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From Needs Analysis to Proposed Syllabus of Speaking Skills for Mechanical Engineering Students Development in the Workplace

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ABSTRACT
This study reports the design of an English for Specific Purposes (ESP) speaking syllabus tailored for mechanical engineering students in a polytechnic setting. Using a mixed-method approach, present situation and target situation analyses were conducted with 11 fourth-semester students through questionnaires and interviews. Findings revealed that while students could manage basic self-introductions, they lacked competence in higher-order interactional skills and engineering-specific oral tasks, such as explaining diagrams or giving instructions. Target-situation data highlighted the need for English in job interviews, meetings, and communication with foreign clients. Based on these results, a hybrid syllabus combining situational and topical approaches was developed, incorporating authentic materials, task-based sequencing, and simulation-based assessments. The syllabus prioritizes high-frequency workplace communication while gradually integrating technical explanatory skills, aiming to enhance both employability and professional competence.

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INTRODUCTION

The use of English in the workplace is becoming more and more important over time (Prima et al., 2022). The goals are varied and include cross-border corporate cooperation, multicultural workspaces, and the fundamental requirements of a company's own industry (Dwihartanti & Faizah, 2018; Annisa et al., 2023). As a result, employees in these domains must be proficient in English, especially in speaking, as this language is commonly utilized in oral education or while forming partnerships (Paltridge & Starfield, 2014). This also affects workers in organizations that make fluency in English a critical prerequisite for employment. Short yet efficient English learning sessions are therefore becoming more and more necessary.

Effective and efficient teaching must be created to accommodate the surroundings and demands of the workplace in order to meet these practical goals. An important first step in comprehending the fundamental demands and difficulties of learning English is a needs analysis (Alsamadani, 2017). This analysis could be used to identify learners' language background, to adjust instructional schedules, to create purpose-driven materials, and to create teaching strategies. Instructors can also give tests that are relevant to the desired results (Alsamadani, 2017; Dewi, 2015; Axmedovna et al., 2019; Pranoto & Suprayogi, 2020). All the data from the analysis are very useful for the teacher or instructor to design a framework to cater to the students' needs. Given the availability of the workers to study and the demands from their workplace, this framework helps the teacher to set the goals of how long they would finish the lesson. To adjust this, teachers should prepare the proper materials and evaluation. Therefore, the initialization of analyzing what becomes the students' needs is crucial to fathom the actual condition, which later creates effective and efficient teaching to accommodate the demands of the workplace.

The subsequent essential step, which consists of the description of objectives, teaching materials, the allotment of time, and evaluation, is creating a framework, or so-called syllabus. According to Palmer et al. (2016), a syllabus basically is a physical artifact outlining the key structural elements of a course. It often serves contractual, record-keeping, and communication functions. It's where the faculty describe the content to be covered, what books and articles their students will read, what assignments they will complete, the dates on which things are due, and all the policies and rules that should keep everyone happy and out of trouble. In line with Palmer Wanger et al. (2023) stated that it is the foundation for guiding interactions between instructors and students in both didactic and experiential contexts. Each syllabus includes both required and elective material to help students, instructors, and administrators understand what is expected of them in the course and to show how the course fits into the current curriculum requirements to keep the program accredited. From what is defined in advance, the syllabus is important as the next step to construct the result of needs analysis.

Teaching English for specific purposes (ESP), including English for Engineering, needs a syllabus. According to Yalden (1984), the existence of a syllabus in teaching and learning activity is taken into account as the efficiency of planned setting of instruction toward practical constraints. In line with Yalden, Allen (1984) also claims that since language is highly complex and cannot be taught all at the same time, successful teaching requires that there should be a selection of material depending on the prior definition of the objectives,

proficiency level, and duration of the course (p. 65). In addition, Widdowson (1984) also claims that a syllabus is a framework within which activities can be carried out: a teaching device to facilitate learning (p. 26). Thus, it is obvious that a syllabus is needed as a device to effectively deliver the materials to learners, including in teaching English for Engineering as specific purposes.

In this paper, a syllabus will be designed based on the needs analysis conducted, which merely focused on oral communication needs toward mechanical engineering students at one polytechnic in Bekasi. To know what skills they need in speaking, the researcher used two types of analysis, out of four, which are grounded according to Basturkmen's types of analysis. There are four types of analysis from Basturkmen namely: (1) Target situation analysis, dealing with language-related tasks, activities, and skills that the learners should ideally be able to perform in the profession, work, or study situation they wish to enter or advance in; (2) Present situation analysis, concerning the level of the learners' ability to perform the language related tasks, activities, and skills activities in relation to the demands of the target situation; (3) Learner factor analysis, regarding their motivation, how they learn, and their perceptions of needs and wants in relation to the LSP course; and (4) Teaching context analysis, related to the environment in which the LSP course will run and what the course and teacher can realistically offer.

