



ENHANCING THE LEARNING SKILLS THROUGH STUDY PROJECTS IN ENGINEERING COLLEGES

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Abstract:

Gone are the days when teaching was confined to Black boards and learning was lingering between the four walls of a class room. The best practices of teaching pedagogy developed in the age of internet have harnessed the learning process of students with innumerable academic attributes, of which study projects occupies a paramount position. The initial stage of academic reforms have occasioned only Engineering students to undertake project work to meet their curricular requirements and gradually attributed to the curricular aspects of conventional sciences and humanities. The contemporary practices like choice Based Credit System and college autonomy have given liberty to higher education institutions to accord credits to study projects and made them an impeccable portion of teaching, learning and evaluation process with holistic intention of creating practical exposure to students. But, the moment, study projects have become part of the curriculum, they were also started fading with the inherent limitations which traditional syllabi had been encountering from the beginning, such as submission of counterfeit projects, missing element of research in the projects and drafting study projects only to meet the mandatory requirements of the curriculum. This situation obviously questions whether, study projects are capable of enhancing the learning skills of students or suffering with the dogmatism of other curricular parameters. This question can be answered with robustness only after conducting an empirical research on the nexus between study projects and learning skills. It is the prime reason why a paper titled "Role of Study Projects in Augmenting the Learning Skills of Students" is brought to fore with the twin objectives of understanding the emerging trends of study projects in higher education institutes and evaluating the perceptions of teachers on study projects.

The purpose of this research is to solidify the confidence of the student .With respect to the ideology to help society for a smart welfare and growth

Requirment and its analysis with idea and purpose and the help of technology and project management (management skills) learning the management skills and to practice improvement and changes to reach and redefined the methods and procedures to incorporate a great achievement. Learning the documentation skills. launchiing project with helpful ethics and to grow confidence in a students project.

Keywords: Study Projects, Learning Skills, Evaluation Methods.

1. INTRODUCTION:

It is a Diction well established in the literature of pedagogy that, teaching and testing should go hand in hand. The efficacy of teaching is measured in terms of the learning outcome and the efficacy of learning is measured in terms of the skills and competencies of the students in making the pragmatic use of the learning outcome. Thus, teaching page after page of pedestrian prose and making the students to reproduce the same in examination no longer serve the purpose of modern evaluation system adopted by the world class education institutions. Rather, modern education system has made rapid strides of research and bestowed many best practices to evaluate the strength of teaching and learning process. One of such best practices is the execution of study projects by the students parallel to what they



learn in the class rooms. Study projects not only provide practical exposure to the participants but also inculcate the habit of thinking out of box and sparks innovative ideas, which in turn helps creating intellectual wealth for the society. These synergies were recognized by John Dewey a famous education reformer way back in the year 1897, who described in his book ‘My Pedagogical Creed’ that, “Project Based Learning (PBL) shall enhance the thinking capabilities of the students which must come into force from the very primary stage of education.” Indeed the concept of project based learning is not a new phenomenon that Dewey or some other western Philosophers have taught to the world. The idea of innovative thinking and viewing the education beyond text books was discussed in very ancient Vedas. For instance, Rig Veda professes the notion of Chinthana that occasions the disciple to think on what they learn and apply the concepts learnt in fixing the complex problems. Of course, the roots apart, study projects have made their way to enter contemporary education system irrespective of the discipline and became vital yardsticks measuring the performance of education institution as a whole. It is the reason why, institutional accreditation agencies like National Assessment and Accreditation Council (NAAC) and National Board of Accreditation (NBA) have been according maximum emphasis on teaching, learning and evaluation criteria with due proportion to study projects, project outcome, sponsored projects and the like. But, the most contemplating question arising at this juncture is, whether, education institutions have been meeting the holistic aims of study projects or made them a part of mere curriculum. This question can be answered after reviewing the literature made available after conducting empirical studies on project based learning.

