The Labyrinth of Technical English

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Abstract:
ESP is a complex matter to deal with for teachers as well as for students. It involves effort and commitment on both sides, a great deal of free time necessary for training, seriousness and more than anything else motivation; technical English is not just a long list of words to be leant by heart or complicated set phrases, it is a mix of everyday English vocabulary and conversations that are commonly met in technical contexts. Acquiring the terms in the field of expertise is vital, but only used in appropriate authentic situations may help learners get the real meaning and may help them to handle them correctly. One key aspect is to master the ability to adapt the knowledge from the class to the related work field opportunities. Useful materials are hard to create since the English teacher has no connection to the technical field, thus a collaboration with other teachers is a positive aspect that should be taken into consideration. Students may also contribute with relevant information in the class generating a bond with the teacher and a friendly learning environment where everybody plays a role, brings a contribution and offers support. It may be perceived as a team work coordinated by a teacher in the role of the leader. However, recently, a lot of specialised books for teaching technical English have appeared on the market, facilitating the entire teaching process.

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1.Designing a Course for ESP

Teaching ESP is hard work because it involves more than just basic English knowledge. Technical vocabulary is difficult to acquire and to be understood properly without being skilled in the field; thus, putting it into practice means creating a wide range of exercises that are intended to repeat and use specific terms until they become not only familiar to students but are inherently absorbed.

Searching for real contexts and adapting them to the level of each class, as well as coordinating all sorts of tasks based on the technical vocabulary present in them, needs effort, dedication and patience.

"As ESP professionals, we must be prepared to find out how language is used in real world situations and teach that language. (…) We must be ready to develop courses that teach authentic language from many different fields, based on accurate needs analysis and appropriate materials and methodologies. We must acknowledge the fact that much of the language that our students need will not be found in any course books or pre-packaged materials; therefore, we must be willing to prepare our own". (Smoak, 2003:27)

The design of the course is complex and should be focused on the current needs of the students and their prospects of employment. Only this way a course can arouse the students' interest and enhance their desire to study more and to become effective communicators. Moreover, it should be dynamic, students being actively involved in a wide range of activities either individually or in teams. The language teacher has an essential role, that of leading the entire learning process and encouraging students to attain their maximum potential.

"ESP focuses on when, where and why learners need the language either in study or workplace contexts. Decisions about what to teach, and sometimes how to teach (…) are informed by descriptions of how language is used in the particular contexts the learners will work or study in. There is thus a strong focus in ESP on language as "situated language use'. (Basturkmen, 2010:8)

Teaching materials may be sketchy, outdated or not designed for micro specializations. The teacher may somehow be forced to work on designing and "tailoring" the materials in order to provide students with real up-to-date case studies. Moreover, it should also be based on a correct and deep analysis of the students' needs for their future professions. Specialized language is a "must" but what about speaking, listening, writing or reading skills? Which are the most used skills in their upcoming jobs? Which skill will be the most useful for them? Should the teacher focus on speaking? Presentations and meetings are mainly related to oral communication and may need more emphasis on the part of the teacher. Writing could be practised but the corrector may be used for checking any possible errors.

Lately, making up a language course for specific purposes has become a lower priority than other issues. Since English has widened its horizons, in terms of becoming an international language of communication, a lot of books specifically designed to teach ESP have come out on the market. There are some areas that haven't been covered completely, especially in the case of micro specializations but work is still in progress and a wide range of materials are available for most major technical areas of expertise. Therefore, the effort of the teacher has somehow diminished, in the sense that the emphasis has switched from sketching a course to identifying the right materials, adding extra activities for developing and deepening the ones existing in the students' books. However, in most cases, the teacher has to blend different styles of teaching as

well as different books to suit the necessities and interests of the students. Mixed level groups require an additional effort and synthetized materials to adjust to everyone's needs. Thus, basically, there are two possible approaches to teaching; one is keeping to the limits of a strict course that is handed in to the students in advance and from which the teacher never deviates; the students can see the structure and be mentally prepared for what follows; the other alternative is opting for a flexible style where the teacher can adapt some materials or make changes so that they fit the students' interests and activate their sense of engagement. No matter the type of teaching you choose, "fixed" or "flexible", the basic idea is that it should be a challenging one.

"To stimulate and motivate, materials need to be challenging yet achievable, to offer new ideas and information whilst being grounded in the learners' experience and knowledge; to encourage fun and creativity. The input must contain concepts and/or knowledge that are familiar but it must also offer something new, a reason to communicate, to get involved. The exploitation needs to match how the input would be used outside the learning situation and take account of language learning needs. The purpose and the connection to the learners' reality need to be clear".

