



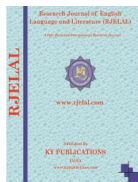
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Developing Verbal Ability of ESL Engineering Students: Impact of Web Applications

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Abstract

An engineering student aspiring for a job in a multinational company must be proficient in English communication skills. Many multinational companies visit engineering colleges and conduct placement tests. It has been observed that English grammar is one of the components of the placement tests. The on-campus recruitment training sessions were suspended due to the Covid-19 restrictions. However, teachers continued to schedule classes on virtual platforms. The study investigated the effectiveness of teaching English grammar on web applications. The subjects of the study are 52 ESL (English as a Second Language) engineering students studying third-year B.Tech. The qualitative data was gathered from the intensive grammar training sessions held on the Zoom virtual platform. Quantitative data was collected using available web applications. Student questionnaire, online quizzes and tests were administered on Telegram Application and Abhyas Learning Management System. An analysis of qualitative and quantitative data indicates that the English language input that students receive through web applications can enhance their language skills. The findings of the study discuss the effectiveness of web applications in enhancing English grammar among engineering students. Also, the study provides insights into the teachers and the students' preparedness towards virtual classroom sessions. The content presented in the research paper guide English teachers, curriculum designers and researchers to make necessary modifications in English course materials at the undergraduate level.

Keywords: English, Verbal, Grammar, Web, Students, Teacher

Introduction

The establishment of multinational companies across India gave an impetus to engineering education. Students' choice of a specific specialization at the undergraduate level gives them the necessary foundation to take up a job within that field or pursue higher education in the same area. With the multinational companies establishing their presence across India, there has been a demand for qualified engineering graduates.

As per the current AICTE (All India Council of Technical Education) guidelines, an engineering student must study for four years to be awarded a graduate degree in the engineering field. Engineering colleges across India are governed by the rules and regulations of AICTE (All India Council of Technical Education) and UGC (University Grants Commission).

During the four years of engineering study, students are expected to specialize in engineering

courses as well as develop adequate proficiency in English language skills. In the current engineering curriculum of Jawaharlal Nehru Technological University (JNTU), English is taught as a subject during the first year B. Tech (only for one semester) and again introduced in the third year B. Tech with the title Advanced Communication Skills Lab (ACS). The syllabi of third year B. Tech focus on developing soft skills and English language communication skills of ESL students relevant to the job market. Many engineering colleges across Telangana also conduct additional sessions for training students in verbal ability. These value-added sessions are intended to train the students in English grammar needed for success in Campus Recruitment Drive. Since many multinational companies conduct campus interviews for engineering students, these value-added sessions are expected to provide the students with the required competence to qualify in the verbal test. This study is based on an intensive Placement Training Program conducted during the Covid 19 crisis. It provides insights into methods, materials and teaching practices relevant to ESL engineering classroom in a rural Indian context. This study provides useful insights into a virtual platform's effectiveness to impart English language skills in an ESL context.

The present study discusses the following research questions:

- The effectiveness of online assessment to diagnose ESL students' levels of proficiency
- During the online classes, could ESL teachers make use of web platforms to provide relevant resources?
- In which areas of verbal ability are students competent, and in which areas of verbal ability do they need to improve?
- Can the traditional grammar lessons and quizzes enhance the English language proficiency of ESL students?
- Is the virtual mode effective in enhancing the verbal ability of engineering students?

Literature Review

The need for teaching grammar

The ability to compose grammatically accurate sentences for academic and professional success requires adequate training and practice in English language skills. An engineering student has to spend much time on writing activities. As a part of the academic requirement, these students are expected to write descriptive exams, lab reports and project reports. In order to fulfil the academic requirements, engineering students should have adequate proficiency at composing meaningful sentences and paragraphs. Even though most of these students had English language training during their school and intermediate (plus two) education, it is observed that there are many areas of writing skills that require the attention of ESL teachers. Apátiga (1986, p.3) points out that ESL students study grammar for ten years or more, but they are confused when choosing between active and passives and while using verb tenses in a narrative. The grammatical knowledge that the students gain during school education, often in the form of rules, are either erased from their memory or remain passive because they live in a social environment where English is used in the form of code-switching or code-mixing. In an ESL social context, accurate grammatic constructions are given the least priority when English is used for correspondence in social networking sites such as WhatsApp or Facebook and during informal communication. Even when English is integrated into the teaching and learning of engineering courses, technical terms and numerical values are given more prominence. So, there is limited use of communicative English with accurate grammatical structures. However, recruiters of software companies expect ESL engineering students to be proficient in English language skills. To be employable, students need to learn skills related to job interviews, presentations, group interaction, telephone and teleconference communication (Clement and Murugavel, 2015, p.118). Since educators imparting engineering education across India are aware of the software market trends, employability skills training is provided to the third and fourth-year engineering students. Some ESL engineering students may find

these training sessions irrelevant to their current academic needs. However, incorporating employability skills in the course curriculum as a critical factor for success in job interviews should be made explicit to the students (Fraser et al., 2019, p.159).

