Fostering Learner Autonomy through Language Labs to Students of Engineering: Potentials and Parameters – A Study with Special Reference to the Indian Context

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ABSTRACT

The purpose of learning English in India in recent decades has entered a different phase, with a shift in focus from enrichment to survival in the real-world environment. This paper aims at discussing the existing practices of using technology in the curriculum for learners who learn English as a Second Language (ESL) at university level. It also focusses on the future prospects of effective integration of technology into the regular curriculum for learning English, especially in the Indian context. It further strengthens the idea that a comprehensive and structural curriculum using innovative teaching methodologies will certainly cultivate and augment the learners' talents for their future career. Though technology has rich and advanced resources, the paper confines itself to the use of cost-effective and frequently-used Information and Communication Technology (ICT) tools, especially computers, which offer maximum benefits to learners.

Keywords: Technology tools, language lab, learner autonomy, blended learning

INTRODUCTION

Language is a key component for communication. The general aspect of learning a language denotes a quantitative increase of knowledge by constant practice whereas in the educational scenario, it accounts not only for a continuum from content-based approach to real life situations but also for more prospects beyond the curriculum. Today, there is a marked difference in learning a language. Currently, language learning demands a good knowledge of grammar concepts, communicative aspects and social interaction in general and vocabulary for various disciplines in particular. It is also viewed as a gateway for cultural exchange and better understanding of people. For instance, English is the first choice for innumerable

learners in India who learn English as a second language because of its vital role in educational, administrative and socio-cultural contexts. As language learning has assumed this new role in today's world, it is essential for learners to know the purpose and utility of their learning before moving to methodologies and applications.

Stages of Language Acquisition

The intention of learning or mastering a language today seems to be mostly needs-based. This can be expressed in four stages as shown in Figure 1.
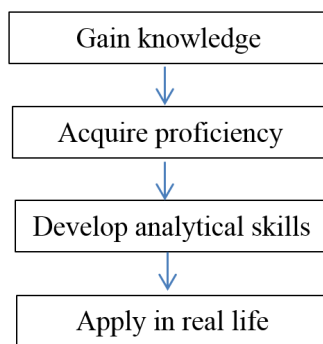

Figure 1. Stages of language acquisition.

The above stages imply that learners gradually need to take control of learning, according to their needs before finally accomplishing the desired target. It is also apparent that all language learners do not have a common methodology to achieve their goal; each is focussed on improving communication skills and experiential learning. They have different targets, views and strategies for accomplishing this, as revealed in a survey done in colleges and universities in and around Tamil Nadu. As

Haddad and Draxler (2002) have discussed, the education model has evolved from education for the few to education for many; from education for limited objectives to education for expanded objectives; from the environment as the classroom to the classroom as the learning environment; form elitist endeavours to national education systems. So the important element required in learning a language is a learner-centred approach, that is, a friendly, stress-free learning environment where learners can focus on developing the required skill and apply the same in real-life situations.

The Purpose

The nature of language and language learning, according to research, has constantly been controversial. From its very early stages to the 21st century, learning theories have reshaped and evolved according to the needs of learners. Therefore, one cannot label any one theory as the most appropriate for learning a language. Listening, speaking, reading and writing are the four essential skills for learning a language. Conventional teachers often focus more on reading and writing so that learners can clear their exams and get a degree or certificate whereas the time spent on speaking and listening is much less, with teachers attributing this to lack of time. But John Haycraft, a fervent internationalist who strove to promote international understanding through language learning and teacher training says, "To be able to use the language to convey thoughts, intentions, wishes, information etc., a person needs a

mastery of various skills of language ." This indicates that a person who wants to learn a language has to be good in both receptive and productive skills. Conventionally, when teachers teach any new language, they either explain the meaning or translate the text into the regional language. This methodology helps the learner in comprehending the text but in reality, he/she is incapable of distancing themselves from his/her mother tongue for long enough to pick up the new language. The situation is worse when it comes to productive skills, that is, speaking and writing. The same scenario prevails when it comes to learning English in the Indian context.

Issues Related to Learning English as a Second Language

India has occupied a leading position in the arena of technical education for a couple of decades. It is today one of the largest producers of professionals in the technical field and it is predicted that this status will continue. In spite of this achievement, India is not able to meet the demands of the recruiters because of the lacuna in the national curriculum for English. Kappan, in his "English for Techies" in *The Hindu*, dated 17 September 2007, pointed to the fact that despite there being engineering graduates in the thousands, hiring firms were finding it difficult getting the right people with theoretical expertise, practical orientation, soft skills and language proficiency. This challenge continues to exist in spite of various changes observed in the curriculum. Surveys done

by various organisations have proved that such a pathetic situation still exists in India. The Industry Readiness Index (IRIX) Survey conducted in 2012 by PurpleLeap revealed that one third of the graduates, apart from those from reputed universities/ colleges were not employable even after special training. It further reported that the majority of students lacked communication skills and problem-solving abilities. As Bagchi (2002) has pointed out, proficiency in English has never been a criterion for admission to engineering programmes in India. TeamLease, a private staffing company, in its report for the year 2012 stated that unemployability was a bigger issue than unemployment.

