

Faculty's Portfolio Collaboration: To Enhance Student's Placement through Faculty's Coordination.

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Abstract: This paper shares the best practices adapted in the department of Information Technology to enhance the employability of students. Student's placement is considered to be the most important factor for any program in the engineering education. The vision, mission, goals and curriculum of the Information Technology program are designed in-line to prepare the students to be industry ready. Also, the curriculum delivery and evaluation of students are designed and executed with a goal to prepare students to be industry ready. Though all the collaborative efforts of the work force of the IT department and its associates are taken to execute their tasks that should lead to placement of all eligible students, the placement statistics of the department is not satisfactory. The collaboration amongst the work force and its associates must be redefined to improve the placements of the students. To address the student's placements to its best, a team of volunteers from the faculty is formed under best practices activity of Quality Circle at RIT and proposed a solution by defining innovative practices that lead to the betterment of student's placement and titled as "Faculty's Portfolio Collaboration: To enhance Student's placement through faculty's coordination". The practices defined were practiced for one academic year and the results are analyzed. The analysis of the results showed that there is an improvement in the performance of students in most aspects and requires additional efforts for betterment of few other aspects. Necessary measures were also identified and suggested to faculties for the improvement in the portfolios that under performed. The practices defined will be continued in the department to achieve consistency in the results and analyze the same.

Keywords: Portfolios, Collaboration, Placements.

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1. Introduction

The department of Information Technology was established in the year 2001. All the activities of the department are categorized and are distributed amongst the faculties as portfolios. Once a portfolio is assigned to the faculty he/she will design an action plan and execute the activities.

Though each faculty shows good progress through their efforts in their respective portfolios, the placement results of Information Technology department are not satisfactory. The placement of students involves activities to provide career opportunities for the students and students get designated for a particular company based on his/her performance and recruiter's norms. Hence to improve the student's placement a strategy is proposed and designed by collaborating the various portfolios with a common goal to enhance the student's placements. Few quantitative measures link number of students got placed, project activities are considered as a metric to showcase the improvements. The best practices designed and adopted in the department of IT are shared to the interested audience through this literature.

The Student's placement was identified as an issue to be addressed in the department after undergoing Problem lifecycle that consisted the following stages: Problems Identification, Problem Selection, Problem Definition, Problem Analysis (4W-1H), Cause and Effect Analysis, Finding the root causes (WHY-WHY) and finally proposed solution.

In the Problems Identification stage, 51 problems were identified through faculty's brainstorming and interviewing students. Few of them to list are: Project work automation, Student's Placements, Training facility to new staff, Course attainment and analysis tool, Programming skills. Out of 51 problems identified, 11 problems were chosen by prioritizing, considering the importance and member's views. These 11 problems are categorized as student's, faculty's, department's and institute's problems.

In the Problem Selection stage, rating method was used on the categorized problems for selecting the problem with each member rating on a scale of 1 to 5 where 1 or 2-representing less importance, 3-average importance, 4-high importance and 5- very high importance. After collecting the individual rating of each member for each problem, the aggregate rating is considered for problem selection. Student's placement was identified as a problem to be handled under best practices activity for the year 2015-16 which has scored the highest aggregate rating.

In Problem Definition stage the problem is defined mentioning the Relevance, Objectives and Description (we named it as ROD elements of the Problem Definition) of the problem as: "*Though all the collaborative efforts of the work force of the IT department and its associates are taken to execute their tasks that should lead to placement of all*

eligible students, the placement statistics of the department is not satisfactory. The collaboration amongst the work force and its associates must be redefined to improve the placements of the students”.

In Problem Analysis stage, the problem was analyzed using the tools like 4W-1H principles, ISHIKAWA diagram, WHY-WHY analysis and studying literature work done in relevant areas which is discussed in second section. During the analysis of the problem it is observed that the placement of students is dependent on more than one factors and needs to be addressed collectively. The 4W-1H principle is practiced as shown in figure 1 to collect data from the students and the faculties regarding the causes for unsatisfactory placement and through brainstorming and interviews.

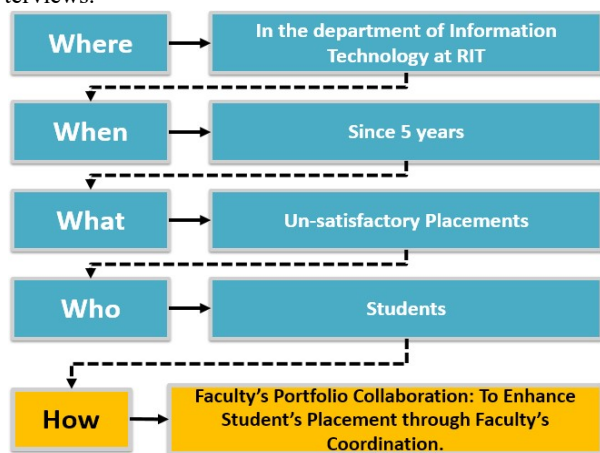


Fig. 1. Problem Analysis: 4W-1H principle.

