

Project Based Learning: An Effective Tool for Developing Aural and Oral skills of Engineering Students - A study

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Abstract—In the context of globalisation effective communication skills are indispensable for engineering graduates to succeed in their career. Project based learning is one such technique which can help the learners improve their communication skills. It is a student centred approach to learning. Here students work in group to solve challenging problems that are realistic and often interdisciplinary. As a group, they decide how to approach a problem and look for a solution based on their prior knowledge. They gather information from a variety of sources and synthesize, analyze and derive knowledge from it. This paper focused on using mini community based projects as a tool in developing aural and oral skills in Engineering students. To test the effectiveness of the study, Tallapadmavathi College of engineering students were taken for the study. As part of their evaluation process they were assigned mini projects on varied parameters. It was felt that this kind of technique would enable the students to develop better speaking and listening skills.

Keywords—Project based learning, community, aural and oral skills, communication skills, strategy.

I. INTRODUCTION

ENGLISH is an important tool for today's international communication. The success of an engineering student largely depends on the ability to communicate effectively. They require skills to maintain relevance with the global environment of the new millennium. Apart from having solid technical knowledge, Engineering students need to be able to think logically and critically, They should also be able to listen, speak, collaborate and communicate effectively. Therefore all these skills are required for them to be placed in a reputed company.

A successful way to enhance students' communication skills is by grouping students and giving them a task. In order to develop students listening comprehension and oral communication skills, the best strategy that can be used is

introducing mini projects. In this paper an attempt has been made to employ community based projects as a language learning tool to the students of Tallapadmavathi college of Engineering.

II. LITERATURE REVIEW - LEARNING THROUGH PROJECT WORK

The project method originates from the philosophy of pragmatism, a movement which appeared in the middle of the 19th century and promotes the idea of "Learning by doing". It was developed by John Dewey (1938) and W.H. Kilpatrick (1938). It is a dynamic classroom approach to teaching in which students explore real-world problems and challenges. According to W.H Kilpatrick "A project is a whole hearted purposeful activity proceeding in a social environment. It is mainly focussed on teaching by making the students engage in pursuing solutions to non trivial problems by asking and refining questions ,debating ideas, making predictions, designing plans, collecting data and drawing conclusions, communicating their ideas and finding to others (Blumenfeld,etal 1991)

III. TYPES OF PROJECTS

A Industry Project:

Industry projects are project based activities in partnership with an industry or organisation. The project involves research components such as questionnaire survey, observation and analysis of the existing data. Students work to meet the requirements of the industrial clients and the university's academic requirements.

B University projects:

These projects mainly focus on creating innovative solutions to real-world problems. They find facts and analyse it by gathering the material from library/Internet. The written report is in the form of dissertation

C Community Project:

Community projects provide a unique opportunity to extend student learning and broaden experience beyond the academic environment. By doing these projects, students will not only be contributing their knowledge and skills towards helping

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others in the community, but they also gain a range of career related skills such as team work, gathering information, questioning skills, coordinating, organising, public speaking , writing skill etc. This experience will also provide students with an opportunity to understand the social and cultural needs of the people in the community.

IV. GUIDELINES IN ASSIGNING THE PROJECT WORK

Practical guide lines for implementing project activity in the English Language classroom.

Stage 1: Topic selection: inform the students about the activity. It includes selection of project topic. The topic is chosen by the students after discussing with their group.

Stage 2: Designing the project activity: Here the students use mind mapping technique. They need to apply their previous knowledge about the topic by framing number of questions. The teacher helps the students in writing down certain words and expressions related to the topic. This stage also includes assigning of roles, methodology, sources of information and places to be visited.

Stage 3: Conducting the project activity: At this stage the groups implement the activities which were planned in the 2nd stage. Here the students carry out the research. R.Roseler divides this step of project in three stages: 1) The selection of information 2) the evaluation of information 3) the application of information (K Chrisafidis 2002 pp. 95-96).

Stage 4: Reporting: Here the group presents their views about the project which they carried out.

V. LEARNING OBJECTIVES OF ASSIGNING THE PROJECTS

1. To expose the students to the skill of questioning
2. To develop observation skills and socializing skills among students.
3. To develop the challenges involved in context based societal issues.
4. To develop critical thinking ability, team work, organizing ideas and improve vocabulary.
5. To develop students presentation skills by encouraging them to give power point presentation.
6. To develop speaking and listening skills through community project.

VI. METHODOLOGY OF ASSIGNING COMMUNITY PROJECTS

The community project was assigned to 40 students. Each group comprised of five students. The students were given the freedom to select the topics of their interest from the list provided by the teacher. The list included the following topics. Awareness related to government welfare schemes in the community, bringing awareness on Child rights in the community, Agriculture, Electricity, Warangal Municipal Corporation, Deprived children in the Prison, Safe Drinking Water Facilities.