Given that the focused skills are speaking, the mixture of situational and topical syllabus will be used to cater for students' needs. One hand, the situational syllabus is used because it organizes around different situation and oral skills needed in those situations (Richard, 2001, p. 152). In addition, it also will provide students with the understanding of whom they talk to. Thus, it will deal with the students' needs in regard with speaking for job interviews, communication with clients, communication in meetings and giving instructions as those needs will have connection with various situations and people. On the other hand, as Richard proposes, the topical syllabus will be used in dealing with different topics and how to talk about them in English. This syllabus supports all the needs of students.

The use of these two syllabuses combination is intended to strengthen the goals of students' needs. Hutchinson and Waters (1987) observed that any teaching material must, in reality, operate several syllabuses at the same time. One of them will probably be used as the principal organizing feature, but the others are still there (p. 89). In addition, White (1988) claimed that A complete syllabus specification is inclusion of more than one syllabus, and they vary depend on the priority given to each of these specifications.

In relation to syllabus design, therefore, this study will report on syllabus design based on mechanical engineering students' need which merely focus on English speaking skills. The discussion will include more details about the rationale related to syllabus framework.

To systematically address these objectives, this study aims to answer the following research questions:

1. What are the present and target situation needs of mechanical engineering students at a Bekasi polytechnic regarding English speaking skills for workplace contexts?
2. How can an ESP speaking syllabus be designed to effectively bridge identified gaps between students' current abilities and workplace communication demands?

LITERATURE REVIEW

English for Specific Purposes

English for Specific Purposes (ESP) is a learner-centered approach to language teaching that focuses on developing the communicative competencies required in particular academic, professional, or occupational contexts. Rahman (2015) defines ESP as distinct from General English because it emphasizes targeted language skills, discourse practices, and genres relevant to a learner's field. Johns (2015) notes that ESP includes subfields such as English for Academic Purposes (EAP) and English for Occupational Purposes (EOP), making it adaptable to a wide variety of settings. A central principle of ESP is needs analysis, which identifies the linguistic features, communicative functions, and cultural aspects of the target domain (Supunya, 2023). As Hyland and Shaw (2016) explain, this often leads to a genre-based approach, ensuring learners gain both linguistic accuracy and pragmatic fluency in context.

ESP has practical applications in disciplines ranging from engineering and medicine to business, tourism, and law. In academic contexts, EAP supports students in mastering research writing, lectures, and discipline-specific reading strategies (Hyland & Shaw, 2016), while in workplace contexts, ESP enables professionals to meet job-specific communication demands, such as drafting reports, negotiating contracts, or delivering presentations (Rahman, 2015). Effective ESP curriculum design aligns learning outcomes with target-situation needs, integrates authentic materials, and incorporates assessments that reflect real-world communicative tasks.

While ESP offers clear benefits, challenges remain, including limited availability of trained ESP practitioners, difficulties in sourcing authentic materials, and the need to balance subject-specific content with language instruction (Vaicekauskienė, 2023). Globalization and the diversification of English varieties also require ESP to address both international standards and local linguistic realities. Supunya (2023) point to emerging trends such as interdisciplinary collaboration, digital integration, and sustainability-focused curricula. These developments signal that ESP will continue to evolve into a more dynamic, technology-enhanced, and context-responsive approach to language teaching.

Needs Analysis

Needs analysis in English for Specific Purposes (ESP) is a course development process aimed at ensuring that the content and goals of a course are directly relevant and useful for learners. It examines what learners already know and what they need to know to perform effectively in their target professional, vocational, or academic contexts (Macalister & Nation, 2019). This process identifies specific problem areas (Blanchard, 2023), determines the language and skills learners will require, and aligns them with the practical possibilities of the teaching environment. By doing so, needs analysis helps refine course content, teaching methods, and assessment strategies, ensuring that the course addresses both learners' current abilities and target requirements (Basturkmen, 2015).

The process typically involves several types of analysis: Target situation analysis identifies the tasks, activities, and skills learners will use English for; discourse analysis examines the language used in these situations; present situation analysis determines learners' current knowledge and skills relative to target demands; and learner factor analysis

considers aspects such as motivation, learning styles, and perceptions of their needs. Teaching context analysis assesses the constraints and opportunities within the learning environment, helping to ensure the course is feasible and aligned with institutional realities (Basturkmen, 2015). These analyses collectively allow course designers to match instruction to both the learners' actual proficiency and the communicative demands they will face (Macalister & Nation, 2019).

According to Basturkmen (2015), needs analysis involves three main components: analyzing necessities (the required language and skills for success), identifying lacks (gaps between current proficiency and necessities), and understanding wants (learners' preferences and goals). Data for these analyses can be gathered through methods such as interviews, questionnaires, diagnostic and proficiency testing, observation of learner performance, analysis of assignments and exams, and consultation with subject experts. As Tomlinson (2023) notes, systematically collecting, collating, and interpreting such data on the learner's likely use of the target language has been a central and indispensable feature of ESP since its inception.