(Dudley, 1998:172)

The materials are crucial in the case of students that are not surrounded by native English speakers and where the textbook and the interaction with the teacher are the main sources of input that can provide them with the real language. Materials should not be rigid; on the contrary, they should enhance the students' ability to think and use the knowledge acquired. If learned mechanically, the notions cannot be used effectively.

2. Has the interest in ESP increased? Are ESP courses more motivating than General English courses?

The interest in ESP courses has increased a lot due to the demand of technical workers on the labor market; thus, the necessity of having appropriate materials and approaches to teaching them, is obvious. ESP students have a precise target and, therefore, they are more channeled to involve in activities that support their objective: that of mastering the specific vocabulary related to their filed of knowledge and to be able to put it into practice when necessary. ESP books are more complex because they include both general English and the specialized language. A technical student needs to have a general English language background in order to be able to communicate effectively. The aim of ESP courses is not to teach long lists of specific terms but to get students used to the terminology in real life situations so that they can place themselves in various contexts that could be part of their future jobs. Technical students tend to be more focused on achieving proficiency because they are highly motivated by the prospect of a job and they are more mature and concerned about the difficulty of getting a high level of the English language. Therefore, most ESP courses are designed to meet their needs and to support a gradual process of learning.

"Theoretical arguments can be made as to why ESP courses should be more effective than general ESL courses. It can be argued that because ESP courses cater to students' interests and needs, they are more likely to engender high levels of motivation. It can be assumed that students will be more interested in topics and texts related to their work or study areas. If students are more motivated, then learning is more likely to occur. It can also be argued that ESP courses are more efficient because they have more limited aims than general ESL courses. Because ESP courses are based on needs analysis, the learning objectives are more highly proscribed than would be the case in general ESL

courses. Thus, it is not surprising that learning outcomes may be perceived more favorably." (Basturkmen, 2010:11)

It is clear that technical students rely on specific terms that are commonly met in their daily work situations but basic English notions are inevitable. English for Specific Purposes and General English cannot be completely separated since technical processes and terms can be explained by using general English. Whereas technical students need general English, general English students don't need technical terms.

"Although ESP and general English differ on many points such as vocabulary and content, ESP students are usually adults who already have some acquaintance with English and are learning the language in order to communicate a set of professional skills and to perform job-related functions." (Nalany, 2020:118)

Technical vocabulary may be rough and unattractive most of the time. Finding enjoyable activities to teach such vocabulary items is a challenge and making them even more appealing for the students seems like an impossible aim to get. Pronunciation may be difficult and the whole context may induce a feeling of anxiety. How can a teacher create a pleasant leaning environment and support technical vocabulary acquisition?

Lack of Restricted Subject Information

Perhaps one of the most frequent obstacles when teaching ESP is restricted knowledge of specialized notions (e.g. finance, informatics, engineering, s.o.) which may go both ways. Neither the teacher, nor the students may have solid understanding of the specific terms. Some notions are "met" in time, at the workplace and the students may not be familiarized with them during the academic year. For the teacher, a simple translation of such terms is not enough to grasp "the core essence" of them. This may generate a lack of confidence on both sides and may create "a gap" in communication.

3.Teacher's role in ESP

Students that study technical English are generally adults who are "constrained' by the job requirements or young people in search of a better perspective in their future career. Adults are not easy to deal with. They already have their personalities shaped and tend to be judgmental. Their expectations are high; they want to achieve immediate success and manifest strong commitment at the beginning. Being more aware of the implications a foreign language may have on their lives, they are willing to pay a huge amount of time and effort to obtain perceivable results. In time, the situation may change; some may see the experience a wonderful adventure on the realm of knowledge and will push their limits to attain success, others may find it too difficult to cope with, especially when the other responsibilities overwhelm them, and have the tendency to give up. Moreover, each person possesses a certain set of skills for acquiring foreign languages; some just find the process of learning languages effortless and interesting, while others may simply lose themselves in the grammar rules or may encounter difficulties when having to utter an oral speech or taking part in discussions with their peers on proposed topics. The teacher should be there for both sides but more supportive for those who feel discouraged.

"Every student has a different ability when learning a second language. Some grasp it easily and develop a sympathy to it, others struggle and have difficulties which could lead to being demotivated and lack of interest. This leads to the question what an English teacher can and has to do, in order to teach students successfully. Nowadays

teachers are supposed not only to educate, but also to create a suitable environment for students". (Keller, 2011:3)

There are a lot of tricks that a teacher could use to enhance the learning experience. They are flexible but together can create a positive environment for all the people in the class:

*maintain your students' interest at a high level all the time; the worst "enemy" of the teacher is "boredom". It's a struggle nowadays to keep students interested during classes because the temptations are high and, in the case of adults, other factors such as tiredness from work or stress with daily lives influence their coordination and focus during lessons.