The data collected is analyzed and categorized into, causes related to students, faculty and environment causes. The ISHIKAWA diagram is used to perform cause and Effect Analysis to better understand the problem by identifying the root causes. The root causes causes for the problem are shown in figure 2. The text boxes under each category indicates the causes for un-satisfactory placements.

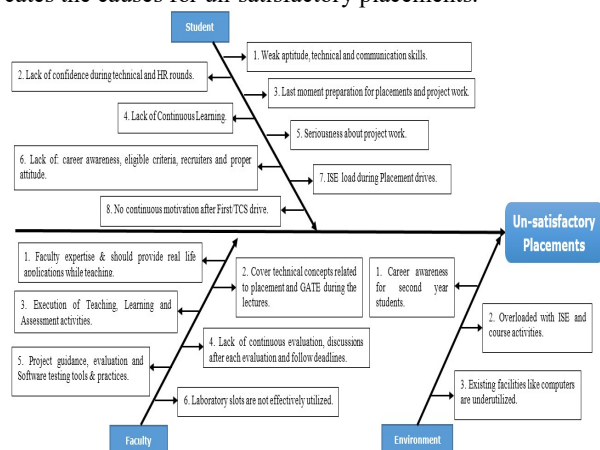


Fig. 2. Cause and Effect Analysis: Cause and Effect diagram.

WHY-WHY analysis is conducted to identify the solutions to a problem that addresses the root causes. It was found that there are 6 root causes for the un-satisfactory place-

ment as shown in the figure 3 and also identified a solution to address the route causes.

After completing the above six stages of problem analysis phase, in the Proposed Solutions stage, the following alternative solutions are proposed based on the route causes mentioned in figure 3. They are:

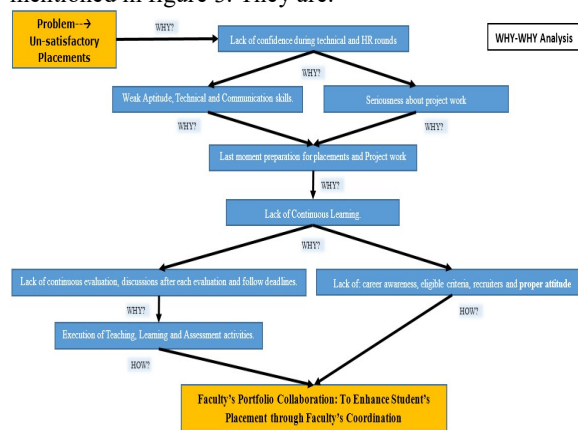


Fig. 3. Route Cause Analysis: WHY-WHY Principle.

1. Promote students for improving Communication skills, Professional training and higher studies.
2. Improve Project making and management skills and Industry practices.
3. Promote continuous & self-learning.
4. Placement preparations and awareness must be started early.
5. Introduce Innovative teaching learning and evaluation methods to improve programming and practical skills.

The alternate solutions mentioned above were identified to improve the placements. From the rating method applied on alternate solutions, it was observed that all the solutions are necessary and implementing any one alternate solution may not result in the improve of placements. The alternate solution: “Promote continuous and self-learning” gained the highest score. But to inculcate the continuous and self-learning, the other alternate solutions also need to be considered (which can be observed in the aggregate score with no much differences). Hence, all the alternate solutions were considered for implementation. To effectively implement the solutions listed above, relevant portfolios of the faculties are identified and the coordinators were instructed to collaborated amongst their activities in a systematic way which is discussed in section 3.

This paper discusses the best practices designed and practiced by the faculty in the department of Information Technology during the year 2015-16. The following sections are reserved for discussing: problem lifecycle in introduction section, related work done in enhancing student’s placement in second section, proposed solutions in third section, results in fourth section, result analysis and recommended measures in fifth section and conclusion & future work in sixth section followed by references and acknowledgement.

2. Related Work

This section discusses the research work done by the educators on different approaches to enhance the student’s employability skills.

In [1], the authors discussed a model designed for understanding application of levels of Bloom's taxonomy and determine its impact on student's learning process for improving the employability of their students. The students were categorized based on student's academic results and pre-and post-tests were used to analyze the performance. Technical test, aptitude test, and the personal interviews were chosen as test modules to analyze the areas in which the students are weak and designed training accordingly. This model helped them to identify their student's weakness and focus to overcome them.

