

Sharing Experience of Assessment Advisory Council at RK University

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Abstract: Assessment Advisory Council (AAC) at RK University is a mechanism used to promote innovative assessment methods to measure desired learning outcomes (LO) of the course giving freedom to faculty in method of teaching and matching assessment method. The learning need of each course is different and so is the pedagogy of teaching hence the method of assessment need not be same. The need to shift the orientation of the assessment patterns to match the learning needs of the course is recognised. Valuing the important role of faculties in this process, it is encouraged that all faculties design innovative assessment methods that suits one's pedagogy of teaching and learning needs of the students. The role of AAC is to guide all faculties to develop innovative assessment methods and formally approve them for actual practice. The prior screening is for maintaining & improving academic standards, and achieving learning outcomes. The present communication is to share the experience of faculty of engineering among different school of RK University and method of working in even semester of 2015.

Keywords: Assessment method, advisory, learning outcome, pedagogy

1. Introduction

Academic year 2014-15 have seen the launch of Assessment Advisory Council (AAC) in RK University to promote and support innovative assessment methods matching pedagogy of faculty with the learning outcome need of students. About 45 faculties opted for this out of 306 courses offered in university in even semester and sought formal approval as shown in Fig 1. After complete review and re-review 33 assessment style were approved. The process require outcome to be audited at the end of the semester, meeting the respective faculty member, review the execution and assess the impact of new assessment method. Faculties are asked to make report on the execution of the assessment method. All approvals are only for one semester. If the subject is offered the next year, an extension for approval is sought. The peer review is conducted by the subject expert nominated by director of the school followed by Director recommendation to be reviewed by panel at University making it rigorous and dissemination point to other school to learn and implement. To make learning fast for which approved style of assessment is shared among faculty. Overall, it is a progress made in assessment scheme giving freedom to faculty to propose with RK University approval and leading to creation of assessment rubrics. The impact on student

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learning experience is yet to be documented and register student experience.

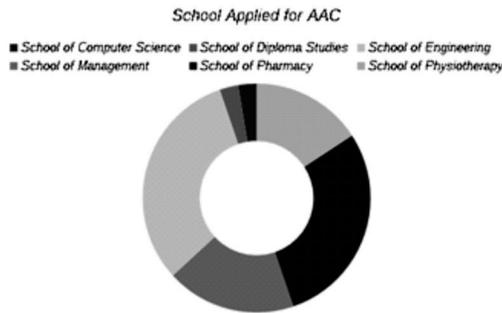


Fig. 1 Application Status for AAC 2015 School wise in University

2. Assessment Advisory Council (AAC) process

There is a formal Google form Table-1 to apply for the AAC as under:

1. Applicant intimate concerned Director of School or AAC Coordinator by mail to get word document (Soft Copy only) of submitted response.
2. Once word document is received, Applicant carries forward this document (Soft Copy only) for Peer Review, Director's Review and AAC Review.
3. Applicant informs respective HOD/Director and asks to arrange Peer Review and Director Review. Moreover, Director submits Peer Review and Director Review Report (Hard Copy) to AAC after completion of both the review.
4. Applicant makes/defend corresponding changes in Google form as well as in sent word document (Soft Copy) as suggested in Peer Review, Director's Review and AAC Review.
5. Prior to AAC Review, Applicant meets director to discuss changes suggested which were given by Peer Review and Director Review.
6. Application approved by AAC with/without suggestions is resubmitted as final corrected copy (Soft Copy) as repository.
7. Director ensures adherence to CLOs (Course Learning Outcomes) and BT (Bloom's Taxonomy).
8. Peer Review and Director Review is conducted comprehensively.

9. Director announces the time frame for application filling.

10. AAC review requires: a. Applicant's word document file and other supporting documents. b. Does not require any power point presentation of the application. c. No hard copy is required. d. Applicant remains present on time for AAC review. e. Primary and all other applicants have to be remain present in AAC Review.