The syllabus that recommends a communicative approach to language teaching often guides the teachers to focus more on speaking skills with a little attention to grammatical accuracy. An issue of concern is a misalignment in the course curriculum wherein ESL teaching-learning context focus on communicative approach while the competitive examinations related to the job market focus more on grammar, vocabulary and reading questions (Underwood, 2017, p.2). Frederick (2015) points out that as a standard rule, the basics of English grammar are taught in primary education, but an emphasis on comprehension skills during later stages of education has become an obstacle to the mastering of grammar rules. He believes that the perception among many individuals that knowledge of grammar is not required to communicate an idea has further devalued the importance of learning grammar. The misconception that students gained adequate grammar skills during their school education can mislead ESL teachers to focus on imparting advanced communication skills and ignore English foundational skills. The findings of a study conducted by Muh et al. (2017, p.45) reveal that in spite of students completing courses in English grammar, they still made errors while using tenses, noun clauses, adverbial clauses and prepositional phrases. The debate on the best method to impart grammar teaching in ESL/EFL contexts has been a topic of debate among many researchers. Larsen-Freeman (2015) points out that grammar is not integrated into other skills but rather taught in a traditional approach. On the other hand, findings of a study conducted by Muh et al. (2017, p.46) suggest that even though ESL teachers combine different approaches to teaching grammar, students find the deductive approach more conducive for learning English grammar. According to Singh (2011, p. 57), in a deductive or explicit instruction of grammar, the teacher explains the rules of the target or second language, and in an implicit or inductive instruction,

students are given exposure to a target language, and then they are made aware of the grammar rules. In spite of the belief that grammar is an essential component of language learning, there is a tendency among some learners to prioritize communication over grammar because they find the traditional approach to the teaching of grammar quite boring (Dollar and Incecay, 2011:3398). Shafer (2012, p.70) also supports the idea that teaching grammar should explore the many discourses from students' repertoire rather than just focusing on the usage and correctness. However, Hua and Li (2015, p.9) suggest that even after decades of implementing communicative language teaching in Hong Kong schools, students still feel secure in explicit and deductive instruction due to the pressure of written exams.

Methods and materials in the teaching of grammar

The methods and materials in the teaching of grammar that ESL teacher relies on often depend on various factors such as the learner background, the classroom setting, and the teacher effectiveness. It is observed that students who are proficient in English welcome creative methods of teaching while less proficient students are resistant to innovative teaching approaches because they fear that it might further aggravate the difficulty levels in English learning (Hua and Li, 2015, p.9). An end of course survey conducted by Huseynova (2019, p.52) indicates that meticulous designing of exercises integrated with an intensive practice on English grammar rules and syntax in a structured manner yielded productive results. Parts of speech, articles, tenses, prepositions, sentence types, subject-verb agreement, active-passive voice, reported speech, and punctuation are the basis for any foundational English grammar courses. According to Vujic (2015, p.68), articles (a, an, the) constitute about twenty per cent of all errors that ESL/EFL students make in their written communication, which reflects a weak foundation in elementary fundamentals and is likely to hinder their progression to advanced proficiency levels in English. Although errors in the use of articles may not lead to a significant communication breakdown, they can be an obstacle for progressing to higher English proficiency levels. An exercise that Chiew (2011, p.135) suggests for ESL learners in

articles is fill in the blanks where students would be required to fill the blanks with the appropriate definite or indefinite article. Training ESL students to interconnect the meaning of articles with nouns can help them build schemata necessary to function effectively in higher learning, scholarship and language situations (Vujic, 2015, p.78). Tenses are one of the problematic areas of grammar which many ESL students desire to master. The findings of Sukasame et al. (2014, p. 1934, p. 1938) suggest that non-native speakers spend much time understanding the correct use of tenses, and most of the errors in the students' work occur in the past perfect tense. Since the three tenses, namely present, past and future, are classified into twelve categories, and each of the categories is defined with a set of rules, a mere explanation of each of the rules in the ESL classrooms may not be productive. In the context of higher education, ESL/EFL teachers should contextualize the usage of tenses to real-world situations (Ferdinandus, 2015, p.87). Further, the time allotted to teach English grammar has an impact in ESL classrooms. When grammar activities are integrated with the communicative approach, ESL teachers may require longer classroom teaching hours. In contrast, traditional teaching methods can provide more grammar input in a limited classroom time. Whether a teacher relies on a communicative approach or a traditional approach depends on the course textbooks, classroom setting, the time allotted, and the resources available. When a teacher does not have the expertise to use course materials in a given ESL/EFL context, he/she might be considered using a faulty technique (Akinbode, 2008, p.125).

Recent developments in ICT (Information Communication Technology) tools in the form of mobile applications contributed to further improvements in the teaching-learning of English grammar. These developments also paved the way for autonomous learning. Without the intervention of a teacher, ESL/EFL students can access these resources during their leisure time and practice vocabulary and grammar exercises at their own pace. Even though plentiful resources for language improvement are available on the web, the need for English teachers persists because ESL students need

guidance and support to enhance their knowledge and skills. Since most multinational companies test the proficiency of ESL/EFL students as part of the recruitment process, students need the teachers' support to enhance their knowledge in English grammar and vocabulary skills. To provide relevant training to improve the students' English language proficiency, ESL teachers have to be aware of the skills required for the job market (Clement and Murugaval, 2015, p.123). As part of the recruitment process, it is observed that multinational companies administer tests to diagnose the students' English language proficiency. Frederick (2015) points out that despite the influence of social media on English language users, employers' expectations remain unchanged because they expect their employees to adhere to English grammar rules.

Method

Participants

The present study was conducted in an engineering college affiliated to JNTU (Jawaharlal Nehru Technological University), Hyderabad, India. The subjects of the study were 52 engineering students, of which 26 were male, and 26 were female. These students are currently studying third-year B.Tech with English as a medium of instruction. Advanced Communication Skills Lab is part of their academic curriculum.