Syllabus Design in ESP

ESP syllabi are structured to meet the specific communicative and professional needs of learners, which makes syllabus choice critical to course success. Common ESP syllabus types include content-based, which organizes instruction around subject-matter topics; notional-functional, which focuses on communicative notions such as requesting or comparing; task-based, which sequences authentic real-world tasks according to complexity; and skills-based, which organizes by language skills or sub-skills (Kim, 2019). Research shows that effective ESP courses rarely rely on a single type. Jonáková, Šikolová, and Veselá (2022) found that functional, situational, topical, task-based, and skill-based elements often operate simultaneously in ESP syllabi, allowing designers to address both linguistic form and communicative performance in learners' specific contexts.

Among these, task-based and content-based syllabi are especially prominent in ESP because they reflect authentic workplace or academic practices. In task-based designs, target tasks are identified through needs analysis and arranged from simple to complex to promote language acquisition through meaningful activity (Kim, 2019). Content-based syllabi, meanwhile, integrate subject-specific materials such as engineering manuals or medical case studies, ensuring that language learning aligns with professional discourse communities (Jonáková et al., 2022). Skills-based syllabi can complement these by targeting particular competencies—such as technical writing or oral presentations—where learners may need extra support (Irshad & Anwar, 2018). This integrated approach acknowledges that no single syllabus type can cover the diverse demands of specialized communication.

Effective ESP syllabus design begins with systematic needs analysis, which Woodrow (2018) describes as the "backbone" of ESP course planning. This process involves consulting stakeholders, identifying target situations, and analyzing learners' current competencies to set specific objectives (Lyu, 2022). Designers must also consider contextual factors such as course length, learner proficiency, and assessment requirements (Jonáková et al., 2022). Authentic tasks and materials are selected to mirror real-world situations, and syllabi remain flexible to allow for adaptation as learner needs evolve. Ultimately, combining task-, content,

and skills-based elements within a needs-driven, context-sensitive framework produces a syllabus that equips learners to perform effectively in their specialized English environments (Irshad & Anwar, 2018; Jonáková et al., 2022).

RESEARCH METHODS

Research Design

This study used mixed method design. According to Creswell and Plano Clark (2018), mixed methods research design employs an integrated framework wherein researchers concurrently gather, interpret, and synthesize numerical and non-numerical data across one or multiple studies. This strategy aims to generate a holistic understanding of complex research questions by leveraging the complementary strengths of both methodological paradigms.

Population and Sample

Given that this study investigated the students' needs of English-speaking skills in Engineering based on Basturkmen's types of analysis, the researcher attempted to analyze 11 students' needs in speaking skills by using two, out of four, types of analysis. The researcher merely chose two types of analysis namely present situation analysis and target situation analysis due to the time constraints. On one hand, present situation analysis was used to know the level of the learners' ability to perform the language related tasks, activities, and skills activities. On the other hand, target situation analysis was used to know language-related tasks, activities, and skills that the learners should ideally be able to perform in the profession, work, or study situation they wish to enter or advance in.

Data Collection Methods and Instruments

The data of this study were collected through questionnaire forms comprising present situation and target situation analysis which were distributed through google forms. The questionnaire consisted of 5 parts namely, the information about the respondent, present situation analysis (the ability of English use in speaking in general, the ability of English use in speaking in engineering setting, and the use of English orally in the classroom), and target situation analysis (the needs of English-speaking skills in Engineering). Besides, interview was also conducted with open-ended questions to know additional information related to their needs. The analysis of data from questionnaire were analyzed by statistical descriptive analysis, and the data from interview were analyzed by descriptive analysis. At the end, needs analysis data were used to design the proposed syllabus.

Data Collection Procedures

In the process of collecting data, the researcher initially asked permission from a local Polytechnic in Indonesia to distribute questionnaire forms and interview the students. Next, the researcher selected 11 respondents who were all males from semester 4 to be investigated through questionnaire and interview. They were all from Engineering major. Their last educational backgrounds were mostly from vocational high school (SMK). Two respondents were from senior high school (SMA) and only one was from 3-year diploma (D3). The range of their ages was from 21-34. Subsequently, the design of the syllabus followed the result of the questionnaire analysis.

Data Analysis Methods

To analyze the data obtained from the questionnaire, the researcher used statistical analysis to find out the highest score of students' needs. Microsoft excel was utilized as the tool of data processing. Meanwhile, the data obtained from the interview were analyzed using descriptive analysis to strengthen the quantitative data.

FINDINGS

The findings comprise two results of data analysis. The first analysis was from questionnaire and the second one was from interview. The findings of questionnaire revealed two results of analysis. The first analysis was present situation analysis, and the second one was targeting situation analysis.