In [2], the author shared some of the best practices and the need for students to practice as engineers to solve the global problems and suggests project based learning approach to solve the problems of 21st century learners which was a part of their re-designed curriculum. The author provided the assessment details that differentiate team and individual efforts. The assessment would be more effective if the rubrics were split into team and individual assessment and if mention in the evaluation sheet. Evaluation sheets that assess team work based on both teams and individual's contributions are designed by the faculty and used by the project guides in the department of IT at RIT to evaluate the project work of the students.

In [3], the authors presented the effectiveness of Project Based Learning in the development of student's soft skills. They have used a technology assisted learning platform to implement the project based learning during the summer vacation. The authors must have differentiated the RUBRICS and then evaluate the student's skills as a team and as an individual. The authors' efforts to address the higher order cognitive levels of students seems to be successful.

In [4], the authors proposed an innovative and unique technique of using BLOOMS Taxonomy as a tool for teaching theory courses and making mistakes theory as a tool for teaching practical courses. The results provided in the paper are very interesting. The errors made by the students are collected, analyzed and used back to reduce the errors made by the students. This approach is very well suited to teach the programming courses floated in computer science and information technology programs. The procedure discussed for implementing the magic of making mistakes can be implemented for any computer programming courses but with a proper design of experiments. The authors also used several active learning techniques like JIGSAW, Role play, mind map and concept map to promote active learning amongst the students.

In [5], the authors presented their efforts taken in the department of IT at RIT, to improve the placement of students. They have identified the most important skills an IT graduate must have and devised strategies that will improve the programming skills, project making skills and professional skills of the students. They have started a Placement Club where the professional skills are practiced by the students on their own without any faculty's supervision to promote self-learning amongst the students: by creating a

friendly environment to make mistakes and learn from the mistakes.

3. Proposed Solution and Implementation

This chapter discusses the proposed solution to improve the placement of students by identifying the relevant portfolios and proposing ideas for collaboration amongst the faculties.

3.1 Proposed Solution: To address the student's placements to its best and enhance the skills of the students, during the placement drives, a team of volunteers from the faculty is formed under best practices activity of Quality Circle at RIT and proposed a solution by defining innovative practices that lead to the betterment of student's placement and titled as "Faculty's Portfolio Collaboration: To enhance Student's placement through faculty's coordination". The portfolios identified are as follows:

Table 1: Portfolios identified.

Sr. No	Portfolio	Faculty coordinators
1.	Training and Placement	Mr. Sushant. Yelapale, Mr. Akshay. D. Patil
2.	Final Year Projects	Mr. Rajesh Dontham
3.	Competitive Cell	Mr. Pralhad Gavali, Mr. Manoj Patil
4.	Outcome Based Education	Mr. Rajesh Dontham, Mrs. Varsha Lokare

Figure 4 provides an overview of the proposed solution. Relevant portfolios and activities proposed and executed by faculty coordinators with respect to their portfolios are discussed in the next sections.

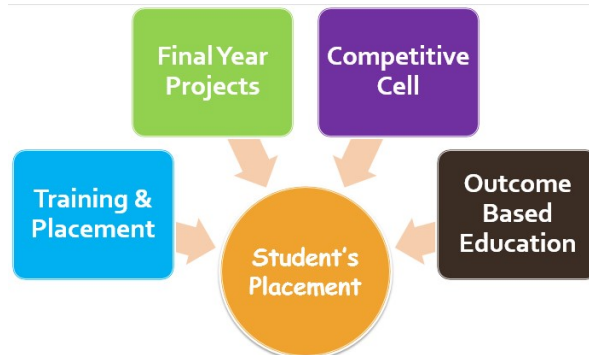


Fig. 4. Overview of proposed solution.

3.2 Training and Placement:

The training and placement coordinator is responsible for coordinating the placement drives scheduled by the institution's Training and Placement cell and also facilitate the faculties to visit the industries. Apart from these regular duties, initiatives were proposed/ modified by the coordinator and were executed to enhance the student's placements. The following are the initiatives taken by the coordinator:

1. Aptitude Tests, Mock Interviews and Group Discussions (GD): These activities are conducted usually at the beginning of the final year. But resolutions are made to conduct these activities at regular intervals from the pre-final year of graduation itself. Experts from industries are invited to conduct the external evaluation of courses

and the Viva-voce of the respective course. This provided the students to rehearsal their interview performance.