Findings:

The students were able to summarize the responses given by the subjects. They were able to elicit, extract and expand the incomplete expressions. They could empathize with the subjects and understand their psychological state of mind. They were able to link thoughts, and ideas. They developed the skill of asking questions. Most of the respondents spoke in the regional language (Telugu) However students exhibited their language competence by translating and code switching the responses into the target language. At the end every group gave a power point presentation of what they surveyed.

VII. STRATEGIES/LEARNING OUTCOMES ACHIEVED THROUGH PROJECT WORK:

1. Asking Questions:

i). Yes or No questions:

- a) Do you get proper drinking water?
- b) For how many hours the water is being provided
- c) Do you get contaminated water or purified water
- d) Do people in your village suffer from drinking contaminated water?
- e) Is government taking any measures to supply purified drinking water?

ii). *Hypothetical questions:* These questions helped students to explore possibilities and test theories. Questioning allowed the respondent to use their imagination based on the facts

Eg: a) If God ask you for a wish what wish would you ask for?

b) If you had 72 hours to live and \$100 billion to spend, what would you do before you left the world?

c). If you become Chief Minister, what will you do for your village?

iii) *Reflective questions:* It is a technique in which one person prepares and asks questions that are designed to provide opportunity for the respondent to explore his or her knowledge, skills, experience, attitudes, beliefs and values.

eg: a) What was the incident/situation in which you found yourself guilty?

b). How did you feel about it

c). How is your experience in the jail

2. *Paraphrasing:* Paraphrasing means restating what the individual has said in different words. This technique allows the speaker to verify that the message was received correctly.

3. *Collaborative technique:* It is a technique designed to make learning a lively and successful process. Here the learner gets

the opportunity to discuss with peers, present and defend ideas and be actively engaged in learning process.

4. *Thinking outside the box*: This technique helps to develop critical thinking by synthesizing the information, asking the right questions and come up with solution.

VIII. PROJECT -1

Title: "Drinking water supply to Kanakapur village":

1. Objectives:

- To learn the history of the village
- To know the problems faced by the people with respect to drinking water.
- To suggest remedial measures

2. Learning outcomes:

- Students develop curiosity and observation skills
- Improves listening and speaking skills
- Learn to work in groups
- Learn the usage of different vocabulary words
- Develop critical thinking
- Develops writing skills
- Confident to give presentation

IX. ACTIVITY

Group of 5 students of III B.Tech participated in the project. The topic taken for the study is "Drinking Water Supply to Kanakapur village". The group went to the village to study the problems faced by the villagers in getting safe drinking water. The students prepared interview based questionnaire well in advance, before interacting with the villagers. Questions related to hygienic conditions, amenities' provided by the government, diseases caused due to unsafe drinking water etc were asked. They interacted with the doctors, and other officials. In their study they also came out with remedial measures.

Duration of the project is for one month. The group reported the project through Power point presentation.

Format for reporting the project:

Title of the topic:

Introduction:

Objective of the study:

Importance and purpose of the study:

Scope of the study:

Procedure:

Learning outcomes:

Student's reflections:

Appendices:

X. CONCLUSIONS

The world is changing constantly, but the way the young engineers are educated and trained for the work place is falling behind. Students who are enrolled in engineering colleges are exposed to English language throughout their schooling but they are given little opportunity to practice and use the language in oral context. It is the responsibility of English teachers to help the students possess the right skills to effectively communicate and collaborate with others, be creative and innovative. Integrating project work in ESL classroom plays a beneficial role in developing language skills in the students.

REFERENCES

- [1] Chrysochoos Joseph E.etal " The Methodology of the teaching of English as a foreign language with reference to the cross curricular Approach and Task based learning", The pedagogical Institute, Athens 2002.
- [2] John Dewey, Education and Experiences, Newyork. Touch stone. 1938/1997.
- [3] Blumenfeld.P.etal." Motivating project based learning: Sustaining the doing, supporting the learning, Educational psychologist," (1991)
- [4] [www.edutopia.org/project based learning](http://www.edutopia.org/project-based-learning).
- [5] Project based learning. [Wikipedia.org/wiki/project based learning](http://Wikipedia.org/wiki/project_based_learning)
- [6] 6.Edward J.Coyle .EPICS: "Engineering projects in community service", college of Engineering, Purdue university.
- [7] S. Chandrasekaran "Learning through projects in Engineering education", Deakin University, Australia.
- [8] Chrisafidis, K Empirical-Communicative Teaching- The access of the Project-method in School, Gutenberg, Athens 2002
- [9] Roseler, R Die Planung des Nichtplanbaren (b: etabu), Beltz Weinheim, 1978 in Chrisafidis K, pp. 95-96.