Table 1. Google form filled

PART - A : Applicant(s) Information
PART - B : Course Information
PART - C : Component Specific (Component - I to IV)
{General Information
SECTION - 1 : Process of Assessment & Documentation (Assessment Design)
SECTION - 2 : Feasibility
SECTION - 3 : Mapping With CLOs...
SECTION - 4 : Blooms Taxonomy
SECTION - 5 : Consistency with Pedagogy/Course Content}
SECTION - 6 : Benchmark/References
PART - D : Summary

3. Stock of situation

Innovative mode of evaluations for Practical Continuous Internal Examination (PCIE) is proposed to approve at Director level rather going through the full cycle as to reduce time for approval, repetitive approval and providing faculty the flexibility. It proposes to have common evaluation pattern, general write up, planning for 16 week into 10 core experiment as per the need of the course, +2 as faculty defined experiment making use of library Journal, presentation, and poster while extra other +2 as student define experiment putting use of student creativity leading to addition in the lab experiment and rest +2 is left for laboratory assessment making it 16 week. Student design project involving society problem linking subject or as per student wish in group is taken as formative assessment.

4 Feedback

Given the success of AAC approval and faculty participation a quick feedback aggregated at the Director's level is collected to review its success and learning from short coming, AAC administration, unforeseen difficulties and method to overcome is worked out. Fig 2 depicts the school participation in the program while feedback reported is only for the School of Engineering.

First view: It is most effective project of all in RKU because of it's focus - it's focus is on outcome based education. Discussions and preparations on T&L are not useful without improvements inside the classroom.

Second view: As any proposal for AAC assessment was not submitted from one of the department and faculties reviews were taken regarding not sending any proposal and reasons for the same are mentioned below.

1. The procedure was too lengthy, time given to fill form was very less, and faculties could not make it, as most of them were busy with other duties. Few reported application form being not user friendly.

2. Most of the faculties were comfortable with current assessment pattern.

3. Faculties believe that implementation of new assessment pattern should be implemented on new admission batch.

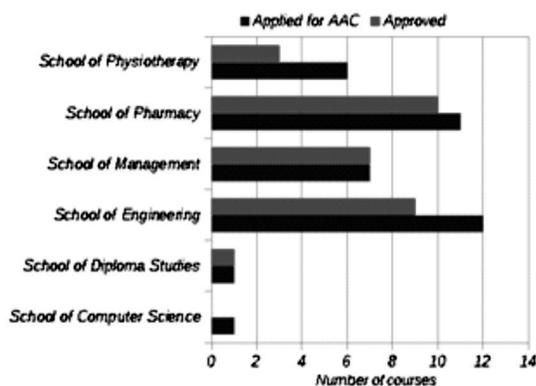


Fig. 2 Stock of situation

Third view: Proper feedback be taken from students which can be analyzed to further modify or continue the evaluation processes for that course with same AAC component. So after the completion of course,

one survey be recorded by faculties, which can further be passed on to AAC committee members for analysis. Finally that analysis be discussed with faculties so as to improve or continue the process.

Fourth view: AAC has vision and is performing well. To make this process more successful abrupt change be avoided. Faculties and students take time to understand the entire process, objectives and expected outcomes. It is observed that many faculties don't even think towards outcomes and just wish to apply for AAC. Once faculties go through entire process and documentation work of AAC, Need is to keep continue for next batch students too. AAC application is time consuming if it is not allowed for upcoming students. Faculty with seniority found it difficult to get comments from subject expert with lesser experience as a reviewer which was ignored during initial stage. Rubrics and application form are designed are useful for other course too.

Fifth view: Most of faculty members have applied for AAC in current semester and don't have specific suggestions about execution of AAC approved evaluation method. They are eager to apply it in next semester.

