Strategies for Language learning through skill based approach for Engineering Courses

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Abstract: Engineering education requires an applicative rather than mere absorption of facts and information. Processing and reprocessing of facts intensify learning that enables better understanding which leads to the ability of application through innovation and creativity. Language serves as a conduit in the above process of engineering learning. This paper speaks about a skill based inclusive approach of theoretical and practical aspects for teaching and learning English in a comprehensive manner. Skill based approach unlike other approaches, requires periodical review of the derived tasks and objectives. This paper shifts the general attention from language learning to language acquisition. This is being projected with an idea to leverage the process of teaching – learning English in a practical as well as suitable way. Skill development mechanisms, verification process, sample analysis and concrete recommendations on further improvement are also discussed as a part of this paper.

Index Terms: Skill based approach, language learning and acquisition

1. Introduction

Engineering education has grown beyond leaps and bounds in the state of Tamilnadu. The recent reports from education departments emphasize the same. Thousands of students graduated every year from engineering institutions as engineers. Employment opportunities every year enables the students to get in to corporate sector and other fields. In all these aspects acquiring knowledge and information through English is been an inevitable process. NASSCOM finds that only 25% of the total engineering workforce is found equipped with employability and other skills. The skill gap is both in terms of English language skill acquisition and employability skills.
This slit in terms of English language acquisition and employability skills has to be bridged. This paper focuses on evolving an inclusive approach for bridging the gap in a single step.

2. Perception and assessment of skills development

Among the adults who are already employed or seeking employment, demand continuously to grow for skills that will enable them to keep up with structural changes in the economy brought by urbanization, technological change, and shifting patterns of consumer demand. Though Language skills do not play a straight role in knowledge acquisition and application, it is of concern since the real skill development happens through the English language as English is the lingua franca of India. It is required to have a continuous assessment of a particular skill rather than development being evaluated.

3. Current scenario in English learning and skill acquisition

The state of Tamilnadu follows a mixture of English and Tamil medium schools. Students under the existing single window system of counselling by Anna University for their admissions to Engineering degrees are from the both streams. But the students from different mediums of instructions are put together to learn engineering concepts and other skills in the English language. Students are expected to learn programming concepts to develop their software knowledge through English. Meanwhile in order to expand their knowledge and to seek better opportunities, students find avenues and platforms such as paper presentations, technical seminars and so on. English skills such as technical writing & speaking forms basis for accomplishing the above mentioned tasks. For employment, students along with their technical capabilities are expected to possess a minimum set of soft skills. English skills such as listening, comprehending and speaking forms the foundation for the development of soft skills. Thus English is primarily used for skill development, knowledge acquisition and talent enhancement purpose by an engineering student.

4. Definition of problem in skill acquisition through English

Report by a reputed magazine, American Educator of 2012, National educational assessment of U.S.A, states there is strong gap between the medium of instruction and the ability to use the language. It states that English language learners despite of their proficiency proved to be insufficient when they are asked to read and comprehend a given piece of matter. If the speakers of a language who do it on their own without any external support systems, finds it hard to use the language to read and comprehend. So, the situation of the students who speaks the language occasionally with support systems are to be pulsated.
Despite the syllabus of the affiliating university of Anna University offers a scope for the development of the basic skills in English, when the students are tested, it is found that the required skills are not fully developed. While analyzing different set of engineering students, there were few draw backs found out. These drawbacks when analyzed on using appropriate methods, yield reasons for non-accomplishment of objectives.

The following table tries to explicit the problem statements, existing conditions teaching methodology, reasons for slipshod. This table serves as the origin for fact finding and investigating the challenges in language learning and skill acquisition. Problem statements are derived from various findings and reports of stake holding organizations.

