

Presentation Skills a Holistic Way to Develop Communication Skills of Engineering Students: Opportunity for Self-Learning During COVID-19 Crisis

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Abstract

Communication is the very lifeblood to succeed in life, whether it is your personal life or professional life. So, it is important to develop and enhance the communication skills of undergraduates, especially engineering students. Organizations are willing to invest in students who showcase the true potential and are employable. Communication is multi-faceted. It will be beneficial to improve the students' language skills, such as listening, speaking, reading, and talking. In addition to the four mentioned skills, emphasis should also be given to general knowledge, vocabulary building, and non-verbal communication, thereby growing a versatile, confident and generation of students ready to face the real world. In light of the above-mentioned points, an assignment on creating a recorded video presentation was given to the first-year engineering students using the ICT tool. During lockdown due to the COVID-19 pandemic, this assignment was given to develop their communication skills. Moreover, oral feedback was collected from students to understand their key-take away from a virtual learning platform. This paper will focus on how self-learning can also be a good form of pedagogy to improve one's communication skills by the medium of presentations. The results showed that self-learning could improve communication skills through digital presentations.

Keywords

Communication Skills, Organizations, General Knowledge, ICT Tool, Digital Presentations

Imprint

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1. Introduction

It is the need of the hour to train engineering students from the first year and make them aware of the significance of this life-skill subject named communication skills. Project presentations are a one-stop solution to work on the communication skills of the students. It not only helps in developing all the language-based skills but also improves learners' general knowledge. In addition to that, students become commanding as they face public speaking phobia, stage fear, and overcome it. Traditionally, students go through varied stages like selecting a topic from the given options, collecting data and information, planning and preparing a presentation, and finally delivering in front of an audience. Changing Circumstances pave the way for new ways of learning and development.

COVID-19 was declared a pandemic by World Health Organization (WHO) on 11 March 2020 since its inception in Wuhan, China, after three months. COVID-19 has created a multidimensional impact on the world, and the outbreak lethally attacked the lives of millions of people worldwide. The hustle and bustle of the world came to a stand-still with the advent of this pandemic. People's entire lifestyle changed, and there was a sudden shift of the professional world and the academic world to work, study, and teach from home. Teaching methodologies changed, evaluation and assessment patterns changed as everything went virtual. Technology was used as never before to stay connected with the world. Teachers and students had to adapt to this new normal mode of teaching and studying. It is time to explore virtual learning and teaching to its fullest [1].

Lockdown was announced in India in March 2020, and suddenly everything came to a halt. Technology came to the rescue of teachers and students, and learning did not stop during lockdown. Teachers and students were digitally connected and made an effort to the best use of the time at home to promote self-growth and development.

Communication plays a vital role in today's world. Speaking well and expressing thoughts, ideas, views with

clarity and transparency is an important student development skill and academic ability. This exercise is quite beneficial for students. It promotes or boosts self-image and enhances self-confidence. The demand for teaching and learning has to change with the changing times and accommodate the students' needs. A challenging task through which students learn many things has to be incorporated into the pedagogy. Opportunities must be created to encourage creativity in 21st-century students, which is possible when a platform is provided to students. They will work and learn individually, experiment, and create something by themselves. Video presentations promote different modes of learning such as cognitive, psychomotor, affective [2].

Presentations develop some important skills in students, making them employable as well. This skill will be a part of their professional endeavors. For instance, skills like negotiation skills, interpersonal communication, power of expression, apt expression of ideas, diversity in thinking, and increasing knowledge by reading. In addition to that, self-learning is encouraged and language skills such as reading, speaking, and vocabulary enhancement occurs. Students become more confident and optimistic about themselves. Real learning happens with adequate practice and hands-on training [3].

The educational objectives need to change and explore pedagogy methodologies, curriculum, instructional methods, and creative achievement assessment. Current circumstances created by COVID 19 have made learners and teachers ponder upon and understand that learning can happen from remote places and is not dependent on physical presence and a classroom setting. Subject knowledge can be channelized effectively to enhance communication skills, especially their presentation skills [4].