2. Professional Training and Certification programs: Apart from the curriculum, several students undergo certification courses during the semester vacations. This helped students to stand apart from the other graduate competitors. Also, MOUs (Memorandum Of Understanding) are signed with the IT-industries to continue the industry institute interaction.
3. LinkIT: This activity involves pre-final year graduate students to assist the final year students during their project work and placement opportunities. Under LinkIT, final year project team is assigned with one pre-final year team. The pre-final year team will also test the final year projects and provide feedback. During this process, it is observed that earning is happening amongst both the teams and improved the quality of project work. Figure 5 shows how the pre-final year and final year students are promoted to collaborate. The members of Project Team are final year students and Supporting Team are pre-final year students. This label is attached on the project evaluation file issued to project guides which also contains project schedule, evaluation sheets, formats and checklist.

Department of Information Technology
Course: Project Phase I & II, Semester- VII & VIII
Evaluation File: Academic Year: 2016-17, Curriculum: 2013-17

Team No: _____		Guide's Name: _____		Team Size: _____	
Team Leader's Mobile No & e-mail: _____					
Sr. No:	Project Team: Member's Name	Roll No	Role		
1.			Leader		
2.			Member		
3.			Member		
4.			Member		
5.			Member		
6.			Member		
Sr. No:	Supporting Team: Member's Name	Roll No	Class		
1.					
2.					
3.					
4.					
5.					
6.					

Fig. 5. LinkIT

3.3 Projects:

The final year project coordinator is responsible for coordinating the project activities scheduled as per Controller of Examination (COE) and facilitate the project guides for completing the evaluations on time. Apart from these regular duties, initiatives were proposed/ modified by the coordinator and were executed to enhance the student's quality of project work. The following are the initiatives taken by the coordinator:

1. Workshop on Project work: A workshop titled "Redefining Projects: From Project Development to Product

Deployment" is organized for the final year students in the second week of the seventh semester to enhance their project making skills. The objectives of this workshop are to get students acquainted with:

- ✓ Problem identification tools and Problem life cycle.
- ✓ Application of Quality Circle methodologies for effective completion of project work.
- ✓ Significance of Project Documentation and formats.
- ✓ Technical issues to be considered for successful deployment.
- ✓ Assessment of Project Work as per industry standards.

Figure 6 provides a glance of activities and student's participation during the workshop. The workshop received a very good feedback from the audience and highlighted the desperate need for such workshops.



Fig. 6. Glance of Redefining Projects workshop

2. Design of formats and RUBRICS: The expectations by the instructor from the students for the project course is very much clearly mentioned and announce to the students through formats and evaluations. The RUBRICS mentioned in the evaluation sheets will clearly communicate the expectations to the students. shown in figure 7 and figure 8 shows the evaluation sheets that consider both the teams and individual contributions which are unique and innovative.
3. RAVANATAR: The department of IT has hosted a server named "RAVANATAR" to deploy the student's and faculty's Projects for access to stakeholders (students, faculties, sponsors and recruiters) over the internet with an objective to make the projects accessible over the web. A public IP address is allocated by the Computer Center which made it possible to access over the web. This helped students to successfully deploy, publish and access their project work during and even after their graduation. This also help the students to showcase their project work during project competitions and placement drives. The screenshot of

“RAVANATAR” server is shown in the figure 9. This initiative is first of its kind ever done anywhere in the engineering colleges. This activity highly motivated the students to work on their projects which are deployable and accessible over the web. Link: www.ravanatar.in.

Department of Information Technology
Course: PROJECT PHASE- II (IT456): IN SEMESTER EVALUATION (ISE) SHEET, Academic Year: 2015-16

Class: _____ Semester: _____ Team No: _____ Team Size: _____ Evaluation: ISE 1 Max. Marks: 20 of 50 Date: _____

Sl. No.	Team Work Evaluation (TWE)	Max. Marks: 10	Individual Work Evaluation (IWE)	Max. Marks: 10	Sl	S2	S3	S4	S5	S6
1.	Coding/Implementation of the project (100% Status of Project)		1. Introduction well, eye content and communication style							
2.	Use of appropriate tools/techniques for coding the modules		2. Slide titles, content, visuals & content of his/her presentation.							
3.	Use of Coding conventions		3. Knowledge of topic demonstrated during his/her presentation.							
4.	Testing of the project and use of appropriate tools/techniques		4. Understanding and contribution in coding the modules.							
5.	Able to deploy & demonstrate developed modules of project		5. Quality of answers given to the exam panel.							
6.	Quality of results		6. Regularity in meeting the guide for discussion & assessment.							
7.	Organization of content and modularity in the report.		(e.g. 10+10) TWE TOTAL (10) =							
8.	Preparation of Genuine reports to avoid plagiarism & practice ethics.		Total of Each Student's ISE = (TWE Total + IWE of Each Student)							
			Roll No:	Student Name & Signature	TOTAL (20)					
			1.							
			2.							
			3.							
			4.							
			5.							
			6.							
			(e.g. 40+10) TWE TOTAL (10) =							
Remarks:										
Name of - Guide & Sign: _____ Examiner & Sign: _____ Ph. Contact: _____										