Sixth view: Difficulties faced in one subject was Internet speed during the online exam, in while in other it was bit difficult to manage the exam of 4 divisions simultaneously, students are inexperienced with exam on in structure CANVAS. It requires explaining student the procedure in advance. The registration on CANVAS requires E-mail id of all the students. However since many of the id were not working once the registration started. It created lot of problems on the day of exams. In third subject experimental setups needed to be changed frequently during the tests. Difficulties observed in scheduling the whole process in the fourth subject was due to unexpected requirement, in the manufacturing unit the prior permission given by the industry was cancelled in few cases. Benefits Observed is assessment became easier due to online exam giving productive time to faculty. For courses opting for MCQ exams, it is reported that practical performance tests, students' participation in lab experiments improved. Critical thinking improved due to short questions answers test, Students learned to make posters according to given criteria, Six groups had participated for new experiments design and done satisfactory work with modal performances,

Encouraged regularity and team work. In course with industrial visits, students appreciated the transport facilities; Interactions with the Industrial persons especially in R&D department, Students inculcated the knowledge by writing the concerned industrial report and presenting them in an effective way. As for suggestions for accelerating the process only one review should be there for previously stipulated form of exam so that intermediate time duration between reviews can be reduced.

4. Achievements

The major achievement through AAC is faculty involvement in assessment design and coming up with rubrics of assessment, generating method to implement. The information regarding expectation as course learning outcome is shared with students as Table 2. It maps the practical five components as procedure, observation and data collection ability, analysing the data in form of results and deriving the conclusion out of it. Lastly they are put to explain the thing in the form of question answer session. The total marks award able for this is 15 with larger component for first two and less for last two making them explore outside the boundary. Similarly for the design of experiment is included in each lab component and a rubric is generated looking into the need of mission statement of providing ray of independent thinking leading to research, patenting and entrepreneurship. The same is judged with a new rubric prepared as Table 3. As this correspond to design of new experiment the larger stress is on content and format then comprehension. All these activity are group activity so group dynamics play a vital role. Hence there is variation in content delivery as it has to match the individual contribution and faculty role become vital in this to identify it. As such a student is ranked into four level as excellent, good, average and poor. It is being noticed that maximum suggestion for not approved courses have come in this category where a student is expected to deliver without under going to formative exercise. Effort is made in this direction to over come it by providing the demonstration of faculty defined experiment where in one pitch in one's research component and make use of concept like white paper, state of art, journal utilisation and revalidating the same experiment with different objective. It is expected that this will be the turning point in engineering education transformation. The impact of the same will be measured in students ability to propose new set of

experiment which will be glimpse of there creative mind.

Table 2. Assessment rubrics for practicals (15)

ACTIVITIES	5 MARKS	4 MARKS	3 MARKS	2 MARKS	1 MARKS
Procedure / Knowledge regarding the experiments (5)	Explain the whole process with depth knowledge and all the necessary points	Explain Partial process with some points	Explain process but not in right manner	Does not have the proper idea though explain what ever they know	Does not explain any thing but know little bit regarding experiments
Observation Table / Data (Graphs) (4)		Correct observation table and data with necessary details	Partially correct observation table and / or data	Not in proper manner observation table and / or data but tried well	Know the procedure for taking the data but can not made observation table and / or data
Result Table (3)			Correct result table with all the necessary details	Partially correct result table	Not in proper manner or relevant for the same
Questions (3)			All three answers are correct	Two answer are correct	One answer is correct

Table 3. Rubrics- Students' Proposed New Experiment Design (15)

Component	Excellent	Good	Average	Poor
Format (4)	Appropriate format include all the details. (4)	Format is appropriate but some details are missing (3)	Format is not appropriate and details are missing. (2)	Format is not appropriate and details are missing. (0-1)

Content (8)	Shows a full understanding of their topic and contains are relevant to the criteria (Domain Specific) (6-8)	Shows a good understanding and contains are majority relevant to the criteria. (Domain Specific) (4-5)	Shows a partial understanding and contains are not much relevant to the criteria. (Domain Specific) (2-3 marks)	Shows a partial understanding and contains are not much relevant to the criteria. (Domain Specific) (0-1)
Comprehension (3)	Group is able to accurately answer almost all questions posed by teachers about the topic. (3)	Group is able to accurately answer most questions posed by teachers about the topic. (2)	Group is able to accurately answer a few questions posed by teachers about the topic. (1 marks)	Group is not able to give any answer of questions posed by teachers about the topic. (0)

5. Method to Improvement

Taking view of the stock of situation and feedback received following method of improvement is suggested:

- Concerned faculty members of AAC-approved courses last semester, meet a small sample of students from those courses and understanding their version (with faculty member), and
- Examining any significant impact in overall learning quality and feedback in quality improvement as against traditional exam of students and respective course.
- Allowing an approved AAC component to be used more widely for other courses, as well as by other faculty members, in different school.
- As per the approval of AAC for last semester project evaluation may go ahead for final project evaluation with inter-department/inter school faculty of reasonable experience of more than say 5 years.
- Possible re-implementation of approved method for different course/faculty/school.