"Students get bored easily. They expect the teacher to plan her lessons so that learning becomes interesting, challenging and varied. They expect the teacher to teach in a way that is appropriate to the level being taught, and to the individuals in the class. They expect the teacher to adapt and supplement the course book being used and definitely not to rely on it as the sole resource. In short, they expect the teacher to know to teach effectively, and for the teacher to be stimulating. "

(Riddle, 2014:11)

*provide lessons that keep the students' attention at a high level is beneficial; make them attractive by using plenty of visuals that can help them easily associate technical words to various sketches and drawings.

*be flexible when it comes to their professional needs; for adults, learning a foreign language is a voluntary act in most cases which is somehow connected to certain aspects such as: job requirements, a strong desire to develop themselves, a hobby (for pleasure and fun), etc.

*be there when they don't have enough confidence to perform tasks; many adults experience a sort of trauma when having to speak in a foreign language. Assessment is perceived with a higher level of maturity than children do, so it may be seen as a source of stress not as an indicator of progress.

*don't let other students in the class say malicious remarks regarding their classmates or perform any other kind of "mockery" such as: laughing at their peers' mistakes or manifesting an arrogant attitude in the class; there is no room for making jokes on any possible attempt to use the language either in exercises or other types of conversations

*remove any possible sign of nervousness; controlling personal emotions is a "must"; personal aspects should be left at the entrance of the class; once a teacher is in front of the class, all the eyes are directed towards him/her; a wrong attitude would generate hesitation, lack of understanding, fear of participating at activities and failure; sometimes it's complicated to do it; teachers are not always in the mood, but, starting teaching in a friendly environment is a plus and may remove the initial bad state or may ameliorate it.

*show that you really love the teaching job; the enthusiasm will be stimulating for the students and will induce a pleasant feeling of fulfillment; they will want to "copy" you, to become just like you;

*focus on major mistakes and avoid error correction at every single step; this approach will hinder any sign of courage to do certain tasks; shy students will definitely block themselves and will avoid tasks in the future

*short breaks play a major role; funny elements during a speech help to release tension and create a serene learning environment

*try to discover the personality of your students, to understand when they are not ready to do something, when they are frustrated, when they need to be left alone, when they have a strong desire to evolve, when they feel sick or simply not in the mood. A teacher is not a psychologist for sure, but identifying some aspects in the students' behavior may be useful for giving a different direction to the lesson.

According to Keller, the roles that an English teacher has to fulfill are numerous from controller to assessor and manager. He/she may be perceived as a resource, participant, investigator and role model.

4. Vocabulary in ESP classes

Teaching vocabulary in ESP implies teaching students the specific vocabulary they need to perform in their specific jobs. Basically, the structure of an English course in ESP classes contains a great deal of general English but specific technical terms are inserted either in short authentic texts or in exercises meant to familiarize students with them and to understand how to use them correctly and efficiently. For the teacher, the hardest part is to find enough time to prepare the lesson. Getting acquainted to technical terms involves using technical dictionaries, specialized books and even the collaboration of a teacher in the technical field. The texts which are extracted from technical books should not be too long or too complicated, otherwise, the learner may feel discouraged and may form an aversion towards English. Once this opinion is created, it is extremely difficult to change it when it comes to adults. They are less "flexible" than children, therefore, the teacher should carefully insert the right "amount" of specialized terms in texts surrounded by speech items that can help students work out their meaning; illustrations may be of great help for visual learners and may give useful for a proper acquisition. This is the "comprehension" stage which is followed by the "production" one which is aimed at putting into practice the information acquired along the way.

When teaching vocabulary for ESP "it is important to distinguish between vocabulary needed for comprehension and that needed for production. In comprehension, deducing the meaning of vocabulary from the context and from the structure of the actual word is the most important method of learning new vocabulary. For production purposes, storage and retrieval are significant. Various techniques have been suggested for storing vocabulary: the use of word association, (…) the use of visual images to help remember a word. (Dudley, 1998:83)

Actually, the ESP vocabulary is mainly formed of:
- Technical terms -specific to a related field of knowledge; for instance: in medicine (orthodontics; cardiovascular); mechanics (automotive; spark plugs); economics (trade; recession; GDP; inflation; tariffs); engineering (stress; velocity; amplifier; circuitry), in computer science (algorithm, bandwidth), etc. Technical terms are complex and they contribute to the development of an efficient communication in a certain specialized area of knowledge.
- Semi-technical words that are commonly met across various disciplines and that maintain or suffer a "change" of meaning; they could be quite tricky because they are used in general English and in specialized languages with a difference in meaning; sometimes they generate confusion and have to be used in contexts to be properly understood; for example: "resolution"(in general English "resolution" refers to a decision while in the IT field it refers to the clarity of an image; "reflect" refers to thinking deeply about something

as a general concept; in physics, "reflect" is used to designate the change of direction the light takes when touching a surface. Semi-technical terms are sometimes surrounded by an appropriate context but they can also be found in isolated language frames in a particular situation or field. Since they have a general meaning and a specific one, they need proper attention and a clear interpretation.