Description of the test items

Before conducting the online quizzes, all the students who participated in this study were informed that their responses to the given quiz items are confidential and used for research purposes. A series of five pilot quizzes were conducted on Telegram Channel before the main test. The main test was intended to find out the effectiveness of the virtual classroom (Zoom platform) teaching-learning contexts and the relevance of online platform (Telegram Channel) in enhancing students' proficiency levels. The multiple-choice test for the main test consisted of articles, prepositions and tenses. Since these grammatical forms are pre-requisites for spoken and written English and are also included for the Campus Recruitment Training (CRT) programme, a 40-item

multiple-choice test consisting of articles, prepositions and tenses was constructed to test the ESL students' English language proficiency. Items 1 to 10 focused on the usage of articles (a, an, the), items 11 to 20 on prepositions and items 21 to 40 on tenses. The score for each correct answer was pre-set to 0.25 marks. The maximum score was 10 marks, and there was no minus score for wrong answers. The duration of the main test was set to one hour. Upon completing the test, when a student submits his/her test online, the test score is generated on the screen. As soon as each student clicks the submit icon on Abhyas (LMS), the student's score is auto-generated and displayed on his/her mobile/computer screen. After completing the online test, students can know their total score without the researcher's intervention.

Online Questionnaire

An online questionnaire (Microsoft Forms) was administered to elicit the students' views on the validity of the test. The online questionnaire link was shared with the students, and they were instructed to respond to the questionnaire only after the completion of the online test. Students were informed that the responses to the questionnaire are confidential and will be used for research purposes only. The questionnaire consisted of 7 items, of which 4 were closed-ended questions related to the level of difficulty of each of the given items – articles, prepositions and tenses. Questions 5 to 7 were open-ended questions wherein they could express their opinion on various aspects related to test- items and online teaching. Question 5 was intended to elicit students' concerns and difficulties, if any, they had experienced during the online test. Question 6 was intended to elicit improvements that the students expect in the online tests that would be administered in the future. In question 7, students were asked to suggest improvements in the virtual classroom sessions to be scheduled in the future.

Procedure

The online test was conducted during the regular classroom online session. Due to the Covid-19 restrictions, the engineering college relies on LMS (Learning Management System), Abhyas, for various

teaching-learning activities. To administer the online test, Abhyas was found suitable because the researcher and the students have their user accounts and regularly access them. The 40-item multiple-choice test was uploaded on the Abhyas (LMS), and permission to access it for one hour was pre-set a day before the test. Since Abhyas (LMS) does not have the feature for a virtual class, the Zoom link was posted one day before the test. The online test was administered for one hour during the regular virtual classroom session. Students were instructed to log in to Abhyas (LMS) as well as to the Zoom application. Students were told to access the online test from Abhyas (LMS) and at the same time connect to Zoom virtual classroom to interact with the researcher whenever they experience problems either with the Abhyas (LMS) or with any of the items given in the test. The researcher ensured that all the test takers switched on their zoom video during the online test. The time taken by individual student to complete the test was recorded on the LMS. It was observed that the maximum time recorded for submission ranged between 25 and 57 minutes.

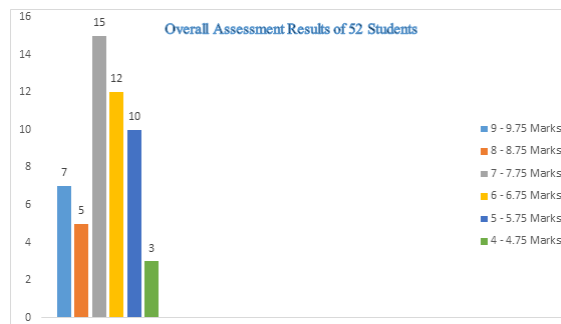
Results

The data presented is based on the main test and the student questionnaire.

Analysis of Overall Test Scores

The graph below is an overview of the overall scores on the scale of 1 to 10 marks for the 40-item test.

Graph 1



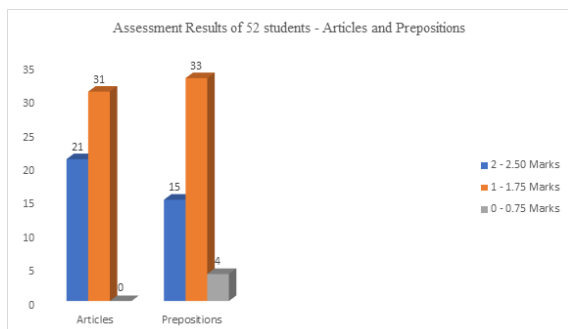
The data from the graph above indicate that seven students scored in the range between 9 and 9.75 marks, five students scored in the range between 8 and 8.75 marks, 15 students scored in the range between 7 and 7.75 marks, twelve students

scored in the range between 6 and 6.75 marks, ten students scored in the range between 5 and 5.75 marks and three students scored in the range between 4 and 4.75 marks.

Overall Scores related to Articles and Prepositions

The graph below presents an overview of overall scores on the scale of 0 to 2.50 marks for Articles and Prepositions.

Graph 2



The data above related to articles indicate that twenty-one students scored on the range between 2 and 2.50 while thirty-one students scored on the range between 1 and 1.75 marks. The data related to prepositions indicate that fifteen students scored in the range between 2 and 2.50 marks, thirty-three students scored in the range between 1 and 1.75 marks, while four students scored in the range between 0 and 0.75 marks.