Students' Questionnaire

1.1. Present situation analysis

There are three parts in present situation analysis. The first part has 5 statements with yes-no answers related to their ability in speaking skills in general such as introducing themselves and daily conversation as follows:

Table. 1 General Speaking Skills

Skill	Yes (Able)	No (Unable)	% Able	% Unable
Self-introduction (name, age, etc.)	10	1	90.9%	9.1%
Giving opinions in discussions	0	11	0%	100%
Asking about unclear concepts	2	9	18.2%	81.8%
Giving presentations	2	9	18.2%	81.8%

From 11 respondents, the results reported that 10 (90.9%) respondents could give their self-information such as name, living place, age and so on. However, all of them were not able to give opinion in discussion in the classroom. There were 9 (81.8%) respondents were also unable to ask what they have not understand English and unable to give presentation in the classroom. This implies that they need to be exposed with speaking skills in general.

Moreover, the result of second part which is related to students' ability in particular setting, especially in engineering with yes-no answers is as shown in Table 2.

Table. 2 Engineering-Specific Speaking Skills

Skill	Yes (Able)	No (Unable)	% Able	% Unable
Explain graphs/diagrams/pictures	1	10	9.1%	90.9%
Explain measurements	3	8	27.3%	72.7%
Explain calculations	1	10	9.1%	90.9%
Give instructions	3	8	27.3%	72.7%
Explain equipment procedures	2	9	18.2%	81.8%
Explain causes of equipment damage	0	11	0%	100%
Explain equipment repairs	0	11	0%	100%
Explain equipment functions	0	11	0%	100%

Table 2 reveals that 10 (90.9%) respondents were not able to explain about graph, diagram, and picture orally, 8 (72.7%) respondents were not able to explain measurement orally, 10 (90.9%) respondents were not able to explain calculation orally, 8 (72.7%) respondents were unable to give instruction orally, 9 (81.8%) respondents were unable to explain the procedure of equipment use, and none of them was able to explain the cause of damage in equipment or tools, explain how to fix equipment or tools, and explain the function of equipment or tools. This implies that most of them need to be exposed with particular speaking skills in Engineering.

Table. 3 Frequency of English Use in Classroom Activities

Activity	Often	Sometimes	Never
General speaking	0 (0%)	4 (36.4%)	7 (63.6%)
Speaking in presentations	0 (0%)	1 (9.1%)	10 (90.9%)
Speaking in group discussions	0 (0%)	3 (27.3%)	8 (72.7%)
Asking about unclear concepts	1 (9.1%)	2 (18.2%)	8 (72.7%)

The result of third parts related to the use of English in speaking with in the classroom with scale is presented in Table 3. It is revealed that 4 (36,4%) respondents use English in speaking 'sometimes', and 7 (63.6) respondents never used English in speaking. There was only 1 respondent that used English sometimes in speaking in presentation, and the rest of

them never used English in presentation. There were only 3 (27.3%) respondents that use English in group discussion orally and the rest of them never used it. The use of English to ask what they have not understood reported that only 1 (9.1%) respondent that often use English, 2 (18.2%) respondents sometimes used it, and 8 (72.7%) respondents never used it.

The report of the third part implies that their frequencies of using English in speaking were very rare.

1.2. Target situation analysis

The result of 8 statements in target situation analysis measured with scale revealed that the uses of English in speaking especially for job interview, meeting, communication with clients is important. On the other hand, the uses of English in speaking for offering product or service, giving reports, reporting the damage of tools, giving instructions, fixing tools, explaining the functions of tools, and explaining procedure of using tools were not too important.

From the result, it can be inferred that students in Engineering need the use of English in speaking for job interview, communication in meeting, and communication with clients as the top 3 in their priority. However, it does not mean that the rest of exposures is not important. The course designer may be able to design mostly the material for those needs.

1.3. The students' interview

In line with the results of students' questionnaire, the result of students' interview revealed that students need the exposures of English in Engineering for job interview and communication with clients especially from another countries. This can be seen from the transcript below:

Interviewer: "lalu kemampuan berbicara Bahasa Inggris di dalam jurusan Teknik itu perlu gak sih?" (is the use of English in speaking for Engineering important?)
Interviewee: "perlu" (absolutely)
Interviewer: "Kenapa mas?" (why is it important?)
Interviewee: "Karena kalau di dunia Teknik kan kebanyakan eee, kaya di vendor kaya ketemu orang-orang yang, apa itu, beda negara, secara umum kan Bahasa Inggris pakenya. Jadi sangat perlu." (It is because in the technic industry there are people from other countries, such as vendors, who commonly speak English, so it is very important)

Even though other needs were considered not too important, those are still taken into account when meeting with another client from another country.

Interviewee: "Sebenarnya kalo soal menjelaskan kalo soal prosedur itu sebenarnya gak perlu soalnya kita berada di Indonesia berarti kita kan pake Bahasa Indonesia, Cuma itu perlu suatu saat pas kita suatu saat ketemu orang asingya." (Actually, explaining the procedure (in English) is not necessary since we are in Indonesia, so we speak Indonesian. However, it is very essential when we meet foreigners)

From the transcript, other needs are still needed in Engineering. Therefore, the exposure of English in speaking with clients especially from another countries becomes the priority.