The Existing Scenario

At present, the role and status of English in India is that it is not just the language of social context, education, media and business but also a crucial element for higher education and well-paid jobs in India and abroad. The ubiquitous presence of Information and Communication Technology (ICT) tools has increased the significance and growth of English in India. However, the majority of learners are not proficient in using the language. Mallikarjun (2001) conducted a survey on the specific requirements and demands of Indians with regards to educational issues in the country. According to his survey, parents from the upper and middle class wanted their children to get the best education and they believed that it was possible only through English as the medium of instruction. The

lower classes tried to emulate this policy, which led to the establishment of umpteen private English-medium schools. Schools patronised by the elite group give utmost importance to English whereas schools in rural areas cannot compete with them as their students are not from affluent sections of the society and most of them are first-generation learners; hence, the use of the mother tongue in the classroom has gained dominance. Moreover, the examination system focusses only on testing memory and so, analytical and creative skills go untapped. This prevents learners from attaining a high level of proficiency because they are unable to use the target language appropriately in the context of the target culture. When these students enter university for undergraduate courses, they have to compete with others who are from metropolitan cities and who have had good exposure to the language. The heterogeneous group, time constraint, examination system and the prescribed syllabus prevent teachers from giving special care to students lacking in communication skills. Students who are not proficient in the use of English do not get offers from good companies. The traditional classrooms to some extent satisfy the need for enhancing language skills but that alone will not suffice the existing demand; hence, the use of technology seems to be the only solution at this juncture.

The Global Demand

Evidence from educators, recruiters and multinational companies indicates that there is a wide gap between the needs of the employers and the skills acquired by Indian engineers. The global world demands every engineer to master multiple skills, communicate effectively and think creatively. Blair and Robinson (1995) have expressed the necessity for engineers to acquire basic transferable skills. As pointed out by Fisher et al. (2003), many engineering companies regard communication skills as central to success and advancement in engineering firms. Huckin and Olsen (1991) have stated that engineers need to have good academic knowledge as well as excellent communication skills. Gregor (2000) has put forth the idea that universities should directly meet the needs of the industry and produce engineering graduates who are competent practitioners with both technical and commercial skills. Riemer (2002) has expressed a similar view on the aspects to be focussed on English for engineers. He claimed that technical expertise and good communication skills should go hand in hand for an engineer. Najar (2002) added technical writing skills and oral presentation skills for success in their academic and professional career. If technical people cannot communicate to others what they do and why it is done, then it is superfluous to have such abundant skills.

Instructionism to Constructivism

The global shift in education demands a move from instructionism (confine learners to prescribed texts with course materials as disconnected bits of knowledge) to constructivism (actively construct their knowledge by learning to learn). Zimring

(1999) has discussed in his 'Principles of Learning' that useful learning needs to be learning-to -learn and much significant learning is acquired through doing. This aspect of learning is emphasised in the Confucian principles of teaching: What I hear I forget, What I see I remember, What I do I know. Hence, it is necessary to shift the focus from acquiring knowledge to achieving things by using the knowledge. Brendan (1980) has put forth a similar view that the use of language is the objective and usage of the language is the means to achieve this objective. Morrison (2003) has also expressed a similar view that teaching and learning should be shifted from the push model to the pull model. The push model aims at imparting knowledge through the chalk-and-talk method, irrespective of the level of students, whereas in the pull model, students have access to gaining knowledge not only from the classroom but also from various other sources, including the Internet. Malavika and Swayamprabha (2014) have recommended that all students should be provided with the opportunity and a learning ambience for sufficient exposure to the language.

Use of ICT Tools

Technology has been used in a myriad of ways to create opportunities for language learners to communicate in the target language (Muyskens, 1998; Warschauer & Kern, 2000). Foulger and Jimenez-Silva (2007) have proved in their study that technology increased motivation among English-language learners. Technological tools can be used to motivate and engage learners in the development of literacy and language skills (Ware, 2008; Traore & Blankson, 2011). Computer technologies provide more venues for all students to be equally and actively engaged in language-learning activities (Erben et al., 2009). Softa (2011) has also acknowledged that technology can be used as motivation for language learning. Bremner (2010) and Arnó-Macià (2012) have expressed that if learning activities resemble the students' real-life situation, they would be motivated to learn, and the learning would also be more relevant. Visual scaffolding, according to Patnoudes (2012) makes input much more understandable and eliminates the affective filter that results from the fear of understanding very little in class.