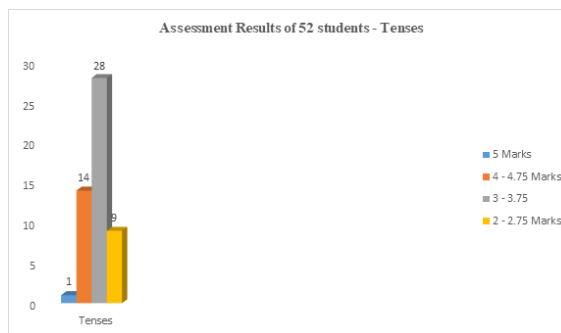
Table 1

Item No.	Assessment Items
1	My mother likes _____ flowers very much. a) a b) an c) no article Answer: c)
	No. of students with correct answer No. of students with incorrect answer Total Students
	48 = 92% 04 = 8% 52 = 100%
2	I don't see him often, only once or twice _____ month. (a) a) a b) an c) the d) no article Answer: a) a
	No. of students with correct Answer No. of students with wrong Answer Total Students
	42= 81% 10= 19% 52 = 100%
3	She's a good musician, she plays _____ piano beautifully. (the) a) a b) an c) the d) no article Answer: c) the

Overall Scores related to Verb Tenses

The graph presented below gives an overview of the overall scores on the scale of 0 to 5 marks for tenses.

Graph 3



The graph above indicates that fourteen students scored marks between 4 and 4.75, 28 students scored in the range between 3 and 3.75 marks, and nine students scored in the range between 2 and 2.75 marks. Only one student scored 5 marks which indicate that the student got all the items related to tenses correct.

A Detailed Analysis of Articles (Items 1 to 10)

The language structures used to assess students' grammar proficiency levels with a specific focus on articles are presented in the table. Also, the data give insights into the percentage of students with correct and incorrect answers for each grammar item.

	No. of students with correct Answer	No. of students with wrong Answer	Total Students
	42= 80%	10= 20%	52 = 100%
4	Mary is not at _____ office, I think she's gone home. (the) a) a b) an c) the d) no article Answer: c) the		
	No. of students with correct Answer	No. of students with wrong Answer	Total Students
	28= 54%	24= 46%	52 = 100%
5	I am studying _____ French and _____ Italian. (No article) a) a b) an c) the d) no article Answer: d) no article		
	No. of students with correct Answer	No. of students with wrong Answer	Total Students
	30= 58%	22= 42%	52 = 100%
6	I like Swathi, she has a lot of _____ warmth. (No article) a) a b) an c) the d) no article Answer: d) no article		
	No. of students with correct Answer	No. of students with wrong Answer	Total Students
	46=88%	6= 12%	52 = 100%
7	There's _____ wood at the end of the road. (a) a) a b) an c) the d) no article Answer: a) a		
	No. of students with correct Answer	No. of students with wrong Answer	Total Students
	34= 65%	18= 35%	52 = 100%
8	It was very strange, a shirt made of _____ paper. (no article) a) a b) an c) the d) no article Answer: d) no article		
	No. of students with correct Answer	No. of students with wrong Answer	Total Students
	37= 71%	15= 29%	52 = 100%
9	I stayed at Raju's home last night and listened to _____ radio. (the) a) a b) an c) the d) no article Answer: c) the		
	No. of students with correct Answer	No. of students with wrong Answer	Total Students
	34= 69%	16= 31%	52 = 100%
10	1. He is _____ European. (a) a) a b) an c) the c) no article Answer: a) a		
	No. of students with correct Answer	No. of students with wrong Answer	Total Students
	19= 37%	33= 63%	52 = 100%

A Detailed Analysis of Prepositions (Items 11 to 20)

The language structures used to assess students' grammar proficiency levels with a specific focus on

prepositions are presented in the table. Also, the data give insights into the percentage of students with correct and incorrect answers for each grammar item.

Table 2

Item No.	Assessment Items	No. of students with correct Answer	No. of students with wrong Answer	Total Students
11	He's gone to the station. He's probably _____ the station. (at) a) at b) for c) on d) from Answer: a) at			
	No. of students with correct Answer	No. of students with wrong Answer	Total Students	
	40= 77%	12= 23%	52 = 100%	
12	He flew from London. He's probably _____ Paris now. (in) a) at b) in c) under Answer: b) in			
	No. of students with correct Answer	No. of students with wrong Answer	Total Students	
	26=50%	26= 50%	52 = 100%	
13	I always finish work early _____ Fridays. (on) a) on b) in c) at d) under Answer: a) on			
	No. of students with correct Answer	No. of students with wrong Answer	Total Students	
	29= 58%	23=44%	52 = 100%	
14	They prepared a surprise for me at the office _____ my birthday. (on) a) at b) on c) in d) above Answer: b) on			
	No. of students with correct Answer	No. of students with wrong Answer	Total Students	
	41= 79%	11= 21%	52 = 100%	
15	Don't put that cup _____ my papers, please. (on top of) a) over b) above c) on top of Answer: c) on top of			
	No. of students with correct Answer	No. of students with wrong Answer	Total Students	
	29= 56%	23= 44%	52 = 100%	
16	Bronze is made _____ copper and tin. (from) a) of b) out of c) from d) with Answer: c) from			
	No. of students with correct Answer	No. of students with wrong Answer	Total Students	
	25= 48%	27= 52%	52 = 100%	
17	Mr. Potters suffers _____ asthma. (from) a) from b) with c) in d) over Answer: a) from			
	No. of students with correct Answer	No. of students with wrong Answer	Total Students	
	26= 50%	26= 50%	52 = 100%	
18	I wouldn't think _____ borrowing money. (of) a) in b) of c) to d) from Answer: b) of			
	No. of students with correct Answer	No. of students with wrong Answer	Total Students	
	44= 85%	8= 15%	52 = 100%	
19	John could never put any passion _____ his singing. (into) a) at b) to c) into Answer: c)			
	No. of students with correct Answer	No. of students with wrong Answer	Total Students	
	31= 60%	21= 40%	52 = 100%	
20	The jeans had a patch the knee. (at) a) at b) on c) in Answer: a) at			
	No. of students with correct Answer	No. of students with wrong Answer	Total Students	
	24= 46%	28= 54%	52 = 100%	

A Detailed Analysis of Tenses (Items 21 to 40)

The language structures used for assessing students' grammar proficiency levels with a specific focus on

Table 3

tenses are presented in the table. Also, the data give insights into the percentage of students with correct and incorrect answers for each grammar item.

