of basic concepts	70	20	95
6.	• Average performance	100	25	125
7.	• Very good performance	120	40	160
8.	• Good performance	110	35	145
9.	• Very good performance	125	40	165

Evaluator (M0715): This evaluator has given the ornamental type of comments like ok, very good etc.

S.No.	Comments	Marks Project	Viva	Total
1.	• Ok	80	30	110
2.	• No knowledge of subject	75	15	90
3.	• Very good	105	40	145
4.	• Satisfactory	90	30	120
5.	• Good project	90	35	125

Evaluator (M0716): This evaluator has either not given any comment or has simply stated OK. The marks for OK vary from 105 to 132.

S.No.	Comments	Marks Project	Viva	Total
1.	• Ok	80	25	105
2.	• Blank (no comments)	90	35	125
3.	• Page number missing	80	30	110
4.	• DFD not neatly done	78	27	105
5.	• Ok	94	38	132

Evaluator (M0717): The comments given are of general nature.

S.No.	Comments	Marks Project	Viva	Total
1.	• Student has very limited theoretical knowledge	87	28	115

2.	<ul style="list-style-type: none"> The project is satisfactory Student has good knowledge about the project 	116	39	155
3	<ul style="list-style-type: none"> Project is satisfactory Report font and typing is not proper 	109	37	146
4	<ul style="list-style-type: none"> Student should study theoretical concepts of software development overall project is satisfactory 	85	37	122
5.	<ul style="list-style-type: none"> Student should gain more knowledge about the project The project is not satisfactory 	71	17	88
6.	<ul style="list-style-type: none"> The theoretical knowledge about the project is less 	83	29	112
7.	<ul style="list-style-type: none"> Should gain more knowledge about the SDLC* 	86	25	111

(*Software Development Life Cycle)

Evaluator (B0718): The evaluator has given the comments of general nature. When everything is No, how the student can clear the project is not understood.

S.No.	Comments	Marks Project	Viva	Total
1.	<ul style="list-style-type: none"> No idea about software engineering concept & project coding 	89	10	99
2.	<ul style="list-style-type: none"> No proper SRs activities No proper comments No test cases & test reports No error handling 	85	27	112
3	<ul style="list-style-type: none"> No test cases & test reports No comments & descriptions No error handling routines 	92	33	125
4	<ul style="list-style-type: none"> No test cases & test reports Not detailed comments and description No error handling routines No proper DFD's and ERD done 	88	29	117
5.	<ul style="list-style-type: none"> No test case and test reports 	96	33	129

Evaluator (M0720): This evaluator has given the ornamental comments; one can see the contrast in the comments and marks given. A student with "very good" comment has been given 114 marks whereas two students with 'Good' comments have got 142 and 132 marks.

S.No.	Comments	Marks Project	Viva	Total
1.	<ul style="list-style-type: none"> Average work 	76	30	106
2.	<ul style="list-style-type: none"> Good work 	85	35	120
3	<ul style="list-style-type: none"> Poor 	68	24	92

4	<ul style="list-style-type: none"> • Good 	97	35	132
5.	<ul style="list-style-type: none"> • Average report 	93	33	126
6.	<ul style="list-style-type: none"> • Good design 	93	30	123
7.	<ul style="list-style-type: none"> • Good 	105	37	142
8.	<ul style="list-style-type: none"> • Design is fair 	85	28	113
9.	<ul style="list-style-type: none"> • Very good 	109	35	114
10.	<ul style="list-style-type: none"> • Average viva & report 	81	36	117
11	<ul style="list-style-type: none"> • Poorest performance 	53	20	73

Evaluator (M0721): The evaluator has evaluated 9 projects with the same comment ok and the mark varies from 100 to 140.

S.No.	Comments	Marks Project	Viva	Total
1.	<ul style="list-style-type: none"> • Ok 			100
2	<ul style="list-style-type: none"> • Ok 			140

Evaluator (M0724): The Evaluator has given fairly detailed comments.