Students and adults primarily prefer to learn in creative ways by-discovering, working, probing, testing, imperiling, and altering concepts. Flexibility plays a major role in motivating the students to prepare their presentations originally. Teachers should also provide learning conditions to aid learning and development. This task gives a good chance to students to showcase their communication skills, as well as creativity. This task can be both legitimate and rewarding for teachers as well as students. This assignment also helped in increasing their comfort level with varied technology tools [5].

Communication skills can be improved by bringing in a revolution in the way it is taught and practiced.

Greater emphasis must be paid to making students learn on their own by emphasizing creative problem solving and creative expression and equipping them with real-life skills. This subject is all-inclusive in this revolution and is quite antique but has been polished frequently to get excellent results.

Establishing creative relationships with students is a must in contemporary situations, and once taken, it will be a revolutionary step. This paper attempted to use and supporting the same methodology. Teachers need to embark on this mysterious adventure with students. A responsive environment has to be created in which adequate guidance should be given to facilitate learning, and hands-on exposure caters to self-learning. Uniqueness and originality are recommended in today's world; then only one can create an impact and be effective. Employers today hire individuals who possess good communication skills and are confident in interaction during interviews and presentations. Even advancement in career is facilitated by working on improving presentation and communication skills. Presentation is a requirement when it comes to the development and assessment of speaking skills [6].

2. Objective

This research intends to find out whether remote self-learning can occur and can be considered an effective pedagogy and learning tool; to evaluate the participants' communication skills through virtual video presentations [7]. The objectives behind assigning a presentation assignment to the students were to teach, enhance, develop and polish the following traits, which are a part of communication skills in them at a moderate level:

1. Develops thinking skills
2. Problem-solving
3. Creative Thinking
4. Speaking skills
5. Presenting skills
6. Time Management
7. Vocabulary Building
8. Apt Expression
9. All Language Skills
10. Self-Reliant

3. Methodology

3.1. Participants in this study were First Year engineering students from the Computer Science branch

from Symbiosis Institute of Technology, Symbiosis International (Deemed University) from 2019-23 batches. This study was carried out based on an assignment given to them as part of the Communication Skills course evaluation as a part of continuous assessment, a mandatory course with two credits for theory and one credit for the lab. Sixty-two students were a part of this study. This study was carried out in the lockdown period due to the COVID-19 pandemic in April 2020 during the second semester of the first year [8].

3.2. Method

Students were taught how to make and deliver a presentation in the class. Pre-presentation preparation, during the presentation, and after presentation techniques and tips were given to the students. This exercise helped evaluate how well they have assimilated the topic knowledge and how successful they were in implementing it by using technology during the lockdown crisis. Participants were asked to Select ANY ONE topic/question from the 13 given below and prepare and deliver a presentation on it. They were asked to prepare slides and use screen automatic tools to record their presentations in video form. In this, they were advised to display their slides and record their video while talking at the same time. Students were allowed to use any other tool of their choice by exploring the web. The minimum time duration was ten minutes and the maximum 15 minutes. The presentation was supposed to cover the topic or question. They were free to decide the number of slides. The following link was provided to the students to check out different tools to record their video presentations, and they were asked to use any one: <https://www.techradar.com/in/news/the-best-free-screen-recorder> [9].

The following topics were given to the students from the book named “*Technical Communication*” written by Raman & Sharma, and they had to select anyone:

1. Survey the major business publications for information about the national or world economic outlook for the coming year. Then present a summary report to your entrepreneurship class.

2. Select a current technological innovation for business use and report it to a company's top administrators (you select the company). You will describe the innovation and point out how it will benefit the company. If appropriate, you may recommend its purchase.

3. Report to a meeting of a wildlife protection organization on the status of an endangered species. You will need to gather the facts through research, probably in wildlife publications.

4. A national chain of (your choice) is opening an outlet in your city. You have been assigned the task of reviewing site possibilities. Gather the pertinent information and make an oral recommendation to the board of directors.

5. The Future Business Leaders Club at your high school has asked you to talk about what it takes to succeed in business school. You will cover all the factors that you think high school students need to know. Include visuals in your presentation.