In spite of various research carried out in this field, the use of ICT tools in the educational field in India is not very remarkable. Apart from the cost involved, it is believed that the attitude of teachers in India to integrating technology into the curriculum is not encouraging. Their unwillingness to change to a new set-up (Ertmer et al., 1999) or their reluctance to leave their comfort zone (Titterington, 2000) may be one of the barriers in the proliferation of the use of ICT tools in education. When discussing the limitation in implementing an audio-visual based educational system, Jyothirmayee et al. (2014) have opined that teachers feel it as an undue psychological burden because it may require more preparation time.

Haddad and Jurich (2002) have discussed the use of technology in education, the existing trends and the possible ways to overcome the identified barriers such as access to technology, acceptance and availability. As far as India is concerned, access to technology and affordability are the major threats hindering the pace of technology-enhanced learning.

Technology in Language Learning – An Overview

Today, the word 'technology' is equated to computers and the Internet but researchers have identified six major waves in technological innovation. They are:

1. Writing – A documentation of anytime use

2. Printing – Mechanised writing, for synchronous and asynchronous learning

3. Broadcast media – Film, radio, television and satellite transmission

4. Mass media storage – Audio cassette, video tapes and compact discs

5. Personal computers – For high level interactivity

6. Internet – An international computer network, a web-based learning revolution

Warschauer and Meskill (2000) have given a vivid account of the use of technology in language learning. Any method of language teaching has specific technologies to support it. Language teachers who once used the grammar-translation method depended on one of the most common technologies, the blackboard, which was and still is a perfect vehicle for the teacher-centred classroom. The blackboard was later supplemented by the overhead projector, another excellent medium for the teacher-dominated classroom, followed by early computer software programmes that were labelled 'drill-and-practice'. The audiolingual method that emphasised learning through repetition was supported by audio tapes; it lost its popularity because of the poor results despite expensive installation charges. The communicative language teaching method that helped student engagement in authentic situations paved the way for integrating technology into the curriculum.

The use of each technology falls over a varied scale, ranging from the simplest to the most sophisticated. Hence, it is necessary to identify the most suitable and cost-effective technology that suits different educational objectives. In the Indian context, term examinations play a vital role in assessing the student's proficiency; hence, reading and writing skills from prescribed books are given utmost importance. The activities performed during class hours and the tasks assigned to learners focus only on this aspect, leaving very little option for creativity or enthusiasm to use the language. This will never give the desired output because resorting to insufficient curriculum-related content ware, according to Haddad and Draxler (2002), is like buying a CD player for a home that has no CDs. They strongly believed that technology has the full potential to meet the challenges of the

21st century but if educational strategies are not specific, and if the requirement for using technology is not fulfilled, this potential will not be realised.

In Western universities technology is ubiquitous whereas in a developing country like India, it is neither pervasive nor scarce. There are many private institutions that offer graduate courses and they do use advanced technology tools in classrooms, making a huge financial investment for infrastructure, equipment and support staff. In spite of the widespread growth of technology in education, it is essential to observe how effectively it is being used to improve the learning experiences of students (Cuban, 2001; Zemsky & Massy, 2004; Kirkwood & Price, 2005; Guri-Rosenblit, 2009). The technology used might be the same but depending on the environment, the teacher, the instructional methods and the evaluation process, the learning outcomes may differ. Many private colleges in India have language laboratories with basic infrastructure. Wilson and Thayalan (2007) have identified such labs as conventional labs that have a tape recorder and a few audio cassettes of the target language to teach the learners. This set-up was followed by the linguaphone laboratory, where listeners were provided with a headset to listen to the audio cassettes being played. However, what is more frequently adopted is the use of technology to repeat or supplement traditional activities (Roberts, 2003; Blin & Munro, 2008). Hampel and Hauck (2006) stressed that technology tools should not be used as replicas or replication of conventional face-to-face settings.

Due to globalisation the situation in India has gradually changed and many institutions now have language labs with computers and purchased software. Despite the government spending an exorbitant amount in equipping educational institutions with appropriate infrastructure, utilisation of this infrastructure is not satisfactory. As Nunan (2005) has pointed out, many teachers are not sure of what technology is because they do not have technological literacy. Rivers (1970) in her book 'Teaching Foreign Language Skills' has made it clear that the language laboratory is neither a method nor a teacher but it must be an integral part of the language programme. Pim (2013) has rightly pointed out that teachers have a unique opportunity to ensure their curricula and teaching styles meet the needs of their 21st-century learners. However, Schwartz and Pollishuke (2013) felt that all the resources that technology offers should be used in the best and safest way and this should be one of the main concerns of teachers and parents. Egbert (2005) states that teachers must use different methods and create a whole new learning environment so that learners gain access to the curriculum within the stipulated time frame.