2. REVIEW OF LITERATURE:

Prakash (2012) has conducted a study on selected Engineering colleges of Maharashtra and found that, the outcome of study projects executed by most of the students does not corroborate the standards of applied research. Most of the opinions he gathered enabled him also to draw a conclusion that study projects are meant for the students to observe the apparatus which they did not see earlier in the conventional labs of the colleges. This opinion is also strongly supported by Tandon (2013) who interpreted in his paper that, few institutions have been showing mere industrial visits as study projects and making the students to gather tangible evidences of functioning process of the industries. This phenomenon consumes no longer time to track down the very purpose why study projects are introduced into the curriculum. Meek and Larsen (2014) have presented their paper stating that, project based learning has been successful only in those institutions which are capital rich. They have argued that, capital rich institutions are competent enough to hire skilled mentors and fund the requirements of executing the projects. On the other hand, institutions having weak capital or funding structure have been encouraging the concept of project based learning only when it becomes mandated by the regulating agencies. This obstruction must be set aside by the state in the form of financial grants in the frequent intervals. On the other hand, Sen (2015) who has conducted a study on the trends of major research projects in Indian universities has stated that, the major impediment of project based approach lies in the



commitment of the mentors to involve the stakeholders and not in funding matrix. He strongly felt that, funding need not come from the state agencies all the time. It can be pooled from other sources like corporate sponsors, NGOs and individual philanthropists if the goals of study projects or research programmes are designed to benefit the stakeholders at large. Murthy (2016) who has conducted a comparative study on two institutions with different curriculum on study projects revealed that, the learning skills of students having more importance to study projects in the curriculum are quick and proactive than those having meager priority for the study projects at institutional level. These finite reviews present varied dimensions of study projects ranging from funding, mentoring, involvement of stakeholders to many other facets like learning skills and enable to test the following objectives to shape this paper.

3. RESEARCH METHODOLOGY:

The first objective is accomplished by studying the weightage granted to study projects by accreditation agencies like NAAC and the second objective, which aims to spot the trends of study projects, is brought to fruition by reviewing the secondary data available in different sources. Whereas, the third objective is perceived through primary data collected with the help of a questionnaire.

4. SAMPLE SIZE:

This paper is executed with a stratified random sample of fifty respondents representing the strata of Sciences, Commerce and Arts. The respondents selected for this study are the teachers working at different government degree colleges which are accredited by NAAC. However, it does not consider the geographical scope to pool the respondents owing to the uniform attributes of government colleges with respect to the funding process of study projects.

5. OBJECTIVES:

- To understand the importance of study projects in teaching, learning and evaluation criteria.
- To spot the present trends of study projects in higher education institutions.
- To know the perceptions of teachers on the importance of study projects in teaching and learning process.

6. DISCUSSION: IMPORTANCE OF STUDY PROJECTS IN TEACHING, LEARNING AND EVALUATION CRITERIA:

Teaching is not mere dissemination of the concept, nor it is restricted to the completion of curriculum. It is rather meant to improve the learning skills of the students. Therefore, teaching and learning have got an impeccable correlation which can be evaluated by pedagogical outcomes like the formative exams, summative tests along with other attributes



like projects reports. The learning evaluation is usually made in terms of marks or credits, but the evaluation process of study projects is made with the help of grades in many universities. Because, ascribing marks to study projects de motivates the spirit of applying the outcome of project in real time situations. Such a great prominence is attributed to study projects in the sphere of higher education. This is further corroborated by the priority granted to study projects in making institutional evaluation by the accreditation agencies like NAAC. For instance the second criteria of self study reports to be submitted by the institutions seeking accreditation has got major role to play in CGPA. There are 121 metrics of affiliated colleges considered for accreditation by NAAC of which, 50 indicators are allocated to teaching, learning and evaluation system. among these 50 key indicators, fourteen queries are made in the form of questions on project works and outcome of such work. It is a lucid indication of the importance granted to project based learning or study projects in teaching and learning criteria.