6. You are a group of students who have been selected to go to Japan (or pick any other country) to represent your school at a conference. Prepare a report to give to the group that will prepare them to behave appropriately in this culture.

7. as a buyer of men's or women's clothing, report to your store's sales personnel on the fashions for the coming season. You may get the necessary information from publications in the field.

8. The career services center at your school is conducting a series of brief presentations on companies, both local and national/international, that students might want to learn about a potential employee. Your business communication teacher has gotten wind of this initiative and has offered to have her class prepare and deliver some of these as their report assignments. The director of the center has enthusiastically agreed! In this imaginary scenario, you will be preparing an oral report about a company of your choice for students at your school who are entering the job market. Your instructor and the director of your career services center are your secondary audiences. Carefully plan your report to be between 8 to 10 minutes long [10].

Support your talk with PowerPoint slides that have the following:

- a. An introductory slide to identify your company,
- b. An overview slide, listing the topics your talk is going to cover,
- c. A slide for each main section of your talk,
- d. A closing slide with the main point to leave with people.

The following kinds of information might be included in the presentation:

- a. company's outputs(products/services); the industry to which it belongs.

b. company's size(dollars in sales/revenue; the number of employees), ownership, financial health. c. company's plants/facilities/location.

d. Company's history (how founded? When? By Whom? Main achievements and/or crises in its history?)

e. Company's structure f. Company's employees

f. Company's position in its industry or main competitors; company's market/ customers. h. Company's culture/ missions/ policies/ management style/ work environment

g. Current problems/ Challenges facing this company Include references.

9. Recent Trends in Business Related Technology

10. The Potential World Market for a Particular Product

11. Conflict Management

12. Effective Time Management

13. Assume that you work for an organization that also believes in contributing constructively to a good common cause. Imagine that you are the Convener for the Skill Development Program initiated by your company in 2019-20 of the undergraduate women and girls of a nearby village. On completion of one year of the project, you must make a presentation to your authorities. Prepare an innovative beginning and a forceful ending for the same [11].

They were asked to select any one topic of their choice and prepare a video presentation. Varied topics were selected to encourage diversity in presentations. The students first had to select a topic, and then do some researches on that topic, get information, and then prepare a catchy, novel presentation and record themselves presenting it. For the recording and presentation, the student's used tools such as Screen cast-O-Matic to comply with the Children's Online Privacy Protection Act ("COPPA") and recognize children's

privacy interests Google Slides presentation as well as Power Points. Figure 1 shows the illustrations of screenshots of a few video presentations submitted by the students.

3.3. Assessment

The students were assessed out of ten marks based on the following criteria:

1. Content
2. Power of Expression
3. Over-all Impact of the Presentation
4. Level of Confidence

3.4. Feedback

The author gave detailed verbal feedback to the participants regarding body language, language skills, content management, delivery style, time management. Feedback plays an important role for the students as they learn their weaknesses and strengths, thereby building their soft skills. Optimal use of their potentialities is made when students get a chance to present their learning through video presentations [12].

4. Observations and Discussion

The Figure 2 shows that out of sixty-two students, one student got 50 % marks, eleven students got 60 % marks, sixteen students got 70% marks, ten students got 80 % marks, thirteen students got 90% marks, and ten students got 100% marks. The marks were given out of 10 and then converted into marks out of 5. After evaluation, the results indicated that most students performed well, which indicated that real-learning, happened along with good performance [13].

Students were given an assignment where they had to prepare a digital presentation using any software of their choice like