Syllabus

In an Outcome-Based Education (OBE) design, Program Learning Outcomes (PLOs) set program-level capabilities that courses must help graduates demonstrate. Speaking tasks in the course are therefore designed backward from these PLOs so oral activities become purposeful evidence of program competence (Noushad, 2024). Using domain-specific spoken tasks (e.g., job interviews, client consultations, technical briefings) ensures that assessment captures both language performance and engineering relevance (Dudley-Evans & St John, 1998; Douglas, 2000). Following Noushad's backward-design approach, the PLOs used are from 3-5 specified to speaking as follows:

1. PLO–1: Apply Knowledge of Mathematics and Science
   Graduates will be able to apply fundamental concepts of mathematics, science, and core engineering principles in solving technical problems.
2. PLO–2: Apply Engineering Knowledge
   Graduates will be able to identify, formulate, and solve technical problems relevant to mechanical engineering practice.
3. PLO–3: Communicate Effectively
   Graduates will be able to communicate effectively in English and Indonesian, both orally and in writing, with technical and non-technical audiences.
4. PLO–4: Demonstrate Professional and Ethical Responsibility
   Graduates will apply ethical principles and professional standards in workplace communication and decision-making.
5. PLO–5: Collaborate Effectively in Teams
   Graduates will be able to function effectively in teams and contribute to collaborative problem-solving.

Following the questions of Dudley-Evans & St John (1998, p. 145-146), this OBE-based course design was developed with the following considerations:

1. **Learner Profile and Course Context**
   This syllabus is designed for fourth-semester Diploma 3 Mechanical Engineering students. Although students will complete two more semesters, the course is delivered intensively because most participants are full-time workers. The institutional English program is offered only in one semester, requiring a condensed but outcome-focused structure (Noushad, 2024).
2. **Performance-Based Assessment**
   Learners' performance is assessed using measurable indicators, consistent with OBE principles, where assessment directly evaluates the intended outcomes. This decision is based on Douglas (2000), who noted that language performance varies with context, and that specific language purposes must be assessed precisely. Speaking performance is evaluated with a rubric adapted from Brown (2007), aligned to each CLO.
3. **Immediate Relevance to Learners' Needs**
   The course addresses immediate workplace communication needs. Job interview speaking skills are prioritized because many students, with backgrounds from senior or vocational high schools, aim to improve employment opportunities while upgrading their qualifications to Diploma 3.

4. **Alignment with Workplace Situations**
   The content is designed according to learners' current workplace contexts, ensuring that tasks simulate real professional scenarios in mechanical engineering environments.
5. **Needs-Driven Focus**
   The syllabus is built on the top six priorities identified in the needs analysis, ensuring a narrow focus on essential speaking competencies, such as job interviews, client meetings, reporting damage, and giving instructions.
6. **Integration with Professional Activity**
   The course is run concurrently with students' professional roles. Learning activities are designed to connect classroom practice directly with ongoing workplace communication.
7. **Workplace-Specific Content**
   The course is tailored to mechanical engineering students, but the material reflects a variety of workplace situations, acknowledging the diversity of their professional responsibilities.
8. **Adaptability and Negotiation**
   The syllabus was refined through consultation with learners, integrating their occupational experiences and priorities from the needs analysis. This process ensured that learning outcomes, content, and assessments reflect both institutional goals and individual learner needs (Noushad, 2024).

These considerations form the **underlying framework** of the syllabus. The design follows an OBE structure, consisting of:

- Course Learning Outcomes (CLOs)
- Program Learning Outcome (PLO) alignment
- Graduate Attributes
- Skills and micro-skills development
- Language functions
- Situations and contexts
- Materials and resources
- Student achievement indicators
- Time allocation per unit

The detailed OBE syllabus matrix is presented on appendix A.

DISCUSSION

The present study reveals a clear mismatch between the participants' current oral English abilities and the communicative demands they anticipate in professional settings. Questionnaire results show that while most respondents can perform low-stakes self-introductions, they are largely unable to give opinions, ask for clarification, or deliver presentations in English; moreover, the majority lack competence in engineering-specific spoken tasks such as explaining graphs, calculations, equipment functions, or repairs. Conversely, the target-situation data indicate that the students prioritize interactional workplace tasks — notably job interviews, meetings, and communication with (foreign)

clients — over some technically detailed speaking tasks (e.g., explaining equipment repairs) which they perceive as less immediately necessary. These empirical patterns are reported in the Findings section above.