Item No.	Assessment Items	No. of students with correct Answer	No. of students with wrong Answer	Total Students
21	We _____ an hour yesterday. (waited) a) waited b) have waited c) are waiting Answer: a			
	No. of students with correct Answer	No. of students with wrong Answer	Total Students	
	25= 48%	27= 52%	52 = 100%	
22	I _____ as a civil servant five years ago. (worked) a) am working b) have worked c) worked Answer: c			
	No. of students with correct Answer	No. of students with wrong Answer	Total Students	
	20= 38%	32= 62%	52 = 100%	
23	Water _____ at 100 degree Celsius. (boils) a) boil b) boils Answer: b			
	No. of students with correct Answer	No. of students with wrong Answer	Total Students	
	47= 90%	5= 10%	52 = 100%	
24	I _____ learning English for years. (have been) a) has been b) have been Answer: b			
	No. of students with correct Answer	No. of students with wrong Answer	Total Students	
	48= 92%	4= 8%	52 = 100%	
25	What _____ you doing at eight o' clock yesterday evening? (were) a) were b) are Answer: a			
	No. of students with correct Answer	No. of students with wrong Answer	Total Students	
	40= 77%	12= 23%	52 = 100%	
26	. When she arrived, she _____ traveling for twenty hours. (had been) a) has been b) had been Answer: b			
	No. of students with correct Answer	No. of students with wrong Answer	Total Students	
	18= 35%	34= 65%	52 = 100%	
27	I thought I _____ sent the money a week before. (had) a) have b) had Answer: b			
	No. of students with correct Answer	No. of students with wrong Answer	Total Students	
	38= 73%	14= 27%	52 = 100%	
28	Tomorrow _____ warm, with some cloud in the afternoon. (will be) a) is b) will be Answer: b			
	No. of students with correct Answer	No. of students with wrong Answer	Total Students	
	52 = 100%	-	52 = 100%	
29	The builders say they _____ finished the roof by Tuesday. (will have) a) had b) will have Answer: b			
	No. of students with correct Answer	No. of students with wrong Answer	Total Students	
	35= 67%	17= 33%	52 = 100%	
30	It usually _____ in January. (snows) a) snowsb) snow Answer: a			
	No. of students with correct Answer	No. of students with wrong Answer	Total Students	
	34= 65%	18= 35%	52 = 100%	

31	When they got married, they _____ known each other for fifteen years. (had) a) have b) had Answer: b		
	No. of students with correct Answer	No. of students with wrong Answer	Total Students
	33= 63%	19= 37%	52 = 100%
32	This time tomorrow, I _____ lying on the beach. (will be) a) had been b) will be Answer: b		
	No. of students with correct Answer	No. of students with wrong Answer	Total Students
	48= 92%	4= 8%	52 = 100%
33	My sister _____ at home for the moment. (is living) a) is living b) was living Answer: a		
	No. of students with correct Answer	No. of students with wrong Answer	Total Students
	36= 69%	16= 31%	52 = 100%
34	At the time when it happened, he _____ to New York a lot. (was travelling) a) am travelling b) was travelling Answer: b		
	No. of students with correct Answer	No. of students with wrong Answer	Total Students
	38= 73%	14= 27%	52 = 100%
35	Those kids _____ watching TV non-stop since breakfast. (have been) a) have been b) had been Answer: a		
	No. of students with correct Answer	No. of students with wrong Answer	Total Students
	40= 77%	12= 23%	52 = 100%
36	Here _____ the news. (is) a) is b) are Answer: a		
	No. of students with correct Answer	No. of students with wrong Answer	Total Students
	51= 98%	1= 2%	52 = 100%
37	What _____ bears eat?' 'Everything.' (do) a) do b) does Answer: a		
	No. of students with correct Answer	No. of students with wrong Answer	Total Students
	30= 58%	22= 42%	52 = 100%
38	It _____ raining for the last three days. (has been) a) was b) has been Answer: b		
	No. of students with correct Answer	No. of students with wrong Answer	Total Students
	37= 71%	15= 29%	52 = 100%
39	My legs were stiff because I _____ standing still for a long time. (had been) a) have been b) had been Answer: b		
	No. of students with correct Answer	No. of students with wrong Answer	Total Students
	16= 31%	36= 69%	52 = 100%
40	What _____ you do next year? (will) a) are b) will Answer: b		
	No. of students with correct Answer	No. of students with wrong Answer	Total Students
	51= 98%	1= 2%	52 = 100%

Articles, prepositions, and tenses: Analysis of Students Scores in all items

The table below highlights the percentage of successful and unsuccessful students in the use of articles, prepositions, and tenses.