S.No.	Comments	Marks Project	Viva	Total
1.	<ul style="list-style-type: none"> • DFD and data structure discussed • Project quality ok • Relational model understating • SQL fair • Domain knowledge ok 	96	27	123
2.	<ul style="list-style-type: none"> • DFD & SRD discussed • Project quality ok • Testing not properly done • Domain knowledge understating • Project details fair 	82	27	109
3	<ul style="list-style-type: none"> • Test case given good • Quality of synopsis poor • Project quality ok • Viva ok • Programme skills ok • Good understanding 	105	30	135
4	<ul style="list-style-type: none"> • Test cases not discussed • Program segment, sorting algorithm references used • Poor understanding 	78	16	94

Evaluator (M0725): The Evaluator has given fairly detailed comments.

S.No.	Comments	Marks Project	Viva	Total
1.	<ul style="list-style-type: none"> The project work is a general application Software development application CTT*, DFD are same aspects are provided related to application software development Sufficient for BCA 	82	27	109
2.	<ul style="list-style-type: none"> The project work submitted is a general application covering SDLC aspects at related design for the DB etc. Sufficient for BCA project 	95	35	130
3	<ul style="list-style-type: none"> The work presented is an office aspect for particular small company software analysis Design and related aspects are covered Sufficient for BCA project 	99	37	136
4	<ul style="list-style-type: none"> The work presented is a application of store management and cases SDLC phase with all other related aspects Sufficient for BCA project 	104	43	147

(*Certified Technical Trainer)

Evaluator (M0726): The comments given are no idea, some idea. The marks vary form 109 to 134.

S.No.	Comments	Marks Project	Viva	Total
1.	<ul style="list-style-type: none"> No idea about the work 	95	16	111
2.	<ul style="list-style-type: none"> Some idea about the work 	96	30	126
3	<ul style="list-style-type: none"> Some idea about the work Good explanation 	104	30	134
4	<ul style="list-style-type: none"> No idea about the language 	88	21	109

Evaluator (M0727): The evaluator has given the descriptive comments.

S.No.	Comments	Marks Project	Viva	Total
1.	<ul style="list-style-type: none"> Data base design of the project is wrong Table has repeated data Viva on the project is poor No knowledge of DB 	87	18	105
2.	<ul style="list-style-type: none"> Knowledge on the software is average Project lacks some important aspects Knowledge of DB is good 	78	28	106

3	<ul style="list-style-type: none"> • Good knowledge of DB and VB • Viva above average 	90	33	123
4	<ul style="list-style-type: none"> • Little knowledge of the subject • Coding has not been done 	75	20	95

Evaluator (B0729): The evaluator has given the comments in mixed form.

S.No.	Comments	Marks Project	Viva	Total
1.	<ul style="list-style-type: none"> • Completed all phases of SDLC • Doesn't have the knowledge 	97	07	104
2.	<ul style="list-style-type: none"> • Student has properly written the project • Completed all phases of SDLC • Performance is satisfactory 	101	34	135
3	<ul style="list-style-type: none"> • Done well • Follow software development life cycle approach 	115	33	148
4	<ul style="list-style-type: none"> • Approach towards development of project is well proven • Familiar with the project and subject 	116	40	156
5.	<ul style="list-style-type: none"> • Student performance is satisfactory • Project report follows software engineering process 	99	30	129

Evaluator (M0732): The Evaluator has given relatively the detailed comments.

S.No.	Comments	Marks Project	Viva	Total
1.	<ul style="list-style-type: none"> • All SRs details are not given • ER diagram is not complete • Table details are not given • Testing details are not given • Need to improve the software • Overall performance is satisfactory 	85	40	125
2.	<ul style="list-style-type: none"> • All SRs details are not given • Zero level DFD is not properly design • Coding comments are not properly designed • Needs to improve technical skills and programme skills • Overall performance is not satisfactory 	49	11	60

3	<ul style="list-style-type: none"> • ER diagram is incomplete • All required details not given • DFD level is not properly design • All table details are not mentioned • Coding comments are not given • Need to improve technical skills • Overall performance is not satisfactory 	38	07	45
---	---	----	----	----

Evaluator (B0723): There seems to be no correlation between the comments given and marks awarded.