Technology also provides learners with powerful tools that have the potential to contribute to different facets of educational development, namely, expanding access and life-long learning. It is also true that the new modes of communication technology dominate everyday life in all aspects, and communication has shifted from print to phone and now to screen. Though it

proves to be a genuine medium of language learning, there are certain practical problems in using technology in the curriculum, especially in India. Technology promotes ample opportunities for collaboration and interaction but it is not automatic. Students and teachers have to be appropriately trained to use technology tools so that they attain maximum benefit.

Moving on from the challenges to the technical side and attitudes of teachers in using technology, this paper proceeds to discussing existing conditions and the crucial changes that need to be made in the education system.

Access to Technology and Affordability

Access to Technology Enhanced Language Learning encompasses the installation of the required infrastructure and the time schedules for different classes so that they get maximum benefit. In India, many educational institutions have only recently established lab facilities with the required software. The disadvantage is that technology-enhanced learning is considered an add-on and not an essential method for promoting learner autonomy. The key issues relating to how best ESL teachers can integrate Computer Assisted Language Learning (CALL) materials into the curriculum need to be clearly outlined and analysed. This could be achieved only if ICT tools are properly implemented and the materials are pedagogically sound and proper technical support is available.

The second major threat that needs to be focussed on is affordability, which deals with the setting up of a language lab with computers and required accessories, trained teachers for handling the classes and a lab technician to deal with hardware problems. The maintenance and installation of language software involve quite a huge amount of money and institutions need to be self-supportive for meeting expenses and updating information. With unprecedented growth in the digital industry, technicians are rare in academic institutions because they cannot compete with the software industry at their salary.

When technology is integrated into the curriculum, it can be three-fold:

1. Purely online

2. Partially online, with the use of technology tools as an add-on

3. Partially online, with the use of technology tools as mandatory

The first perspective of having fully online courses for ESL is not possible in India, at least for now because the use of technology has not advanced much as it has in Western countries and affordability is also a main constraint in the initial stages. The second perspective of using technology as an add-on is not adopted in many of the institutions in India and there are many drawbacks to doing so. Haddad and Draxler (2002) have listed out the following parameters:

• If teaching is demonstrating and telling and if learning is memorising and reciting, using learning technologies and multimedia programmes for this purpose will not have the desired impact

- Technology is just a tool; it cannot bring any magnificent change on its own

- 'Putting on screen what can be found on the page of a book' will not in any way enhance the learning skill

- Identifying the most appropriate, cost-effective and sustainable technology and level of application for different educational objectives adopted

- Updating of computers is very essential, which is not possible with limited financial resources

- Non-availability of sufficient related curriculum for the use of technology

The above-mentioned parameters nearly encompass much of the research done on this perspective. Similar opinions have been expressed that computers or any technology tool should not be used as a time filler. The third perspective, that is, making the use of technology tools mandatory is somewhat feasible and it can be done in many of the institutions, provided the teachers prepare appropriate modules for practical sessions. This actually obstructs the process because in developing countries like India, not many institutions prefer to purchase software, which is quite expensive. Moreover, the teachers hesitate to design and develop modules because of the time constraint and lack of technical knowledge.

In order to have authentic information, questionnaires were prepared and sent to engineering colleges in Tamil Nadu. Based on the information received from the questionnaires sent to experienced teachers and undergraduate learners, it was found that technology-supplemented learning was best preferred, both by teachers and students. Though this seemed to be the best option for bringing effective change to the Indian education system at tertiary level, it has certain limitations. It is not possible for all the institutions to go for Internet connection and the language lab because the management of the institutions should first be willing to make a huge investment. As the feedback from the questionnaires clearly states that technology-supplemented learning was the choice of the learners and the teachers, this paper aims at providing the utmost use of prescribed curriculum for engineering students with the minimum use of technology and making it feasible for the majority of the institutions in India. It also attempts to strengthen the fact that blended learning, a combination of face-to-face learning and the use of technology, would be the best option for language learners in India. Moreover, it is to be noticed that there is a serious gap in the teaching-learning process adopted in Indian schools and colleges. In spite of having a very good syllabus focussing on all four skills, it is not possible for the learners to develop their communicative competence because of the restricted schedule and rote learning. In vernacular medium schools, English is taught as a subject like Maths, without giving any exposure to using the language. Consequently, students are unable to express their ideas in English and comprehending lectures also becomes a problem. Hence, it is mandatory to make

students feel comfortable and to create a conducive atmosphere for the teaching learning process to happen. The language lab serves as a panacea at this stage. When classroom lectures go together with regular lab hours, it certainly brings a change in the attitude of learning English. The students in the engineering colleges learn English only in their first year; hence, it is not feasible for the teachers to use advanced technology in the initial stage because some of the students would not have had access to technology at their school level and it is not possible for all the colleges to have advanced technology. It is moreover necessary to segregate the positive and negative aspects based on its contextualised use (Smith et al., 2003). The factors to be discussed are as follows:

1. Are computers used as add-on or as effective tools for language learning?

2. Is technology used in the curriculum for enrichment or is it made credit-based?

3. The role of teachers in the above scenario.

The majority of the teachers in India at the tertiary level are either reluctant or hesitant to integrate technology into the curriculum for varied reasons. They have the fear that preparing different syllabi catering to the needs of the learners may be time consuming and that technology might sideline the potential of a teacher. This attitude has to change and teachers have to realise that the use of technology tools is not an intruding factor but an inevitable element for enriching and widening the scope of language learning. However, the situation

is gradually improving and the teachers have started analysing the matter from every perspective – the learners, the recruiters and the available technology.

Dockstader (1999) has articulated that technology and instruction should work together to make a programme successful because technology cannot work in isolation; moving from isolated skills instruction to an integrated approach is an important step that takes a great deal of planning and effort. Warschauer and Meskill (2000) have also stressed the fact that technology should not be used as an added tool for enhancing learning but it has to be utilised towards the goal of achieving learner autonomy and lifelong learning. The effective integration of technology is achieved when students are able to select technology tools to help them obtain information in a timely manner, analyse and synthesise the information and present it professionally (Edutopia, 2014).

METHODOLOGY

This study was done with a diverse group of students from engineering streams in VIT University, India. Though this university is situated in Tamil Nadu, it admits students from all over India based on their performance in the entrance tests. There is still a difference in the level of students and this is identified through administering a proficiency test in English. Universities in India do not have English as a paper for the engineering entrance examination. Students may have good subject knowledge but their language is poor. The economic background also varies; hence, at the entry level, it is

not certain whether all the students have had access to computers earlier. Taking the above aspects into consideration, the use of technology was confined to the use of the language lab, computers and purchased software. The other technology tools were not included in this study because the author wanted to prove the fact that minimal use of technology can bring in maximum benefits to learners of English as a second language. The lab classes actually gave them the space they wanted in correcting their mistakes and they could explore their thoughts practically, which was not possible in the classroom.

Lab hours not only increased the student engagement and motivation but also accelerated the learning process. This methodology of learning was entirely based on fostering the qualities of independence, autonomy and responsibility through the learning process. Based on the syllabus prescribed, the lab hours were utilised to strengthen those skills that they really needed to improve.

Participants

Students who joined the Bachelor of Technology course were given a proficiency test to evaluate their level of English. They were tested on all the four skills, namely, listening, speaking, reading and writing and were streamed as basic, intermediate and advanced level. With the classification made on their entry level performance, a total of 60 students of English as a second language were selected and categorised as shown in Table 1. This minimum strength was preferred because the facilitator wanted

to devote individual attention to each learner. Moreover, learners who were regular and who volunteered were given preference because the motivation to learn a language has a great impact on learning. Initially, a questionnaire was given to elicit basic information as to whether the student belonged to the State Board or Central Board of Secondary Education (CBSE) or Indian School Certificate Examination (ISC), his/her level of exposure to the language, whether he/she was from metropolitan cities or rural areas and his/her access to technology. Generally, the students of CBSE and ISC had good exposure to the language compared to State Board students. First, the learners were briefed about the available software, the schedule they had to follow and the scheme of evaluation. As the number was limited to 60, it was convenient for the teacher to identify their strengths and weaknesses and keep track of their lab schedule, their performance and their improvements.

Table 1
Classification of Batches

Level	No. of students
Advanced	24
Mediocre	20
Below Average	16

The study was done to identify improvement in language learning skills with the use of technology and also to find out which level of learners actually benefited to the maximum.

The students worked regularly for 10 hours a week, at their convenience for about

a month in the language lab after their class hours. The choice of software was left to their discretion so as to promote learner autonomy but they were informed that after 40 hours of lab schedule, they would be evaluated on their grammar, vocabulary, listening, speaking, reading and writing skills.

The description of the software and the sample screen shots of the different software are given below.