PRESENT TRENDS OF EXECUTING STUDY PROJECTS

Unlike the traditional approach of selecting a simple topic and examining the pros and cons under the supervision of a mentor, the modern approach of study projects have been acquiring a gamut of qualities representing research, collaboration, innovation and adaptability which are presented in the following five important merits. Corporate Collaboration:- Higher education institutions having nexus with corporate entities are making MOUs not only for providing placement assistance, but also to execute study projects by making use of the corporate resources like plant and machinery, expert opinions and office environs. Most of the entities promoting study projects have been providing internships to meritorious students to harness their skills in the tenure of study projects. Interdisciplinary Approach:- The first stage reforms of education system have mandated study projects only in the core disciplines of the students and hardly any academic flexibility was granted to evince the skills of students. But the present trend is altogether changed and promoting interdisciplinary topics to execute study projects. Today, a civil engineering student can also dare to dream of using robotics and artificial intelligence and bring out the finest study projects of his choice. Dominance of ICT in Study Projects: - An important trend surfacing the sphere of study projects is the usage of Information and Communication Technology (ICT). It has erased the problem of information asymmetry and motivating the students to access any data required to execute the study projects. But, the situation in pre ICT age was quite different and forced the students to stand at the mercy of corporate entities for obtaining the data or information essential to animate their study projects. Sponsorship of the Projects: - funding of study projects is by no means a herculean task, provided the project outcome is novel, non obvious and capable of industrial application. Angel investors and corporate houses have been coming forward to pour the money in huge sums to sponsor the study projects of the students in premium institutions to create mutual benefits. The work executed under such circumstances is often referred to commissioned work. Need Based Projects: - Study projects of earlier generations were largely confined to the practical process of theory

learnt in the classrooms. But, the coining of new phrases like start ups, innovations and incubation centers have been veering the students and mentors to identify the needs or gaps in existing discipline and forge the study projects to address such needs or to cement such gaps.

PERCEPTIONS OF TEACHERS ON THE ROLE OF STUDY PROJECTS IN TEACHING AND LEARNING PROCESS:

The perceptions of fifty teachers has been captured on the role of study projects in teaching and learning process using a close ended questionnaire and the summary of it is presented in the following table.

Q. No	Question	Yes		No		Can't say	
		No.	%	No	%	No.	%
1	Do you think that, Study projects are helpful in improving the learning skills of students	32	64	10	20	8	16
2	Do you think that study projects promote interactive learning	28	56	11	22	11	22
3	Do you think that study projects augments the interest on subject	42	84	7	14	1	2
4	Do you think that study projects are testimony to the efficiency of teachers	16	32	30	60	4	8
5	Do you think that study projects are properly funded at your institute?	10	20	40	80	0	0
6	Do you think that curriculum plan provide enough time to execute study projects	24	48	15	30	11	22
7	Do you support granting credits to study projects	29	58	14	28	7	14
8	Do you think study projects should always be need based?	16	32	30	60	4	8
9	Do you think study projects should be empirical all the time?	9	18	33	66	8	16
10	Do you think study projects leads to holistic development of students.	30	60	13	26	7	14

Source: Primary Data.

It is vivid from the table that majority of the questions have revealed similar responses, except when a question is asked whether study projects should stand testimonial to the efficiency of teachers, for which majority of the respondents said 'no'. it is also found that majority of the respondents i.e. eighty percent of them are under the impression that, study projects are not funded properly at the institutional level. It is also observed that a vast majority of teachers have responded that, study projects need not be empirical all the time. Rather, they should lead to the holistic development of the students.

7. CONCLUSION:

The conglomeration of secondary data and responses of the teachers enables to draw a conclusion that, the role of study projects in augmenting the learning skills of the students is indispensable. The notion of treating study projects as mere curricular requirement must be set aside to enhance the teaching, learning and evaluation system keeping due importance to study projects and promote the concept of project based learning at all the levels

8. RECOMMENDATIONS:

Study projects must be promoted at educational institutions to ensure holistic development of the students and should not be viewed in terms of credits or academic requirements.

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