S.No.	Comments	Marks Project	Viva	Total
1.	<ul style="list-style-type: none"> • Doesn't know anything about the software used • Totally blank in giving the answer 	91	14	105
2.	<ul style="list-style-type: none"> • Good skills & command on the language • Given the answer very well 	108	34	142
3	<ul style="list-style-type: none"> • Viva is good • Knows the answer of every question • Very much confident 	89	35	124
4	<ul style="list-style-type: none"> • Good command Java which is used on a language 	107	40	147
5.	<ul style="list-style-type: none"> • Good command on the software 	103	34	137
6.	<ul style="list-style-type: none"> • Viva is good 	87	28	115

Evaluator (B0736): The evaluator has tried to give the comments in somewhat detailed form.

S.No.	Comments	Marks Project	Viva	Total
1.	<ul style="list-style-type: none"> • Didn't answer any question • Doesn't know about SDLS, flow chart, high level & low level language • No knowledge of RDBMs 	66	05	71
2.	<ul style="list-style-type: none"> • Simple work • Explained work • Explain PR, ER design of RDBMS • Poor in NET but knows SDLL • Explained testing with test case 	89	32	121
3	<ul style="list-style-type: none"> • Good work • Explained work very nicely • Know RDBMs very well • Collaborated testing • Good in explaining project work 	106	36	142

4	<ul style="list-style-type: none"> • Simple but good project • Knows the different plans of SDLC unit planes of testing 	99	36	135
5.	<ul style="list-style-type: none"> • Good work • Excellent in explaining project work • Defined all the features • Described the package sub-class & super-class with its properties. 	116	43	159
6.	<ul style="list-style-type: none"> • Well done • Explained project very nicely • Good description of the feature of VB • Collaborated the functionality of RDBMS & SDLC very effectively. 	115	40	155
7.	<ul style="list-style-type: none"> • Excellent work done • Explained project very nicely & effectively • Good in OOPS* features as well as functionality of RDBMS 	121	44	165

(*Object Oriented Programming System)

Evaluator (M0738): the evaluator has given the comments of suggestive nature.

S.No.	Comments	Marks Project	Viva	Total
1.	<ul style="list-style-type: none"> • Proper data base to be used • Design to be strengthened • Backup & recovery measure to be done 	75	32	107
2.	<ul style="list-style-type: none"> • Backup & recovery techniques to be implemented • Design to be strengthened 	85	36	121
3	<ul style="list-style-type: none"> • Backup & recovery measures to be used • Proper validation checks to be performed 	90	38	128
s4	<ul style="list-style-type: none"> • Proper validation checks to be performed • Design to be strengthened 	83	36	119

A broad category of comments given by the evaluators while evaluating BCA projects is given in Table 16 along with the variation in marks.

Table 16: Category of Comments and Marks Awarded

Category	Comments	Variation in marks
1	Blank (no comments)	122-151
2.	Ok	100-140
4.	No idea about the work	68-111
5.	Some idea about the work	115-134

6.	Some idea about the work, good explanation	115-134
7.	No idea about the language	95-109
8.	Good	120-159
9.	Very Good	145-165
10.	Guided or copied projects/not an original work	30-90
11.	Very poor / needs overall improvement / very little knowledge of work done	88-107
12.	DFD/ERD incorrect	68-145
13.	No test cases	112-129
14.	Test Cases Given Good	135-142
15.	No Knowledge of software	99-105
16.	Good knowledge of software	122-137
17.	Page number missing	110-
18.	Theoretical knowledge less	112-115
19.	Average knowledge	106-125
20.	Good Knowledge	114-155
21.	Poor Knowledge	71-92
22.	Overall average / satisfactory	106-135
23.	Excellent	159-165

SIMILARITY OF THE PROJECT TITLES

We have examined the project titles supervised by 12 project guides. The project titles are related to the management of various services. These 12

guides have guided 86 projects related to management of various services.

The project related to the management of various services is given in Table 17. The details are given in Table 18.