The findings can be interpreted fruitfully through the lens of ESP needs-analysis theory. Basturkmen's tripartite distinction among necessities, lacks and wants helps to explain the observed profile: the students' articulated "wants" (interpersonal workplace interaction) align with their perceived necessities for employability, whereas the measured "lacks" (ability to perform technical explanatory tasks orally) identify concrete instructional gaps that the syllabus must address. This pattern supports the central role of systematic needs analysis in ESP curriculum design — both to prioritize learning outcomes and to reveal which competencies require focused remediation. The present results therefore corroborate established recommendations that needs-driven course design should link target tasks directly to classroom activities and assessment.

Pedagogically, the results justify the study's proposed hybrid syllabus structure. A situational-topical core (situations such as interviews/meetings; topics drawn from mechanical engineering practice) combined with task-based sequencing would allow the course to foreground high-priority interactional tasks while scaffolding more technical speaking abilities incrementally. Practically, this implies (a) beginning the course with communicative, high-frequency workplace routines (e.g., interview exchanges, client greetings and negotiations), (b) integrating short, discipline-specific speaking tasks (explaining a diagram, giving simple instructions) that grow in complexity, and (c) using authentic materials and simulation-based assessment (mock interviews, role-plays with vendor/client scenarios) so that formative practice maps onto target-situation performance. Such an integrated approach is consistent with findings that effective ESP syllabi often combine content-, task- and skills-based elements to reflect real workplace demands.

Finally, several limitations temper the generalizability of the present claims and suggest directions for future work. The sample is small and homogeneous (eleven male students from a single program and institution), which constrains statistical inference and may under-represent gendered or cross-cohort differences in communicative needs and preferences; the study also used only two of Basturkmen's four analytic perspectives (present- and target-situation analyses), omitting learner-factor and teaching-context analyses that would further inform feasibility and motivation-related design choices. For future iterations, the syllabus should be piloted with larger and more diverse cohorts, supplemented by industry consultations and classroom observation, and accompanied by pre/post-performance measures to evaluate impact on both interactional competence and technical explanatory ability. These steps will strengthen the theoretical and practical claims of the proposed syllabus and ensure closer alignment between classroom learning and workplace communicative demands.

CONCLUSION

This study investigated the gap between the oral English abilities of the participant cohort and the communicative demands they anticipate in professional engineering contexts. Findings indicate that while basic interpersonal routines (e.g., self-introduction) are generally manageable, students display clear weaknesses in higher-order interactional

and discipline-specific speaking tasks—such as giving opinions, asking for clarification, and explaining technical procedures—which are nevertheless prioritized in their target workplace tasks. Taken together, these results justify a needs-driven orientation to syllabus design that privileges communicative workplace routines while systematically scaffolding technical explanatory skills.

Pedagogically, the evidence supports implementing a hybrid syllabus that foregrounds high-frequency interactional tasks (interviews, meetings, client negotiations) early in the course and then integrates progressively complex, discipline-specific tasks (describing diagrams, explaining procedures) through task-based sequencing, authentic materials, and simulation-based assessment. Such a design balances immediate employability goals with longer-term technical communicative competence, and it aligns formative practice with the target-situation performance students identified as most relevant to their future work. This approach also facilitates clear alignment between learning outcomes, classroom activities, and assessment criteria, improving the transparency and utility of instruction for both learners and instructors.

Finally, while the results have clear instructional implications, the study's limited and homogeneous sample and the omission of full learner-factor and teaching-context analyses constrain the generalizability of the conclusions. Future research should pilot the proposed syllabus with larger and more diverse cohorts, incorporate employer and industry feedback, and employ pre/post-performance measures to evaluate effectiveness in improving both interactional and technical speaking competence. Doing so will strengthen claims about transfer to authentic workplace communication and provide more detailed guidance for scaling the syllabus across programs and contexts.

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Appendix A

1. **Course Title** : English for Engineering: Speaking Skills in Workplace
2. **Target learners** : Fourth-semester Students
3. **Duration** : 3 meetings (90 minutes/meeting)
4. **Course Description** :

   This course develops the oral communication skills of mechanical engineering students for professional contexts. Students will engage in realistic workplace tasks—such as job interviews, client meetings, technical presentations, damage reporting, and giving instructions—using English as the medium of communication. The syllabus applies Noushad's (2024) OBE curriculum framework, which emphasizes:

   - Designing backward from clearly defined learning outcomes,
   - Aligning assessments with these outcomes, and
   - Selecting teaching-learning activities that ensure students achieve them.

   All **Course Learning Outcomes (CLOs)** are mapped to the program's **Program Learning Outcomes (PLOs)** and **Graduate Attributes** as defined by the institution, ensuring constructive alignment.

5. **Course Learning Outcomes (CLOs)**

   By the end of this course, students will be able to:
   1. **CLO1** – Perform an English-language job interview, articulating qualifications and experiences clearly and professionally (Noushad, 2024).
   2. **CLO2** – Communicate effectively with clients, explaining technical concepts in audience-appropriate language.
   3. **CLO3** – Lead or participate in workplace meetings, asking questions, giving opinions, and summarizing discussions.
   4. **CLO4** – Deliver an oral damage report on equipment or tools using accurate technical vocabulary and logical structure.
   5. **CLO5** – Give step-by-step oral instructions for technical tasks or troubleshooting with clarity and professionalism.