Description of Software

'English in Mind' provides a solid basis for effective language learning through a strong focus on grammar and vocabulary. Projects and writing tasks let students enhance their own language portfolios, developing learner independence and giving students a practical use for the language. Moreover, topics like 'Culture in Mind' give students an insight into different aspects of culture from around the English-speaking world. Imaginative and appealing topics such as 'Wonders of the World', 'Reality TV' and 'Global Issues' engage teenagers' interest and motivate them to learn. Students who were not that competent in using the language can opt for 'Study Help' and 'Skills Tips' sections in the Workbook, which gives extra support and guidance. The Teacher's Resource Pack with additional activities and tests gives teachers lots of support and flexibility.

'English Master' provides interactive exercises that contribute to better understanding and learning in mixed-ability classes. The exercises on grammar and spelling and the quiz motivate students to

enhance their learner autonomy.

'Cambridge Advanced Learner's Dictionary' provides study pages and exercises that help learners improve their grammar and vocabulary. There are many avenues available for learners who are not native English speakers and this includes recording their own pronunciation and practising. Tertiary-level learners prefer to work on this software because of its simple interface and extensive definitions.

'Sky Pronunciation Suite' helps learners get an insight into the phonemic alphabet, similar sounds, phrasal stress and rhythms and to check their progress.

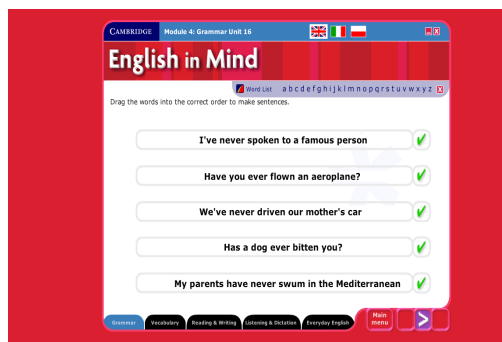## ENGLISH IN MIND

Figure 2. Grammar.

Figure 3. Sentence structure.

Figure 4. Vocabulary.

Figure 5. Listening and writing.

ENGLISH MASTER

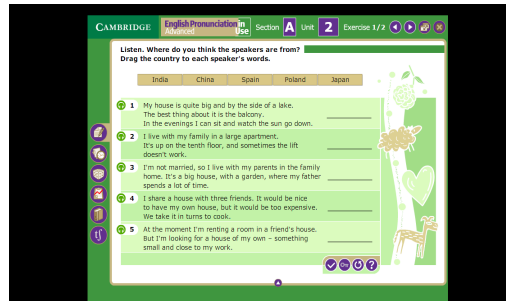*Figure 6.* Vocabulary.

Figure 7. Quiz on grammar.
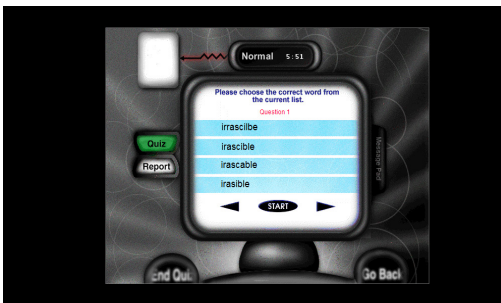
CAMBRIDGE DICTIONARY

Figure 8. Vocabulary.

Figure 9. Quiz on vocabulary.

FEEDBACK

All the participants were asked to give their feedback about the software they used. The students who were from different mediums of instruction, apart from English, preferred to work on 'Sky Pronunciation Suite' as they strongly felt their accent needed improvement. Their next choice was spelling and vocabulary followed by 'English Master', which focussed on grammar and writing. The learners who were good at English opted to work on 'Network Language Learning' and the TOEFL practice tests.

Advanced Level

These students felt that the TOEFL tests provided a solid foundation for all the components needed to pass the TOEFL examination. According to them, 'English Master' and 'English in Mind' were easy and interesting but the exercises were repetitive. The advanced-level learners had a good command of the language at entry level and the conversation practice and other activities in the software, after a point, appeared to be boring. Although the software used comprised vocabulary, grammar spelling and pronunciation, the advanced-level learners felt that the exercises were quite repetitive. They wanted to have more challenging, creative and problem-solving activities.

Mediocre and the Below-Average Level

For learners with lower proficiency, the lab modules provided the opportunity to build ample confidence to comprehend the words and use them appropriately in communication. These students felt that learning pronunciation and recording their voice was fun and motivating.

FINDINGS

The results of the study were as follows:

✓ Learners, especially from regional medium schools in rural areas were strongly motivated to use the lab because they could develop their self-confidence through constant practice.

✓ Students labelled as passive listeners in the regular class showed great interest in the lab sessions and started participating in classroom activities.

✓ As most of the learning components were in the form of visualisation activities and games, they had a strong impact on learners, something which cannot be obtained easily through classroom lectures.