Table 4

Sl.No	Item Tested	Success Percentage	Unsuccessful Percentage
1.	Misuse of article	92%	8%
2.	Usage of article "a"	81%	9%
3.	Usage of article "the"	80%	20%
4.	Usage of article "the"	54%	46%
5.	Misuse of article	58%	42%
6.	Misuse of article	88%	12%
7.	Usage of article "a"	65%	35%
8.	Misuse of article	71%	29%
9.	Usage of article "the"	69%	31%
10.	Usage of article "a"	37%	63%
11.	Usage of preposition "at"	77%	23%
12.	Usage of preposition "in"	50%	50%
13.	Usage of preposition "on"	58%	44%
14.	Usage of preposition "on"	79%	21%
15.	Usage of preposition "on top of"	56%	44%
16.	Usage of preposition "from"	48%	52%
17.	Usage of preposition "from"	50%	50%
18.	Usage of preposition "of"	85%	15%
19.	Usage of preposition "into"	60%	40%
20.	Usage of preposition "at"	46%	54%
21.	Usage of tenses "simple past"	48%	52%
22.	Usage of tenses "simple past"	38%	62%
23.	Usage of tenses "present simple"	90%	10%
24.	Usage of tenses "present perfect"	92%	8%
25.	Usage of tenses "simple past"	77%	23%
26.	Usage of tenses "past perfect continuous"	35%	65%
27.	Usage of tenses "past perfect"	73%	27%
28.	Usage of tenses "simple future"	100%	-
29.	Usage of tenses "future perfect"	67%	33%
30.	Usage of tenses "simple present"	65%	35%
31.	Usage of tenses "past perfect"	63%	37%
32.	Usage of tenses "future continuous"	92%	8%
33.	Usage of tenses "present continuous"	69%	31%
34.	Usage of tenses "past continuous"	73%	27%
35.	Usage of tenses "present perfect"	77%	23%
36.	Usage of tenses "simple present"	98%	2%
37.	Usage of tenses "present simple"	58%	42%

38.	Usage of tenses “present perfect continuous”	71%	29%
39.	Usage of tenses “past perfect continuous”	31%	69%
40.	Usage of tenses “simple future”	98%	2%

An analysis of the students’ assessment scores indicates that the success rate is 100% for simple future tense while the unsuccessful rate is 69% for past perfect continuous tense. The unsuccessful percentage is above 60% in the usage of the article “a”. In the category of the usage of prepositions, 54% of students were unsuccessful in using “at”.

Also, the percentage of success and failure depended on the syntactic and semantic variations in sentence structures. These differences will be discussed in the findings.

Analysis of Students’ Feedback on Test Items

Table 5

Item No.	Feedback of students				
1	I feel that the items given in the test are				
	Easy	Difficult	at the right level	below average	
	12= 23%	3= 6%	36= 69%	1= 2%	
2	I feel that the items related to articles given in the test are				
	Easy	Difficult	at the right level	below average	
	22= 42%	2= 4%	28= 54%	-	
3	I feel that the items related to prepositions given in the test are				
	Easy	Difficult	at the right level	below average	
	14= 27%	6=11%	30= 58%	2= 4%	
4	I feel that the items related to tenses given in the test are				
	Easy	Difficult	at the right level	below average	
	15= 29%	9= 17%	28= 54%	-	
5	If you have experienced any difficulties while taking the online test, please share it				
	<ul style="list-style-type: none"> • Confused between has been and had been • Confusion with the given choices • Confusion between have been and had been • Confusion with articles • Some confusion in tenses • Confusion and bit hard • Some difficulty with prepositions • Difficulty with tenses • Felt indecisive while answering few questions • It looks like whatever I opt for is correct, but later I found that it was wrong. • I felt that I need to improve in English grammar. • I had network issues during the online test. • Time was not sufficient. 				
	6	Please give your suggestions for making improvements in the online test			
		<ul style="list-style-type: none"> • Increase the level of hardness 			
	7	Please give your suggestions for making improvements in virtual classroom sessions			
		-			

Discussion

The effectiveness of online assessment to diagnose ESL students' levels of proficiency

In a face-to-face classroom situation, ESL teachers share the resources in the form of hard copies such as hand-outs, course materials, and library resources. Teachers monitor students' progress in communicative activities through formative assessment techniques. However, the post-Covid 19 scenario made many ESL teachers rely on available web applications. Teachers across the world began to use technological aids and web applications that were either ignored or found ineffective in a face-to-face teaching-learning context. In order to overcome the obstacles of Covid-19 restrictions and continue with virtual classroom sessions, they were quick to rely on virtual web platforms such as Zoom, Google Meet, Cisco Webex, Microsoft Teams or any other suitable web platform that was available and accessible. Many teachers did not have prior experience in the use of virtual platforms because it was not part of their curriculum. During the initial days of virtual classroom sessions, many ESL teachers experienced initial setbacks of navigating through different features and managing many students. Some of the obstacles teachers experienced include network connectivity issues, background noise from the students' microphones, marking attendance and delivering effective lectures.

The researcher explored the available web applications suitable for connecting with the engineering students. WhatsApp group was created and exclusively used to post messages on various aspects of classroom procedures. The Telegram application has been useful for administering quizzes and sharing the classroom resources and could partially compensate for the absence of on-campus assessment. For quick connectivity with the students, the researcher relied on the WhatsApp application while the Telegram channel was found conducive for the conduct of grammar quizzes. Zoom web application has been useful for virtual classroom sessions, while Abhyas (LMS) portal served as a formal link to connect the researcher and

the students. All the third-year B.Tech students who participated in this study had enrolled for the Advanced Communication Skills course on the Abhyas Web Portal of the institution. Through this web portal, classroom resources and relevant web links were made accessible to the students. These applications could partially fill the gaps in face-to-face classroom teaching-learning contexts. The students' participation in the online test on Abhyas (LMS) platform indicates the relevance of a user-friendly Learning Management System in the absence of a physical classroom setting. The software has embedded features to record the duration and the time taken by each student to complete the test.