6. **Syllabus**

Table. 4 CLO-PLO-Graduate Attribute Mapping

CLO	PLO (Institution-defined)	Graduate Attributes	Justification
CLO1	PLO–3: Communicate effectively in spoken English	Communication, Professionalism	Interviews require formal tone and precise expression.

CLO2	PLO–3	Communication, Cultural Awareness	Client communication involves adapting technical language for non-specialists.
CLO3	PLO–3, PLO–5: Collaborate effectively in a team	Communication, Teamwork	Meetings foster collaboration and leadership skills.
CLO4	PLO–3	Communication, Responsibility	Damage reporting ensures operational safety and accountability.
CLO5	PLO–3, PLO–4: Apply professional communication practices	Communication, Professionalism	Instructions require clarity, logical sequencing, and technical accuracy.

Teaching and Learning Strategies

Aligned with Noushad's (2024) backward design approach:

- Authentic Video Analysis: Engineering-related meeting, interview, and presentation clips.
- Role-Plays & Simulations: Workplace scenarios for mechanical engineers.
- Micro-skill Drills: Pronunciation, vocabulary, and grammar accuracy.
- Collaborative Learning: Pair/group projects to foster teamwork and communication.
- Reflective Learning: Self-assessment checklists against CLO performance indicators.

Table. 5 Assessment Methods

Assessment Task	CLO	Type	Criteria
Job Interview Role-Play	CLO1	Performance	Fluency, accuracy, professional tone
Client Meeting Simulation	CLO2	Role-play	Clarity, vocabulary appropriateness, engagement
Meeting Leadership & Participation	CLO3	Simulation	Turn-taking, questioning, summarizing
Oral Damage Report	CLO4	Oral presentation	Technical vocabulary, structure
Instruction Demonstration	CLO5	Practical	Sequencing, clarity, audience adaptation

Table. 6 The Syllabus

Unit	Learning Objectives	Instructional Materials	Learning Outcomes	Duration	Source
Communication in meetings	At the end of the sessions, students should be able to: ➢ speak English in meetings especially in leading a meeting, asking for question or opinions, and giving opinions.	**Topic:** *How about?* Yes/no & WH questions • Students read several types of conversation in meetings and demonstrate in pair to the front of the class <u>Expressions</u> a. *Do you know …?* b. *Is it true that …?* c. *How about…?* d. *Would you like to add anything?* e. *Is there any comment?*	Students are able to ask questions/clarification and opinion 1. Skill: Speaking 2. Micro skill: a. Pronounce the words correctly. b. Produce grammatical orders. c. Produce appropriate vocabulary dependent on the situations and topics. d. Produce fluent speech at different rates of delivery. e. Use facial features, kinesics, body language, and other nonverbal cues along with verbal language to convey meanings.	90 minutes	1. https://www.youtube.com/watch?v=Wb6Oc1_SdJw 2. Wallwork (2014) 3. Thomson (2007)
		Topic: *Today, we would like discuss about…* How to open, control, and close the meeting • Students choose one topic as their	Students are able to perform presentation in a meeting. 1. Skill: Speaking 2. Micro skill: a. Pronounce the words correctly. b. Produce grammatical orders.	90 minutes	1. https://www.youtube.com/watch?v=oPhKhTI0Lss 2. Wallwork (2014) 3. Thomson (2007)

	material for presentation. Suppose that they are leading a meeting. Expression: Opening a. *Hello everyone, thank you for coming today* b. *Since everyone is here, let's get started* c. *First, I'd like to welcome you all.* Controlling a. If nobody has anything else to add, let's move on to the next item b. I'm afraid that's outside the scope of this meeting Closing a. It looks like we've covered the main items on the agenda b. That will be all for today	c. Produce appropriate vocabulary dependent on the situations and topics. d. Produce fluent speech at different rates of delivery. e. Use facial features, kinesics, body language, and other nonverbal cues along with verbal language to convey meanings.		
	Topic: *In my opinion…* How to express opinion	Students are able to give opinions as agreement or disagreement and give interruption.	90 minutes	1. https://www.youtube.com/watch?v=Wb6Oc1_SdJw 2. Wallwork (2014) Thomson (2007)

	• Students play a role as if in a meeting situation. Then practice expressing opinions in the meeting. <u>Expressions:</u> a. I completely agree. b. I agree with you up to a point, but… c. Why don't you/we...?	1. Skill: Speaking 2. Micro skill: a. Pronounce the words correctly. b. Produce grammatical orders. c. Produce appropriate vocabulary dependent on the situations and topics. d. Produce fluent speech at different rates of delivery. Use facial features, kinesics, body language, and other nonverbal cues along with verbal language to convey meanings	