Fig. 7. Project work: ISE-I evaluation sheet

Department of Information Technology
Course: PROJECT PHASE- II (IT456): IN SEMESTER EVALUATION (ISE) SHEET, Academic Year: 2015-16

Class: _____ Semester: _____ Team No: _____ Team Size: _____ Evaluation: ISE 2 Max. Marks: 30 of 50 Date: _____

Sl. No.	Team Work Evaluation (TWE)	Max. Marks: 10	Individual Work Evaluation (IWE)	Max. Marks: 10	Sl	S2	S3	S4	S5	S6
1.	Project work promoted through Sponsorship/ Internship. Completely satisfied the requirements of promoting agency = 03M. Partially satisfied the requirements of promoting agency = 01M. Not satisfied the requirements of promoting agency = 00M. Not identified promoting agency = 00M		1. Introduction well, eye content and communication style							
2.	Project work presentation (Verify certificates of individual students)		2. Slide titles, content, visuals & content of his/her presentation.							
3.	Project Work Publication (Verify certificates of individual students)		3. Knowledge of topic demonstrated during his/her presentation.							
4.	Project Competitions (Verify certificates of individual students)		4. Understanding and contribution in coding the modules.							
5.	Project Check List		5. Quality of answers given to the exam panel.							
6.	Neatness of individual student's project Hard copy and timely Submission (Verify Certificate page etc).		6. Regularity in meeting the guide for discussion & assessment.							
			(e.g. 10+10) TWE TOTAL (30) =							
			Grand Total of Each Student's ISE = (ISE 1 + ISE 2)							
			Roll No:	Student Name & Signature	Grand TOTAL (50)					
			1.							
			2.							
			3.							
			4.							
			5.							
			6.							
			(e.g. 10+10) TWE TOTAL (30) =							
Remarks:										
Name of - Guide & Sign: _____ Examiner & Sign: _____ Ph. Contact: _____										

Fig. 8. Project work: ISE-II evaluation sheet

Rajarambapu Institute of Technology Department of Information Technology



Welcome To RAVANATAR
"Site for Deployed projects"

[Ravanatar's Home](#)

[WBRPS](#)

[IIS](#)

[Activity Based Login](#)

[STUDENT LEAVE \(By Ram Gaikwad \(2016\)\)](#)

[College Connect \(2015-16 Team-01 BY Manjil Khambe & Team\)](#)

[Multi-Compiler through cloud Server \(2015-16 Team-02 BY Utkarsh Patil & Team\)](#)

[ExamSystem \(2015-16 Team-04 BY ShriVinay & Team\)](#)

[MANS \(2015-16 Team-05 BY Suyash & Team\)](#)

[DRSC \(2015-16 Team-09 BY Hanumant Mule & Team\)](#)

[Document Management Solution \(2015-16 Team-10 BY Sudarshan Bhosale & Team\)](#)

[School Bus Track \(2015-16 Team-11 BY Pritish Dhole & Team\)](#)

Fig. 9. Screenshot of RAVANATAR Server

3.4 Competitive Cell:

The Competitive Cell coordinator is responsible for promoting higher studies amongst the students. The coordinators provided career awareness amongst the students and explained the diversified career opportunities available to the IT-graduates that can be chosen after graduation. Apart from these regular duties, initiatives were proposed/ modified by the coordinator and were executed to enhance the student's placements. The following are the initiatives taken by the coordinator:

1. Competitive Exams Cell: The objective of this cell is to create awareness among students about their career. Most of the students in the department are literally realizing the importance of in-campus placements only after the graduation. Hence to reduce the gap career awareness programs are organized from the second year of graduation itself.
2. Global Education and Exposure: Rajarambapu Institute of Technology has taken up major steps to prepare our students to face the Global Challenges by pursuing Higher Education at well-developed foreign Universities. To fulfil the objective mentioned above RIT started the In-Campus trainings or classes like GRE/TOEFL, German Language and Japanese Language. Five Memorandum of understanding (MoUs) with foreign universities and international consultancies were made to promote this activity and faculty/student exchange programs.