Further, the shuffling of questions made it difficult for the students to plagiarize the answers from others. As soon as the students submitted the test, the total score was displayed on the screen. The excel sheet generated after the online test gives detailed information such as student's total score, scores in each of the given test item and the average scores in a particular test item. It also provides an overview of the average score of all the students. The auto-correction feature of the LMS reduces the burden of manual work for the ESL teacher because it can be tedious work to manually evaluate each of the test items when the number of test-takers is more. All these features of the Abhyas (LMS) platform make it conducive and reliable to assess students' English language proficiency

The overall test scores reveal that the input students received during the virtual and online modes are beneficial for enhancing English language proficiency. It is observed that 75% of students could score 60% and above in the online test. An analysis of ESL students' participation, internet accessibility, use of virtual platforms and the ease to navigate through the Learning Management System (LMS) indicate that online assessment tools effectively diagnose the proficiency levels of ESL engineering students. Since the Telegram channel is a free application accessible on the web and is also compatible on all mobile and computer devices, it was found conducive for conducting anonymous online quizzes. Moreover, it served as a platform for

post-teaching practice for ESL students. The four online quizzes administered on the Telegram Channel focused on giving practice in articles, prepositions and tenses. Engineering students were motivated to participate in the practice quiz because it was accessible to them even after classroom hours. Moreover, the quiz results on Telegram Channel are confidential because the individual scores of test-takers will not be known either to the teacher or to their peer group. However, it provides an overall percentage of students who could answer right/wrong for a given item. Considering the overall success or failure percentage in a particular item, ESL teachers can identify the grammar topics that pose difficulty and provide more input in the areas of language where improvement has to be initiated. The item-wise score also will make the students aware of their proficiency levels and the areas they need to improve on. In order to administer such online tests as a part of formative or summative assessment, an ESL teacher has to be either computer literate or attend in-house or online training programs. The engineering ESL students who are already familiar with computer technology might need minimal training to navigate various settings to answer the online test.

In which areas of verbal ability are students competent, and in which areas do they need training?

The input students receive in verbal ability can be applied in everyday spoken and written communication. The rationale behind providing language input in the form of quizzes and tests, followed by constructive feedback, is to make the engineering students more competent in using meaningful structures in a wide variety of contexts. Improper usage of articles 'a', 'an', and 'the' in a placement test conducted by multinational companies can impede students' progress to the next level in a job interview. The students' performance in the grammar test reveals that most engineering students could identify the usage of articles and make the sentences meaningful. Also, students could identify sentence structures in which an article is not required. However, when the usage of "a" or "an" depends on the pronunciation of a word, there seems to be confusion among the

engineering students. There are words in English which begin with "e", "h" and "u" but differ in pronunciation as in "a European", "an eagle", "a house", "an hour", "a university", "an umbrella", and require close attention to the utterance rather than the spelling.

The findings reveal that teachers have to provide additional input in the form of video clips and online quizzes on specific grammar topics. Suppose the ESL teachers assume that the engineering students are already familiar with grammar topics such as articles, prepositions and tenses; in that case, they may find it insignificant to teach grammar in the third year B.Tech. These teachers have to be aware that English is not a phonetic language because the English alphabet varies in pronunciation when combined to form meaningful words. ESL teachers have to provide additional training in pronunciation skills so that students can enhance their competence to identify the sound patterns of English words when using articles. Even though there are so many web applications which provide free training in the usage of articles, it is observed that ESL students rely on teacher-directed online training sessions and do not take initiation to explore the resources available on the Worldwide Web. However, due to time constraints, the study could not provide intensive training in each of the grammar topics. Intensive language training sessions in articles are needed to make them more proficient in spoken and written communication.

Usage of appropriate verbs makes spoken utterances and written communication meaningful. Engineering students could identify words that are in the present simple, present continuous, present perfect, past continuous, past perfect, future simple, future continuous, future perfect, and future perfect continuous. These students were provided with continuous input in the form of quizzes on Telegram, followed by feedback during the virtual classroom sessions using the Zoom platform. However, 52% of students could not differentiate the past tense usage "-ed" from present perfect tense "have + ed" forms in a given context. These students opted for "have + ed" instead of "-ed". Also, 65% of students chose the option of present perfect "has been"

instead of past perfect “had been” and 69% of students used “have been” instead of “had been”. The findings suggest that more input is required to differentiate present perfect from past perfect tense. Inappropriate use of tense forms in spoken utterances and written communication can lead to an unintended communicative outcome. In a formal communicative situation, the inability to use the correct verb forms can lead to miscommunication or misunderstanding and increase conflict and accusations. This study reveals that ESL engineering students who participated in this study made grammatical errors due to a lack of awareness and practice in verb forms. If these problems remain undiagnosed or neglected during the early stages of engineering education, it can hinder their success in campus placement tests as well as in other job-related competitive exams where English grammar skills are being tested. Since the duration of regular virtual classrooms session is limited to one hour, ESL teachers can use web applications such as Telegram Channel, Kahoot or other relevant web applications for providing additional English language input.

Can the traditional grammar lessons and online quizzes enhance the English language proficiency of ESL students?

It is observed that many components of traditional English grammar are included in the placement tests. In JNTU affiliated colleges, the Advanced Communication Skills Lab is a credit course for third-year engineering students. Even though the primary purpose of the course is to impart communication skills and soft skills with more emphasis on employment skills such as Presentation Skills, Group Discussion, Interview Skills and Resume Writing, the researcher integrated English grammar to meet the needs of the software industry and make the students employable. The findings of the study reveal that traditional grammar exercises can be added input for the students to enhance their performance in placement tests. During the classroom communicative activities, it was observed that many students make grammatical errors in their spoken utterances and written communication. In regular classroom sessions, the exposure that ESL students receive in the English language is limited to listening to lectures, reading

course materials to write exams and writing technical or lab reports. The errors that students make in their formal written communication replicate the informal language used on social media. The written communication used for chatting on social networking sites gives the least priority to grammar rules. Due to the improper English language input that students receive during informal interaction, they are prone to make errors even during formal communication situations. An awareness of articles, prepositions, tenses, subject-verb agreement rules and other related grammar forms in a systematic order can re-emphasize the use of accurate sentence structures in ESL students’ spoken and written communication. Further, administering multiple-choice online quizzes in English vocabulary, spelling and grammar at regular intervals can enhance the critical thinking skills of the engineering students. Quizzes make the test-takers read each of the given choices carefully and then choose the answer that an individual perceives as correct. While reading the given options for multiple-choice grammar test, students activate their schemata and choose the answer they think is appropriate. The post-test feedback sessions guide the students to overcome the mistakes they made in the quizzes and make improvements in their communication skills.