I. The Lesson Plans

The lesson plan framework is adopted from Scrivener (2005, pp. 122-123)

Table. 5 Lesson Plan Meeting 1

Stage	Procedure	Tasks	Interaction	Aims	Time
1	Show a meeting video twice (see appendix 2)	Elicit what new words or phrases related to asking questions/opinions	T & Sts	Learners elicit how to ask in a meeting	15 mins
2	Ask students to say type of questions they get (appendix 3)	Students mention kinds of questions they get	T & Sts	Learners will learn how to pronounce the words	10 mins
3	Show a video again and reveal all the questions in the video		T & Sts	Learners will learn all types of questions in the meeting from the video	20 mins
4	Ask students to do some exercise (see appendix 4)	Match two parts incomplete questions	Sts	Learners will learn grammatical construction	15 mins
5	Evaluate students' work	Discuss the answers, make correction, and say the correct orders.	T & Sts	Learners will learn how to say questions grammatically	20 mins
6	Evaluation	Review all the lessons	T & Sts	Learners will learn whole materials studied about asking questions/opinions	10 mins

Commentary:

In this plan, teacher will treat the learners with several material related to asking question/opinion. The material will be a form of meeting video in English and a list of phrases of asking questions and opinions in a meeting.

Learners will be asked to play a role as their practice to the phrases and asking question/opinions. In the practice, the teacher will assess the learners through speaking rubric.

The lesson might include some of the following language items:
Phrases: *do you all agree on that?*, (name), *what do you think about…?*, *what would you recommend?*, *do you think we should?*, *do any of you have any suggestions?*

Table. 5 Lesson Plan Meeting 2

Stage	Procedure	Tasks	Interaction	Aims	Time
1	Show a meeting video twice (see appendix 1)	Elicit what new words or phrases related to leading a meeting	T & Sts	Learners elicit what words or phrases related to leading a meeting	15 mins
2	Ask students to say the order of meeting procedure	Students say the order of meeting procedure	Pair	Learners will learn the organization of a meeting	15 mins
3	Show a video again and reveal correct order of the meeting. (see appendix 5)		T & Sts	Learners will learn the correct order of meeting procedure	10 mins
4	Show a video again and ask students to understand the words and phrases in each order of meeting (see appendix 6)	Ask students to elicit phrases in the video	Small group	Learners will learn words and phrases in chairing a meeting	10 mins
5	Show materials of phrases in chairing a meeting	Briefly, ask students to choose phrases in each part and demonstrate in pair	Pair	Learners will learn how to say the phrases appropriately conduct a meeting	25 mins
6	Evaluation	Review all the lessons	T & Sts	Learners will learn whole materials studied about chairing a meeting	15 mins

Commentary:

In this plan, teacher will treat the learners with several material related to chairing a meeting. The material will be a form of meeting video in English and a list of phrases of opening, controlling, and closing in a meeting.

Learners will be asked to play a role as their practice to chairing a meeting. In the practice, the teacher will assess the learners through speaking rubric.

The lesson might include some of the following language items:
Phrases: *for those who don't know me, I am …*, *OK, so I think we are all here now, so let's start*, *the main purpose of this meeting is…*, *let's move on to the second point now*, *could we just let (name) finish?*, *so basically what we're saying/proposing is…*

Table. 6 Lesson Plan Meeting 3

Stage	Procedure	Tasks	Interaction	Aims	Time

1	Show a meeting video twice (see appendix 2)	Elicit what new words or phrases related to giving opinions	T & Sts	Learners elicit what words or phrases related to giving opinions	15 mins
2	Ask students to say type of phrases related to giving opinions they elicit	Students say the phrases of giving opinions	Pair	Learners will learn all types of phrases of giving opinions in the meeting from the video	15 mins
3	Show a video again and reveal types of phrases in the meeting.		T & Sts	Learners will learn the phrases of giving opinions in the meeting	10 mins
4	Show a list of giving opinions and have students practice the phrases (see appendix 7)	Ask students to recognize the phrases from the list and practice them	Pair	Learners will learn words and phrases in giving opinions in the meeting	20 mins
5	Show a passage to students	Ask students to give their opinions about the article	Pair	Learners will learn how to give opinions commonly	15 mins
6	Evaluation	Review all the lessons	T & Sts	Learners will learn whole materials studied about giving opinions	15 mins

Commentary:

In this plan, teacher will treat the learners with several material related to giving opinion. The material will be a form of meeting video in English and a list of phrases of giving opinions in a meeting.

Learners will be asked to play a role as their practice to the phrases and giving opinions. In the practice, the teacher will assess the learners through speaking rubric.

The lesson might include some of the following language items:
Phrases: *I think…*, *what I think is…*, *I honestly think that…*, *the way I see it…*, *I couldn't agree more*, *I'm afraid I can't accept that*, *I see what you mean, but…*, *you may be right*, *but personally I…*, *On that subject, I think…*, *regarding the budget, I think…*