3.5 Outcome Based Education (OBE)

The OBE coordinator is responsible for promoting active teaching learning practices amongst faculties. As a part of this, initiatives were proposed by the coordinator and were executed to promote OBE culture. The following are the initiatives taken by the coordinator:

1. Innovative Practices for Learning (IPL): The department of IT initiated "Innovative Practices for Learning" (IPL) team on 28th NOV 2015. After completing this session, the faculties were able to:
 - ✓ Write the learning outcomes of their respective courses based on Taxonomy.
 - ✓ Analyze the outcomes by mapping them with the Program Outcomes.
 - ✓ Use appropriate learning activities and assessment methods to measure the learning outcomes.

IPL helped most of the faculties to shift from traditional teaching learning methods to OBE methods through active learning techniques and effective assessment and evaluation methods. This session is delivered through: Lecture/discussion with audio visual aid, peer interactions, group discussions, debates, sharing of experiences. IPL sessions are scheduled after the completion of each semester. Here faculties will discuss the practices adapted by them, that enhanced the student's learning and also identify solutions to address the complications if any. The OBE

coordinator monitors the following tasks of each course in-charge:

- Course plan
- Design of assessment & evaluation methods
- Course outcome attainment.
- Course gap analysis.

Figure 10 shows the checklist of the Course Plan which is prepared by the faculty in the department. The components of the plan acts as a frame work for the faculty to effectively deliver the course and practice OBE.

RAJARAMBABU INSTITUTE OF TECHNOLOGY (An Autonomous Institute) Rajaramnagar, Sakharale - Village, Sangli - DT, Maharashtra - 415 414.			
DEPARTMENT OF INFORMATION TECHNOLOGY COURSE PLAN			
INDEX		INDEX	
Sr. No.	TITLE	Sr. No.	TITLE
1.	COURSE DETAILS	11.	Types of Learners
2.	COURSE STRUCTURE	12.	Active Learning Techniques Plan
3.	COURSE DESCRIPTION/RATIONALE & SCOPE	13.	Feedback: Active Learning Techniques and Proficiency
4.	PREREQUISITES	14.	Feedback: Course Exit Survey
5.	COURSE OUTCOMES	15.	CO-Attainment and Analysis (Remarks, Recommendations & Resolutions)
6.	COs - POs MAPPING and Summation Matrix	16.	CO-Attainment Summary (using JorCadot or F-CAT)
7.	ASSESSMENT & EVALUATION SCHEME AND METHODS	17.	Question Papers (can be attached the end of course plan with DEC)
8.	COURSE'S RUBRICS - CO Mapping	18.	Student's Results
9.	SIFTING THE CONTENTS OF SYLLABUS	19.	Check List
10.	Lecture Plan	20.	
ABBREVIATIONS (Abbrev.)			
Sr. No.	TITLE	Sr. No.	TITLE
1.	Program Outcome	6.	Activity
2.	Course Outcome	7.	Reference
3.	Unit Learning Outcome	8.	Lecture
4.	Topic Learning Outcome	9.	BLOOMS Level
5.		10.	Marks

Note:
1. Design COs as per CO design instructions and BLOOMS levels. 2. Mark a tick in the INDEX after verification & completion, take the print and submit in the department office.

Fig. 10. Index of Course Plan

2. Faculty's Course outcome Attainment Tool (F-CAT): A tool using Microsoft- Excel was developed to analyze the students' performance for individual course. Though the tool has limited functionalities, it provides all the necessary feedback required for the course in-charge on the student's performance and evaluations. Figure 11 shows the attainment of the course Cloud Computing of academic year 2015-16 for final year B. Tech Semester-I class. This provided faculty with a feedback on the course's evaluations and student's performance. The F-CAT facilitated the faculty in monitoring the teaching and learning processes. Interested readers can write to the corresponding author of this paper to get a copy of F-CAT at free of cost.

4. Results.

The section discusses the results achieved through the collaboration of the portfolios. All the efforts taken by the portfolio coordinators are analyzed through quantitative measures by considering possible parameters for respective portfolios. The parameters considered for each of the portfolios are mentioned below.

Quantifiable parameters considered for Training and placement portfolio are as follows:

- ✓ Percentage of Students Placed (Against total no. of students Eligible, awaiting results of 6 companies)
- ✓ Percentage of students shortlisted through Technical Interview of TCS against # students cracked Aptitude
- ✓ Avg. percentage of students cracked aptitude rounds of TCS against # students appeared.