6. Conclusions

It is a very unique method being tried linking design, delivery and assessment for a course led by faculty leading to outcome based education (OBE). Telsang M. (2015) has reported OBE as more as compliance driven rather than performance while in this case it is more of second part with a success of voluntary participation in 45/306 courses offered across University amounting to around 15%. This is a significant achievement given the age and expertise of the University. Particular difficulty were faced by faculty as well as the students in adopting as a new process, some of them out of control but were found to be amendable over period of time. Other was of administrative in nature which is manageable with proper planning. It has be found true as Shreekanth N. (2015) reported that it poses new challenge for faculty and student to be met. This only is being possible more easily in private university blessed with young faculty to take up new challenges and make significant contribution in for change in assessment system based on one's teaching pedagogy. William Pong (2015) through blog caution against the over planning so it well that though slowly but steady plunge is taken to bring life is assessment system. Balasangameshware J. (2015) and Jakhale, A., & Attar, A. (2015) confirmed the need of continuous improvement so one semester call is relative short time to comment on quantitative improvement but surely it set the director to follow and measure. Vijaya Prakash, R. (2015) segregation method and Anala, M., Hemavathy, R., & Shobha, G. (2015) empirical method is yet to be applied to build the comprehensive guideline. And it closure to Telsang, M., & Kulkarni, S. (2014) proposal are "We are teaching, are they learning?"

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References

- Telsang, M. (2015). Outcome Based Education - Design Delivery and Assessment of Product Design and Development Course at Undergraduate Engineering Program. Journal Of Engineering Education Transformations, 0, 145-149. doi:10.16920/ijerit/2015/v0i0/59597

doi:10.16920/ijerit/2015/v0i0/59597

Sreekanth, N., Arjun, C., & Guruprasad, K. (2015). Outcome Based Education: Strategies and Tools for Indian Scenario - Co-Operative Learning. *Journal Of Engineering Education Transformations*, 0, 348-352. doi:10.16920/ijerit/2015/v0i0/59876

William Pang (2015) Over planning: Ivy League and Beyond Posted:29/07/2015 23:00 IST Updated: 2 9 / 0 7 / 2 0 1 5 2 3 : 2 9 IST, URL: http://www.huffingtonpost.com/william-pang/overplanning-ivy-league-a_b_7868220.html?ir=India&adsSiteOverride=in as assessed on 7/09/2015

Balasangameshwara, J. (2015). Uncovering the Value of ICT in Time Management for Implementation of Obe Courses. *Journal Of Engineering Education Transformations*, 29 (1) , 43 - 54 . doi:10.16920/jeet/2015/v29i1/77109

Jakhale, A., & Attar, A. (2015). A Novel Approach Towards Outcome Based Engineering Education for Continuous Quality Improvement: A Case study. *Journal Of Engineering Education Transformations*, 0, 133-137. doi:10.16920/ijerit/2015/v0i0/59348

Vijaya Prakash, R. (2015). An Effective Tool for the Attainment of Course Outcome's and Programme Outcome's. *Journal Of Engineering Education Transformations*, 28 (4) , 78 - 82 . doi:10.16920/jeet/2015/v28i4/70405

Anala, M., Hemavathy, R., & Shobha, G. (2015). Outcome Based Education: An Empirical Approach. *Journal Of Engineering Education Transformations*, 28 (2 & 3) , 92 - 97 . doi:10.16920/ijerit/2015/v28i2&3/56662

Telsang, M., & Kulkarni, S. (2014). Institutional Transformation in Action of a Private Engineering College in Western Maharashtra - A Case Study. *Journal Of Engineering Education Transformations*, 27(4), 36-45. doi:10.16920/ijerit/2014/v27i4/53299