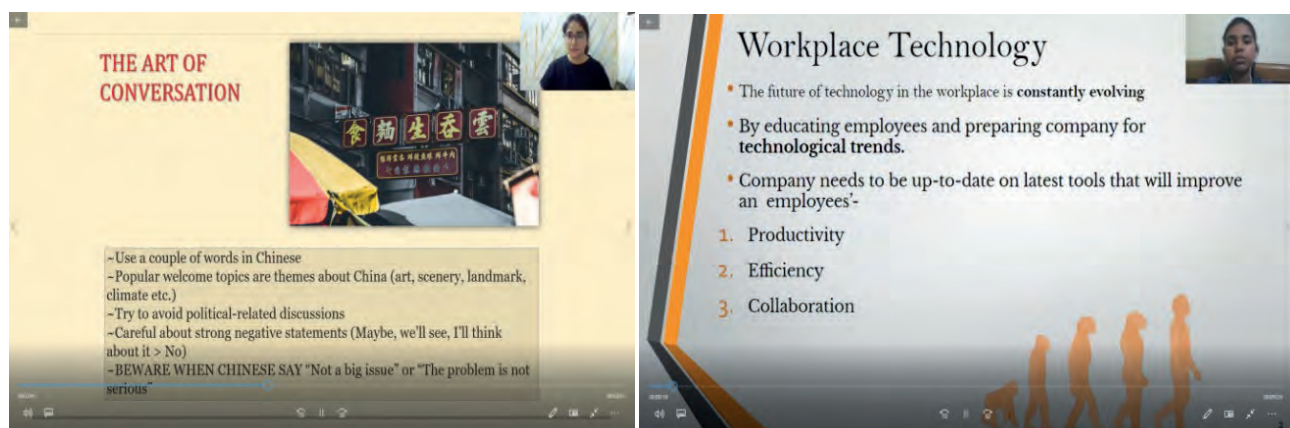


Figure 1: Illustrations of screenshots of a few video presentations submitted by the students

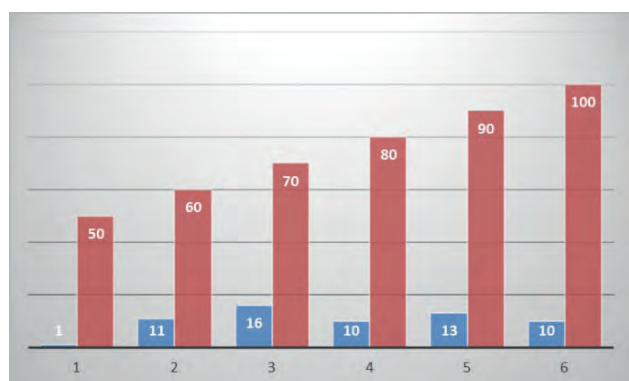


Figure 2: Percentage of Marks scored by the students

Screen cast-O-Matic software, Google Slides, etc., on any topic from the given topics and submits them. Students prepared their power-point slides and recorded their video while delivering their presentation. They had to submit individual presentations, and this task was executed for the first time by them. Typically, there is audience phobia, but in this case, there was camera phobia, which they had to overcome.

This assignment targeted all four language skills with a special focus on speaking skills. Students participated with full enthusiasm and zest as they got a chance to

showcase their communication skills. The content collection aspect involved in this assignment helped participants build on their subject knowledge and polish their delivery techniques. These presentations facilitated overall personality grooming, and students showed good progress in their communication and presentation skills. It also aided in reducing the gap between theoretical knowledge and practical knowledge [14].

The intention behind assigning video presentations as an assignment was to help students reflect on their recorded presentations and use that video as feedback for future presentation opportunities. This study would discuss varied aspects revolving around presentation skills; to determine whether some improvement was visible in students' performance. It is necessary to become skilled communicators in today's fast-paced globalized world.

After completion of the assignment and evaluation, oral feedback was taken from the students to understand the influence of the activity and test whether self-learning had taken place or not. See Table 1 for feedback responses given by students after submission of the assignment:

Table 1

Summary of Feedback Responses given by students

Sr. No	Question	Summary of Student Response
1	Do you think self-learning happened after completing this assignment?	The majority of the students felt that self-learning happened in their case as they had to read a lot before preparing their presentation, thereby increasing their subject knowledge. They shared that as they could view their recordings, they became aware of their mistakes and would work on them. Their knowledge about the selected topic too increased.
2	What is your takeaway from this video presentation assignment?	Some students stated that they had never used any technology tool to record themselves delivering a presentation, and this assignment gave a golden opportunity for them to learn how to use Screen cast-O-Matic. A few students shared that they used their critical thinking and creative thinking skills to design and prepare their presentation, especially in portraying their collected content. Three students said they felt this assignment has helped them understand the importance of good communication skills while delivering it.
3	Were you scared initially and felt uncomfortable recording yourself delivering a presentation?	Mixed responses were received for this question. The majority of the students felt it to be tedious and a time-consuming task as they had to record their presentations multiple times when some error took place. Initially, they were uncomfortable, but gradually they gained confidence in using the tech-based tool and facing a camera. Two students shared that they felt it to be a challenging opportunity and had fun completing the assignment.
4	Was it difficult for you to record your live video presentation?	The majority of the students shared that initially, it was difficult, as they were recording themselves using this tool for the first time.
5	What were the challenges you came across in completing this assignment?	Recording video without any communication error and covering the content in the given time was the participants' response.
6	Did you see any learning opportunities in the execution of this assignment?	Participants thought the assignment to be insightful as all the aspects associated with communication skills were in use. Learning how to use Screen cast-O-Matic was a learning opportunity for them.

Sr. No	Question	Summary of Student Response
7	Was it easy or challenging working on the presentations?	Only two students said it was easy to rest; all felt this task a little daunting and challenging.
8	Would you like to give a live presentation in a class, or are you happy with digital presentations?	The majority of the students said that they would like to give a live presentation as they like the question-and-answer session at the end of the presentation. Live presentations give the students a better chance to exhibit their communication and presenting skills in front of the entire class. Even they get to interact with the audience, which is not possible in virtual recorded presentations.
9	Did watching the video of your presentation helped you in any way?	All the students stated that watching their video was beneficial as they got immediate self-feedback related to voice quality, body language, and over-all presenting style.
10	Do you see any value addition to your skills related to presentation skills?	This assignment increased their creative strength and enhanced their brainstorming skills as they had to present their topic in a novel way.
11	Any other feedback?	Some students had connectivity problems and found it difficult to work extensively on this assignment. They would like to give live presentations and were also not very happy about facing the camera. One student suggested that digitally recorded presentations give plenty of chances to rehearse and improve the video, so I can't say whether presentation and communication skills were improved or not.

In this project/assignment, the instructional materials were research articles, videos, books, blogs, group discussion, and interpersonal interaction. It included many activities before the assessment stage, and gifted and talented students can be identified. Those that lack in this area are identified so that selective person-focused training can be provided, leading to overall class development and progress in the future. Students searched, explored, guessed, tested, combined, and synthesized. No other activity takes care of all the five language and communication skills simultaneously without being instructed and preached. They got a chance to explore the class tips and use them practically in a virtual setting [15].

The overall level of language ability and performance increased. Awareness regarding many areas raised and created a ripe opportunity for students to think creatively to present the content collected by them. Indeed, a useful activity can be used well in a live physical setting or in digital form. The presentation provides them with a good platform to enhance their language and general knowledge skills. General delivery skills are useful beyond university education/ academics. Students will have to communicate with clients and colleagues daily in their work lives. So, increasing the awareness of learners' is a necessity today. It is relevant to all stakeholders of higher education and leads to self-regulated learning.

This exercise helped in analyzing the verbal as well as non-verbal communication skills of the students. It gave an opportunity and chance to students to go beyond their comfort zone. Students wished to present in a new and original way and strive to be better than other students.

They tried to bring a new perspective and approach in delivering and presenting the information. They learned how to break the mold and brainstorm for new ideas [16].

The students shared that their brainstorming sessions outside the classroom, even at home, were full of curiosity, imagination, and discovery. This activity encouraged a positive learning spirit and led to productive behavior. This task increased their creative strength and initiated novel ways to present information interestingly. The needs of the current generation have changed, which changes the teaching methods and the goals of education. Today, the teacher is not an instructor or a preacher but a facilitator. Students can develop their competencies in delivering presentations, which increased the usage of research and encouraged reading. They had to refer to articles, blogs, books, magazines, and journal papers. Students learned to learn by themselves. They learned to collect and acquire information and knowledge and apply it when required, which would help make them problem solvers and instilled to a certain extent a very important life and employability skill in them. It helped them function at a higher level [17].