- ✓ No of students globally Certified in different technologies.
- ✓ No. of students placed through MOUs
- ✓ No. of MoU's made/ renewed

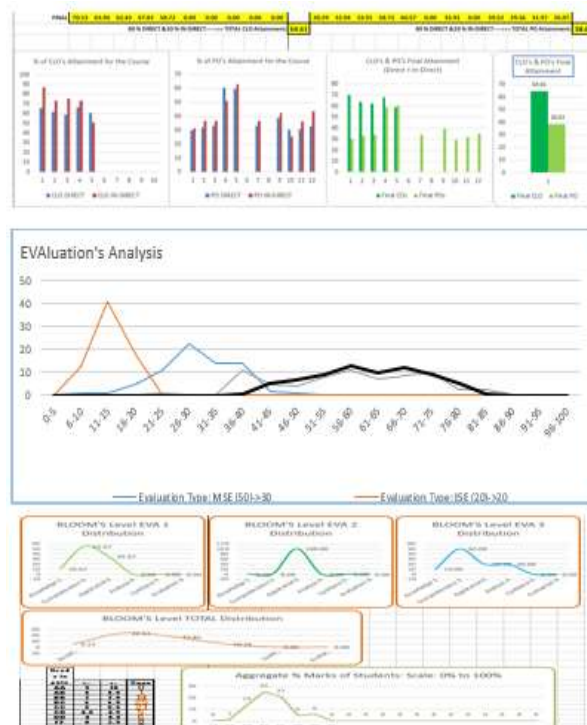


Fig. 11. Course's Attainment calculation using F-CAT.

Quantifiable parameters considered final year projects portfolio are as follows:

- ✓ % of Students Participation
- ✓ Total No. of external activities students participated
- ✓ Internships
- ✓ Sponsorship projects
- ✓ No. of student's presentations at conferences
- ✓ No. of student's publications
- ✓ No. of project Competitions attended
- ✓ No. of prizes/ Achievements
- ✓ Total No. of Projects Deployed
- ✓ % of Projects Deployed

Quantifiable parameters considered Competitive Cell portfolio are as follows:

- ✓ No. of students Qualified entrance exams for higher studies: GATE+GRE+CAT+CMAT+MBA
- ✓ No. of students opted for training programs under Global Education and Exposure
- ✓ No. of Students got admission in to foreign universities
- ✓ No. of students opted for higher studies.

Quantifiable parameters considered OBE port-folio are as follows:

- ✓ No. of active Teaching Learning Activities
- ✓ No. of publications in Education journals

Figures as shown in figures 12 to 15 shows the graphical representation of the parameters year wise for each portfolio.