Table 17: Project Titles Related to Management of various Services

Management of	No. of Projects	No. of Guides	No. of projects Guided by the same guide
Employee	5	4	2
Gas	2	1	1
Hospital	7	6	2
Human Resource	3	2	2
Institute	3	2	2
Library	3	3	----
School	4	3	2
Student	4	4	----

Table 18: Details of BCA Projects related to Management of Various Services

Guide 1	Guide 2	Guide 3
Cold Storage Inventory	Customer	Loan
Security Guard	Academic	Book Shop
O Max Construction	Rear Resource Planning	Financial
Laboratory	Hospital	Sales Processing
Coal Mining	Student Academic	Sales Transaction
Coal India	Staff and School	
Nano Auto Distribution	Library	
Travlite India	Pharmaceutical Inventory	
Petrol Pump		
Transportation		

Guide 4	Guide 5	Guide 6
Online News Paper	Office and Management	Hospital
Life Insurance	Hospital	Workshop
Book Publishing	Production	Nursing Home
Courier	Employee	Human Resource
Flight	Hospital	Campus Library
	School	

Guide 7	Guide 8	Guide 9
Library	Real Estate	Goods
College	Banking	Tourist
Hotel	Hotel	Mail
Employee	Subscription	Human Resource
Student Academic	Tour and Travel	Gas
	Employee Salary	Institute
	Employee Benefit	Human Resource
	Library	Gas
		Institute
		Hospital
		British Library
		Pharmacy
		Life Insurance
		LIC Policy

Guide 10	Guide 11	Guide 12
Hospital	Student	Medicine Distribution
Hundai	School	Computerized Payroll
Online Airline	Panasonic Service Centre	School
Tour and Travel	Sales	Para sonic Service Management
Midday Resort	Employee	Sales
Institute	Hospital	Student
	Customer Relationship	School

STUDENTS PLACED IN DIFFERENT CATEGORIES

Table 19: Characteristics of Categories 1 to 7

It may be seen that none of the student got marks in the range 176-200. We have examined the marks given by 40 evaluators. We have made seven categories mentioned in Table 19. The results are summarized in Table 20.

Category	Marks Interval
1	50-100
2	100-115
3	116-130
4	131-145
5	146-160
6	161-175
7	176-200

Table 20: Number of Students in Different Categories for Sessions (January to March & July to September Years 2007, 2008 & 2009)

S. No	Evaluator Code	Category							TOTAL
		50-100 (1)	101-115 (2)	116-130 (3)	131-145 (4)	146-160 (5)	161-175 (6)	176-190 (7)	
1	M0701	1	7	10	3	1	0	0	22
2	M0702	3	10	3	1	0	0	0	17
3	M0703	12	2	3	0	0	0	0	17
4	M0704	2	6	1	0	0	0	0	9
5	M0707	1	6	8	1	0	0	0	16
6	M0713	6	7	1	0	2	0	0	16
7	M0715	1	4	2	2	0	0	0	9
8	M0716	2	11	5	0	0	0	0	18
9	M0717	3	5	5	1	4	0	0	18
10	M0718	8	4	5	1	0	0	0	18

11	M0720	6	4	6	4	0	0	0	20
12	M0721	2	4	1	1	0	0	0	8
13	M0724	6	2	10	2	0	0	0	20
14	M0725	0	5	8	3	1	0	0	17
15	M0726	0	5	1	1	0	0	0	7
16	B0727	4	14	2	0	0	0	0	20
17	B0729	0	3	3	5	6	0	0	17
18	B0732	9	4	2	0	0	0	0	15
19	M0733	1	7	5	4	1	0	0	18
20	B0736	3	4	3	4	4	1	0	19
21	M0738	6	6	6	0	0	0	0	18
22	M0740	0	14	3	1	1	0	0	19
23	M0741	1	1	5	1	0	0	0	8
24	M0742	2	3	3	5	5	0	0	18
25	M0743	2	7	5	2	4	0	0	20
26	M0744	4	2	2	6	1	0	0	15
27	M0745	6	3	0	0	0	0	0	9
28	M0746	13	1	0	0	0	0	0	14
	TOTAL	104	151	108	48	30	1	0	442
	Percentage	23.53	34.16	24.43	10.86	6.79	0.23	0	