✓ The High Class software installed in the lab helped the facilitator to monitor the work of the students and to help them when necessary.

Analysis

After the stipulated hours of practice, the students were given an online test on the following components – Listening

Comprehension, Reading Comprehension, Phonetics and Writing Skills. The level of improvement was moderate in the advanced level but there was a dramatic change in the other levels, especially in the students' writing and spoken skills. The marks that the students scored before and after the use of technology are given in Tables 2, 3 and 4.

Table 2
Batch I – Advanced Level

S. No	Before the use of technology	After the use of technology
1	39	37
2	37	40
3	38	37
4	36	40
5	35	33
6	38	41
7	39	37
8	32	35
9	35	37
10	35	34
11	36	37
12	35	39
13	38	41
14	37	36
15	39	39
16	38	39
17	37	38
18	34	37
19	34	34
20	34	36
21	37	40
22	34	36
23	36	38
24	38	40
Average	36.29167	37.54167

Table 3
Batch II – Mediocre

S. No	Before the use of technology	After the use of technology
1	24	32
2	24	29
3	27	33
4	28	34
5	28	35
6	25	35
7	24	30
8	27	27
9	28	29
10	26	28
11	25	30
12	28	32
13	24	30
14	28	32
15	28	33
16	26	30
17	28	32
18	25	30
19	27	34
20	26	31
Average	26.3	31.3

Table 4
Batch III – Below Average

S. No	Before the use of technology	After the use of technology
1	17	22
2	17	23
3	14	23
4	18	26
5	16	22
6	19	27
7	15	22
8	13	20
9	19	24
10	18	26
11	16	21
12	17	26

13	15	23
14	18	26
15	19	25
16	16	23
Average	16.6875	23.6875

Inference

The results of the paired sample t-tests are shown in Table 5.

1. The mean value for the advanced-level learners (N=24) before and after use of technology was 36.29 and 37.54, with a deviation of 1.92 and 2.24, respectively. The paired sample t-test result showed that the p value was 0.04, which was less than 0.05 (p<0.05).

2. The mean value for the mediocre learners (N=20) before and after use of technology was 26.30 and 31.30, with a deviation of 1.59 and 2.27, respectively. The paired sample t-test result showed that the p value was 0.00, which was less than 0.05 (p<0.05).

3. The mean value for the below-average learners (N=16) before and after use of technology was 16.68 and 23.68,

respectively with a deviation of 1.81 and 2.08, respectively. The paired sample t-test result showed that the p value was 0.00, which was less than 0.05 (p<0.05).

RESULTS AND DISCUSSION

The results showed that the mean difference for the below-average learners was 7, which is higher than the mediocre (5) and advanced-level (1.25) learners. Hence, the use of technology was more effective for the below-average learners than for the mediocre and the advanced-level learners.

The performance of the students at all levels before and after integrating technology into the curriculum is represented in the line charts given in Figure 10, 11 and 12.

At the school level, conventional teaching and the evaluation system do not give room to assess speaking and listening skills, which play a key role in future professional life. Learners are used to rote learning and they are tested only for memory. Proficiency in English has never been a criterion for admission to engineering programmes in India. But English is a compulsory subject in India for all first-year

Table 5
Paired Sample t-Test

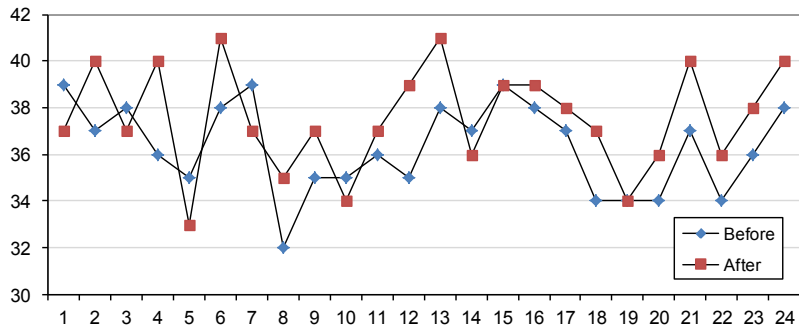|	Use of technology	Advanced level N = 24	Mediocre N = 20	Below average N = 16
Mean	Before the use of technology	36.29	26.30	16.68
	After the use of technology	37.54	31.30	23.68
Standard Deviation	Before the use of technology	1.92	1.59	1.81
	After the use of technology	2.24	2.27	2.08
	Std. error mean	.395	.512	.341
	t	-3.15	-9.74	-20.49
	Significance (p)	0.04	0.00	0.00