This task also increased the use and application of books, magazines, and online reading materials. The participants felt the group presentations to be a fun activity and did not consider it a mundane exercise. Curriculum and instructional materials must be designed and selected with a lot of care; to bring about real development [23].

Students understood their potential in terms of speaking skills. They also learned how to deliver their presentation effectively; there is future orientation in

all these activities. The gap between theoretical knowledge and practical application was reduced. It is one way to sharpen their intellectual skills; they learned how to elaborate the collected information and encourage productive thinking. They also learned how to think. Speaking talent was sharpened due to adequate practice, and speaking skill was also developed at a moderate level [18].

They developed planning talent and organized to arrange the content in a proper sequence that included an introduction, middle body, and conclusion. They were happy to showcase their verbal ability and enjoyed expressing themselves. Thereby, paralinguistic features were sharpened and developed as they tried to pay attention to their voice, articulation, voice modulation, intonation, fluency. They understood the importance of paralanguage as it was taught in the Communication Skills class [22].

At the inception of this exercise, there was adequate use of brainstorming also; as without it, they could not start working on their presentations. Such activities reward students as they provide real encouragement to develop their communication skills. It also promotes real learning behavior as teachers provide them with an atmosphere conducive to learning, promoting self-learning. It is important to pique their curiosity to learn. They learn to give value to the ideas they develop. They consider a test, use, and communicate while delivering their presentations. They get credit for this activity and marks, though they don't consider this task a threat to get evaluated. Trial and error methodology is encouraged so that timid students don't feel embarrassed to present before the teacher or audience [19].

After they delivered their presentation by recording it, a moderate rise was noticed in their self-esteem and self-concept. When students saw their own recorded video presentations, they understood how they have performed, areas where there were scope for improvement, and areas where their performance was satisfactory. In addition to their feedback, even the teacher provided detailed feedback, which helped them compare it with their feedback, promoting faster development and growth in imbibing these important skills, which will be used extensively by them in their professional endeavors. Their confidence level rose and they became enthusiastic about tackling inter-personal communication well. Development of teaching skills and learning skills goes hand in hand, encouraging creative dynamics [20].

It was observed that the students showed moderate progress in the following areas:

1. Ability to express feelings
2. Ability to improvise with commonplace materials
3. Articulating their ideas during the presentation,
4. Creative thinking
5. Content Expression,
6. Fluency and flexibility,
7. Brainstorming,
8. Mind-mapping technique,
9. Exhibiting robust body language,
10. Working with technology to record and edit their presentations as required to score good marks.

5. Limitations

As this type of presentation is carried out remotely, the entire class doesn't get an opportunity to witness the presentations collectively, and the question-answer round gets affected. Even immediate feedback is not possible as the presenter cannot observe the audience's body language to get non-verbal on-the-spot feedback and have to solely rely on the written feedback they receive at a later stage. Another pitfall is that they do not get a chance to comprehend whether they have stage phobia or not as these presentations are not live and can be well-rehearsed and recorded [21].

6. Conclusion

The study's outcome revealed that when participants watched their video presentations, they got immediate feedback that was easy to notice and understand. This feedback was considered useful by the students. They shared that they would take note of it when presenting in the future. Participants also stated that they enjoyed watching their videos and see themselves perform, as the visual image creates a greater impact on an individual's mind. The information presented in it is retained for a long time compared to a written or auditory material.

The feedback and results suggested that this assignment was considered beneficial by the students as they got a chance to improve their communication skills, presentation skills, delivery skills. The participants' comfort level about the use of tech-based tools also increased. Their work's final output- their video presentations indicated that self-learning was extensively used to make and deliver their presentations in video form. This teaching and learning tool can be used well in times of crisis with digital technology aid. Participants enjoyed working on this task, and the received feedback

would be valuable and advantageous for them in the future. In the future, the same work can be evaluated by implementing peer-assessment as an evaluation design.

Conflict of interest

None declared.

Author contributions

The author read the ICMJE criteria for authorship and approved the final manuscript.

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