CONCLUSIONS AND RECOMMENDATIONS

Based on the above observations, we recommend the following:

1. There seems to be no correlation between the comments made by the evaluators and the marks given. The evaluator should have given the meaningful comments. Many evaluators has left the comment column "Blank" and have used the terms like ok, poor, very poor, good, very good, average, below average, satisfactory etc.
2. Since large numbers of projects are turning bogus, copied from each other, the teaching value of these projects is almost nil. It is therefore, recommended that BCA projects should be withdrawn and instead a new course may be introduced.
3. If the projects are to be continued then the following points may be considered:
 - a. Major industries in the country may be approached to provide facility for live projects. The project guides from the industries may also act as project evaluators.
 - b. The approved academic counsellors and guide of MCA programme may be allowed to guide the BCA projects
 - c. An orientation of evaluators for both project proposal and final project should be made compulsory at all Regional Centres before the start of the activities.
4. There has to be an intensive workshop-cum-training programme for the evaluators so that they understand the basic needs of the project components and evaluation process.
5. The evaluators who are not serious should not be allowed to evaluate the projects.

REFERENCES

- Chandra, R. and Singh, S. (2004) Open and Distance Education System: New Vistas in Higher Education, New Delhi: Rajdhani Book Service.
- Kumar, A. and Dixit, J. (2006) Computer Hands-on and Lab Practicals in Distance Education. In S.C. Garg, V.Venkaiah, C.Puranik and S. Panda (eds.), Four Decades of Distance Education in India: Reflections on Policy & Practice. New Delhi: Viva Books Private Ltd.
- Panda, S. (1999) (ed.) Open & Distance Education: Policy Practices and Quality Concerns. New Delhi: Aravali Books International Private Ltd.
- Powar, K.B., Panda, S. and Bhalla, V. (2000) Performance Indicators in Distance Higher Education, New Delhi: Aravali Books International Private Ltd.
- Ram Chandra and Moni Sahay (2008) Quality Issues in IGNOU's BCA and MCA Projects: A Case Study of Regional Centre, Patna, Indian Journal of Open Learning, 17(2), 145-153.

Dr. Ram Chandra is presently the Regional Director, IGNOU Regional Centre Delhi-I, J2/1, Block B1, Mohan Cooperative Industrial Estate, Mathura Road, New Delhi-110 044, India. He has also worked as the Regional Director, IGNOU Regional Centre, Delhi-II and Patna. He joined the University in 1997 as the Joint Director. After doing his MSc (Physics) and PhD (Physics) from Birla Institute of Technology and Science, Pilani, he served for more than 10 years in Indian Institute of Technology, Delhi and for more than 8 years in Devi Ahilya Vishwavidyalaya, Indore. He has travelled widely across the world and has attended large number of National and International conferences; presenting research papers, acting as session chairman and conference advisor. He has written several books and published more than 70 research papers in the journals of International repute. His current areas of research interest are Engineering Physics, New and Renewable Energy, Open and Distance Education etc.

(Email: ramchandrasrd@gmail.com)

Dr. V. P. Rupam is Assistant Regional Director (selection grade), IGNOU Regional Centre Delhi-I, J2/1, Block B1, Mohan Cooperative Industrial Estate, Mathura Road, New Delhi-110 044, India. He has obtained his M.Sc in Physics from Delhi University and Ph.D in Education from Lucknow University. He is associated with student support services of IGNOU for about 20 years.

(Email: vprupam@ignou.ac.in)

Miss Pooja Thakur is consultant in Regional Centre Delhi-I, J2/1, Block B1, Mohan Cooperative Industrial Estate, Mathura Road, New Delhi-110 044, India. She has completed her Post Graduation and is now pursuing MBA and is actively engaged in research activities.

(Email: thakurpooja20@gmail.com)

For copyright / reproducing permission details, email : Office@AsianJDE.org