The findings of the study indicate that ESL students are found to be motivated to the anonymous grammar quizzes on the Telegram channel because the teacher who administers the quiz cannot identify the students who got low scores in the quiz. Since there are students who do not like to be identified as low-achievers, administering an anonymous online grammar quiz can encourage students with low self-esteem to participate in the assessment process. However, the ESL teachers who administer the anonymous online quiz can get an overview of the overall success percentage in each of the grammar items. Based on the overall success percentage in each of the grammar items, an ESL teacher can provide constructive feedback as well as additional input to enhance the students’ English language competence.

The effectiveness of web applications in enhancing the verbal ability of engineering students

Before the Covid 19 pandemic, many ESL teachers solely relied on the chalk-and-talk method due to a lack of awareness in operating computers. Some teachers who knew how to operate computers could not use audio-visual aids for on-campus teaching-learning contexts because the physical setting of the classroom did not support it. The restrictions imposed by governments across the world due to Covid 19 pandemic made the educational institutions rely on the available virtual platforms. Moreover, regular on-campus classroom sessions were suspended across India, and the only alternative was to rely on a virtual platform. Also, most of the engineering colleges affiliated to Jawaharlal Nehru Technological University (JNTU), Hyderabad, recommended Zoom as a substitute for a physical classroom setting. The post-Covid-19 rules and regulations of the university made it mandatory for all the engineering colleges to schedule virtual classes.

All the topics discussed in the current study were taught on Zoom virtual platform. However, the instructions to be followed during the Zoom virtual classroom sessions were posted on the WhatsApp group and Abhyas (LMS). This procedure reveals that more than one web application might be required to connect with the students. The virtual mode on the zoom platform is found conducive for audio-video classroom sessions. Teachers can share PowerPoint Presentation, interact with students, use breakout rooms for group work, use the virtual board, chat with students, and mute the students' microphones. All these features of the virtual platform make the teaching-learning process productive. During the virtual classroom sessions, video clips relevant to the grammar topics is found to be an added input for providing a visual effect of situational use of articles, prepositions and tenses. It has been observed that the input ESL students received through web applications are beneficial in enhancing their grammar skills. Engineering students could view the PowerPoint slides on different aspects of English grammar and participate in the discussions during the virtual mode of instruction. The test scores revealed that the additional input students received

in the form of video links, quizzes, and feedback sessions enhanced their verbal ability. The findings of this study indicate that Telegram Channel, WhatsApp, Abhyas (LMS), Microsoft Forms, Youtube, and Zoom application are beneficial in ESL teaching-learning contexts. It was found that administering teacher-guided online grammar quizzes in topics such as articles, prepositions and verb tenses made them aware of grammar components that require immediate attention and practice. Further, the user-friendly navigational tools made it easier to answer online quizzes. Students could know their scores for quizzes administered on Telegram Channel and Abhyas (LMS) portal with a click of a mouse button. Moreover, it provides a relaxed environment when compared to on-campus classroom quizzes.

The responses in the student questionnaire reveal the success and constraints of online platforms. ESL students expressed eye strain due to the continuous use of mobile and computer devices for online classes. Some of the ESL students expressed that they were confused with the choices while answering all the three grammar components (articles, prepositions and tenses) administered as a part of the main test. The study reveals that the ESL teachers who did not have any background in computer skills and those who believed only in the traditional mode of chalk-and-talk began to rely on technological aids to connect with their students. The timely intervention of experts helped many ESL teachers to overcome the initial setbacks they experienced during the post-Covid-19 scenario. These experts from reputed universities conducted professional development webinars to educate the teachers about the effective use of the available virtual platforms. Also, many universities across the world conducted virtual professional development programmes to hone teaching skills and enhance teacher effectiveness on virtual platforms. Coursera and TCSion, the Massive Open Online Course (MOOC) providers, offered many free online courses for teachers and students.

Conclusion

The Covid-19 lockdown period has transformed the educational scenario. The absence

of on-campus classroom sessions resulted in more time on Worldwide Web. Teachers and students utilized the leisure time to register for online courses, attend virtual seminars, workshops and conferences. The emergence of the virtual classroom era due to the Covid-19 pandemic made the ESL teachers try and test different techniques. The virtual model of instruction using different web applications silenced the monotony and boredom students experienced during traditional grammar classroom sessions. The response of ESL students to the teaching of English grammar in the virtual mode has been encouraging. After initial setbacks, ESL teachers are now more confident to teach on a virtual platform. The regular use of web applications for the teaching-learning process made them try and test various strategies. The virtual classroom experience that they gained during the post-Covid-19 pandemic is useful even for on-campus teaching-learning contexts. Often, the duration of on-campus classroom teaching time is limited, and teachers may not get time to diagnose the grammatical mistakes of individual students or conduct remedial sessions. In the future, off-campus virtual classes can be also be scheduled for those students who need more guidance from their teachers. However, teacher preparedness and student willingness have to be considered before scheduling additional online classes or else it could lead to teacher disillusionment and fatigue in students. The potential of the virtual platforms to provide individualized instruction in English grammar has to be explored further. The success of virtual classroom sessions depends on student motivation and teacher preparedness.

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