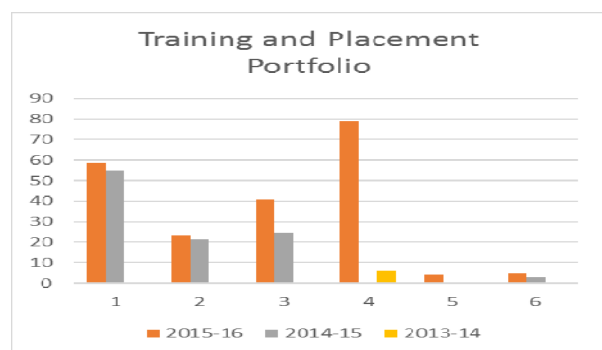


Fig. 12. Result Analysis: Training and Placement

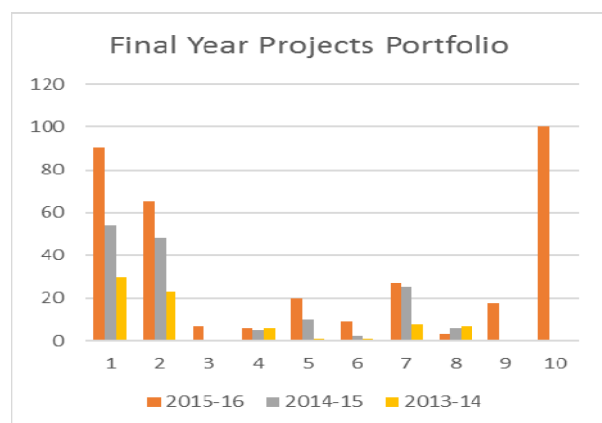


Fig. 13. Result Analysis: Projects

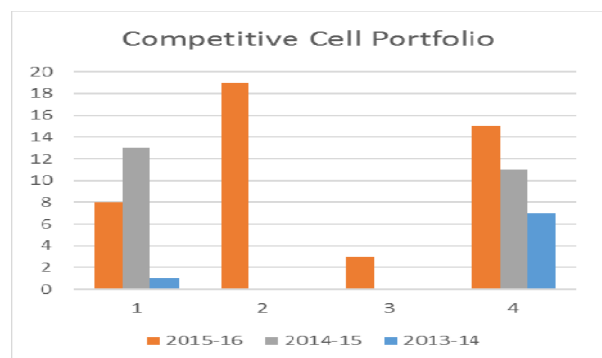


Fig. 14. Result Analysis: Competitive Cell

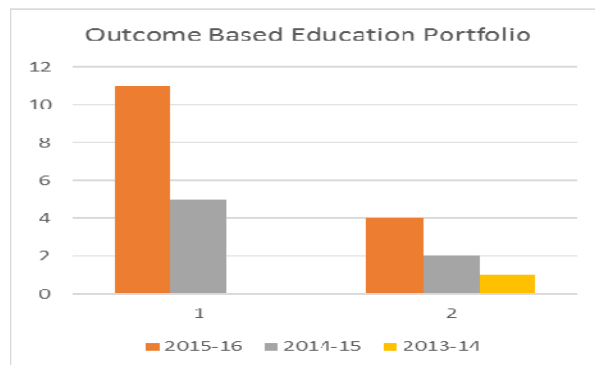


Fig. 15. Result Analysis: Outcome Based Education

Training and Placement Portfolio				Final Year Projects Portfolio				Competitive Cell Portfolio				Outcome Based Education Portfolio			
RANGE	2015-16	2014-15	2013-14	RANGE	2015-16	2014-15	2013-14	RANGE	2015-16	2014-15	2013-14	RANGE	2015-16	2014-15	2013-14
1	58.53	55		1	90	54	30	1	8	13	1	1	11	5	0
2	23.07	21.42		2	65	48	23	2	19	0	0	2	4	2	1
3	40.62	24.56		3	7	0	0	3	3	0	0	3			
4	79	0	6	4	6	5	6	4	15	11	7	4			
5	4	0		5	20	10	1	5				5			
6	5	3		6	9	2	1	6				6			
7				7	27	25	8	7				7			
8				8	3	6	7	8				8			
9				9	18	0	0	9				9			
10				10	100	0	0	10				10			

Fig. 16. Result Analysis in numbers for all faculty's portfolios.

Figure 16 shows the quantities obtained for each of the parameters of respective portfolios that are used to plot the graphs as shown in figures 12 to 15.

5. Result Analysis and Recommended Measures

The results provided in the chapter 4 are analyzed and certain measures are recommended to improve the performance of the students with respect to the portfolios. The recommendations provided shall be put in to practice in the immediate semester. The following are the observations and suggested measures for each portfolio of respective faculty. The recommendations made are as follows:

Training and Placement: Placement preparations must be started early; Second Year students must be Involved into placement club activities. Motivate students and promoting placement activities even after first drive since the students who did not get placed in the first drive are demotivated. The activities of students under LinkIT must be monitored.

Final Year Projects: Research activities must be promoted. Faculty should know all the information regarding project evaluations. RUBRICS must be strictly followed a few of the faculties fail to do so. Students must be promoted to win prizes instead of just participation in the project related activities.

Competitive Cell: It is observed that the student's performance in GATE for the academic year 2015-16 is very poor. The following causes were identified.

1. Much time is taken to set the final goal of a carrier.
2. Students didn't have proper schedule for preparation of GATE Exam.
3. Students are having disturb mind prior (Probably before 2 months) to GATE Exam.
4. Students are facing GATE as extreme difficult exam.

5. Most of the students believe in Luck factor in Exam which shows the casual approach.

6. After taking initiatives under this portfolio the number of students for higher education in foreign countries improved drastically. The following are the recommend measures.

1. Provide awareness about their goals during their second year.

2. Provide guidelines and schedule for preparation of GATE Exam.

3. Provide continuous counseling and feedback.

4. Promote GATE oriented problem sets during course delivery.

Outcome Based Education: F-CAT tool is very good. It will ease the process of filling data on the Ioncudos. Faculties are using the tool at the end of semester to calculate the attainment. Promoting faculties to use the CAT during each evaluation to feedback on teaching learning activities and student's performance. The faculty must strictly follow the ISE schedule and use Lecture wise assignments approach.

6. Conclusion & future work

The student's placement is dependent on several factors. The most relevant portfolios of faculty are identified and the activities are collaborated to enhance the student's placement. Apart from the regular duties, several initiatives were taken by the faculty and evaluated by considering parameters. The results show that there is a remarkable improvement in the student's skills. The evaluation sheets, F-CAT tool and project server are the outcomes of the faculty's portfolio coordination. The results depict that the students qualified for GATE has reduced for the academic year 2015-16, but also observed that more number of students have taken admission for higher studies. The causes are identified by the coordinator and necessary measures are recommended which will be put into action from the next semester. The practices defined will be continued in the department to achieve consistency in the results and analyze the same.

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