<table>
<thead>
<tr>
<th>S.NO</th>
<th>Problem statement</th>
<th>Existing Teaching and Learning provision</th>
<th>Drawback</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Not able to listen properly</td>
<td>Multimedia support systems</td>
<td>Scope of Learning material is narrowed and assessment does not suit the student's ability.</td>
</tr>
<tr>
<td>2</td>
<td>Not able to clearly articulate their views</td>
<td>Technical writing, Group discussions</td>
<td>Scope of Learning material is narrowed</td>
</tr>
<tr>
<td>3</td>
<td>Not able to read and comprehend ideas with precision</td>
<td>Reading comprehension exercises</td>
<td>Scope of Learning material is narrowed and assessment does not involve HOTS and lacks exposure.</td>
</tr>
<tr>
<td>4</td>
<td>Not able to clearly present ideas</td>
<td>Paper presentations, group discussions</td>
<td>Students does not know the basic steps and methods</td>
</tr>
<tr>
<td>5</td>
<td>Not able to develop vocabulary</td>
<td>Synonyms, Antonyms, Prefix-Suffix exercises</td>
<td>Students lack prior ideas basic steps and methods. System neglects the fact</td>
</tr>
</tbody>
</table>

The list is not exhaustive. It presents very significant postulates which can have a determining impact in language learning.

5. Reasons for not fulfilling the objectives of English teaching and learning

Following are listed statements which are found to be the cause of shortcomings in fulfilling the objectives of English teaching and learning in engineering contexts.
The students are expected to possess prior knowledge and practice in certain critical components.

The students are mandated to develop and apply skillset within the stipulated duration which turns out to be short and in suffice.

The students are expected to be intrinsically motivated in learning English and acquiring skills as no extrinsic support systems are provided.

The choice and scope of learning materials enables the students to operate in Lower order thinking skills.

The students undertreat the process of language learning and skill acquisition as the methods fail to excite their higher order thinking skills.

The students are not expected to carry on with learning continuum with respect to English learning and skill acquisition throughout their course.

A point about end semester examinations will be suitable.

6. Skill based language learning strategies

To overcome all the above stated effects, skill based strategies can be used. Knowledge pyramid (D-I-K-W) which is been widely used in information science and knowledge management state that Processing of data lead to information, processing of information leads to knowledge and processing of information leads to wisdom. The current method of teaching and learning English in engineering classrooms of Tamilnadu allows the learners to travel within these platforms.

But an addition to the knowledge pyramid (D-I-K-W-S) with the element of skillset will alter all the disadvantages. Skill is a learned ability to carry out a task with pre-determined results often within stipulated time. Skill based strategies will be providing real opportunities for fulfilling the objectives.

Following features explains the advantages of employing skill based strategies for language learning:

- Skill based approach enables the teachers to split learning contents to further degree of accuracy and specification which sets learning in a continuum process.

- Skill based approach will let the learners to learn, apply (do), get corrected, re-apply (re-do), get verified
(do/re-do), get feedback, move on to another sphere of learning.

- Skill based approach will let the teachers to start the teaching process involving certain theories of learning such as Gagne’s nine point instruction among many others.

- Skill based approach will enable the students to have a variety of choice in terms of learning material. They will find external support systems to support their motivation in learning.

- Skill based approach will enable the teacher to perform the role of a facilitator where students will learn from the teacher and also on their own.

7. Skill based approach and Learning continuum

Continuum can be defined as a gradual transition from one condition, to a different condition, without any abrupt changes. Learning when transits from one degree to higher degree enabling better understanding of facts, application of knowledge and get the learning developed as a skill. Strategies for teaching and learning English in the classrooms of engineering which involves Skill based approach enables the students to get in to learning continuum in following steps

1. Students understand why they are to learn a particular thing ---- DATA

2. Students learns the pre-requisites, (based upon the assessments on prerequisites) as they cannot be neglected or assumed to be possessed in skill based approach ------ INFORMATION

3. Students learn the basics and nuances ----- KNOWLEDGE

4. Students apply their learning and get it assessed (Mock tests and corrections)---- WISDOM

5. Students select the course of action as per the assessment (Re-test or Higher order tests) ----SKILL

6. Students select the course of action as per the assessment (Re-tests or moving to other topic)

7. Conclusion

By employing skill based approach, the students will be made to learn English with finer degree of precision and learning can be sustained. When the learning gets sustained, it gets the learner in to a learning continuum. When learning gets in to learning continuum, the intents and objectives of any learning can be easily accomplished. Thus the skill based approach is
envisaged to develop teaching strategies for better learning of English in Engineering classrooms.
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AUTHOR BIO

**Hema.N** has been teaching communicative English to engineering students for more than 15 years. She is interested in analyzing the nuances that make English Language Teaching-Learning process, still easier and effective. She is the author of 3 books on literature. She also trains students for various competitive examinations that test their English competency. Her current research project involves mapping an individual’s competence with societal requirements for mutual betterment.

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