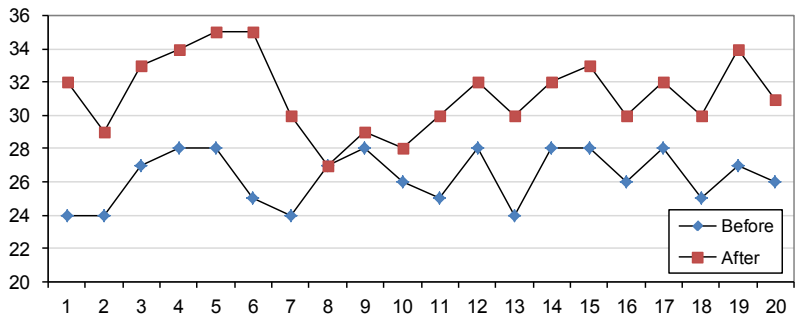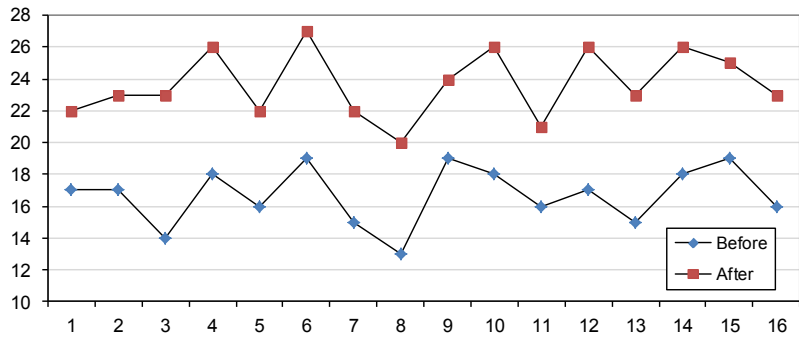*Figure 10*. Advanced level.

Figure 11. Mediocre level.

Figure 12. Below-average level.

Before – Marks obtained before the use of technology tools
After – Marks obtained after the use of technology tools

students of engineering and technology. It is also at this level that students start using English as the medium of instruction and learning for all engineering subjects. For most of the students, this is a transition from a regional language to English as the medium of instruction. Consequently, command of the English language and proficiency in communication skills are an issue at graduation. If English proficiency is made part of the entrance requirement for undergraduate studies, there would not be much of a burden on the mediocre and the below-average students. Be it lectures or projects or placements, these students can comprehend and answer questions with the same confidence as the advanced learners. As the focus of teaching English at tertiary level in recent years has moved on to developing the employability skills of undergraduates, the objectives have narrowed down to application of the language by the students in their day-to-day conversation, thus enhancing the student's proficiency in the use of the language.

Large classes prove to be a hindrance for achieving the desired goal of improving the language skills of the learners. In India, class enrolment is usually 60 students, and this comprises students from all levels – advanced, mediocre and below average. Whether it is a traditional classroom or the language lab, it is a challenge for an English teacher to meet the requirements of the learners. If he/she focusses on the communication aspects for the average learners, the advanced-level learners would find the class less challenging. Due to the restricted time schedule and the prescribed syllabus, the teachers cannot accommodate their desire for challenging activities in class.

Frequent maintenance of language labs is mandatory and the software used has to be updated regularly. Connection problems, downloading issues, policing software and other difficulties can cause road blocks when implementing a lesson in the technology-based classroom. This is quite expensive and institutions have to allot adequate funds for the maintenance of language labs, which is not possible in many of the institutions in India due to financial constraints.

The use of technology in learning English is inevitable for moulding students to fit the demands of employers but it has to be remembered that technology is just a tool; it cannot bring any magnificent change on its own. In the Indian context, it is essential to have technology integrated into the curriculum. The teacher has the huge task of drawing from a repertoire of the prescribed curriculum, learners' knowledge and requirements and feasible technology resources in deciding on the integration of technology into any given lesson.

CONCLUSION

The survey and the study revealed that the use of technology in the curriculum will accelerate the learning capacity of slow learners and provide wider options for proficient learners to improve their language skills. The challenges of the 21st century keep on expanding, and to meet the varied global needs of English language learners,

it is necessary that the classroom curriculum be supplemented with technology tools. The teachers' perspective clearly indicated that knowledge of English is a decisive factor for success in any discipline. Moreover, they felt that the use of technology serves as one of the quickest solutions for satisfying a heterogeneous group of learners who aspire to gain proficiency in their respective area of study within a short span of time. The study also indicates that if cost-effective technologies are used for specific modules, it can procure amazing results especially for a heterogeneous group. The authentic texts and the real-life situations that are essential for aspiring language learners are abundantly available in the modules that are used in language labs. Furthermore, such an approach, moving from instructionism to constructivism, will definitely help learners in developing all the four skills and will better prepare them better for their future career.

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