- General academic vocabulary can be found in texts that are used in different professions; they cross the boundaries of several disciplines and they cannot be attributed to just one of them. However, they are inserted in academic research papers and all kinds of reports, essays and other texts. The verb "assess' which refers to "evaluate", "process", "to require", "consistent", "concept", "analysis", "variable", etc.

How could a teacher make such a list of technical terms attractive for the learners? Is there a magical trick? What are the steps to follow? How can they be remembered in time?

1. Give students a clear definition with no complicated language items; it has to be concise, plain, easy to read and remember. In the business filed, GDP refers to "the total value of goods and services produced within a country's borders"; in engineering "torque" is "a twisted force that tends to cause rotation", in medicine, "etiology" is the cause of a disease or condition, etc.

2. Use comparisons or correlations to explain something that is unfamiliar to students by using a familiar situation or terms. In economics, "inflation' could be associated with a "balloon" filled with air, in engineering "torque" is like trying to open a bottle or a jar by twisting the lid, in informatics, "complier' is like a translating machine. API is like the menu of a restaurant, etc. Comparisons, correlations, analogies provide students with a better understanding of the terms and they can be retained faster and better.

3. Offer an adequate background situation. It is essential to outline why that specific term has a significance because students will pay more attention to it. In engineering, a torque matters because it is the fundamental force that makes an object to rotate; in economics, GDP matters because it indicates the level of a country's economic health, in informatics, a complier matters because it translates programming languages, etc.

4. Generate diagrams or just find examples that are connected to reality. The teacher can generate a short explanation of a "torque" and offer examples of how this force influences the movement of an object.

5. Visual images are extraordinary tools for enhancing the acquisition of new vocabulary and most students identify themselves with this technique. Flow charts, semantic maps, mind maps, Venn diagrams and labelled diagrams give the teacher an interactive and appealing method to attract learners.

6. Interactive training through quizzes or matches, even case studies offer learners the chance to brush up on their vocabulary and assimilate it better.

7. Revise the terms at the end of the lesson. It is always an excellent opportunity to identify the terms that were not fixed appropriately.

The above-mentioned steps are just tips for organizing the teaching materials but flexibility remains the key factor. Learners may react more positively to some activities, therefore the teacher should be inclined to use them and also to spot those that are beneficial for the acquisition of the new vocabulary.

5.Attitude in Class

The attitude which the teacher adopts in class is essential for the general learning "climate" as well as the attitude of learners towards their peers and their teacher. ESP teachers generally have to deal with mixed-level classes and wide range of attitudes, since learners are adults. Adults are judgemental with the teacher, with their peers, even with their own abilities. A slight lack of confidence on the part of the teacher regarding the students' capabilities or not adapting the materials to match their interests can hinder the entire teaching process and the lesson may end up in complete or partial failure. All preconceived assumptions should be removed and the teacher has to place much effort into bringing encouragement in class because learners are different: some are enthusiastic, willing to engage in all sorts of activities, others are apprehensive and need group activities to succumb their fears. With the right positive attitude, the teacher may handle everything successfully. He/she only has to believe in the students' force to overcome any "psychological" misconceptions.

"When teachers believe in the students' ability to achieve learning objectives, they can put more effort into bringing the right resources, giving them the necessary support, and thus, contributing to developing academic success. When teachers, by contrast, perceive segments in the classroom as less capable and interpret that supporting them is giving them tasks that challenge their intellectual capacity to a lesser degree, they can mark a gap between capable and incapable, preventing them from interacting as a team, hence reducing the learning possibilities. This is strongly related to the set of assumptions teachers have about teaching English to adults since they tend to believe adults have learning difficulties because of their age, among other factors. This, adult learners may feel uncomfortable and demotivated in class. (Mazandarani, 2024:195)

Students' degree of achievement is the result of a handful of aspects but, perhaps, the most important one is the way they are perceived by their classmates. Laughing at mistakes, criticizing, ignoring, fostering negativity in class lead to an increased anxiety and reluctance to speak or participate at the proposed activities. The teacher should manage the class by reinforcing the learners in a constructive way, generating enjoyment and relaxation. A comfortable learning environment can remove any form of stress and make everything seem easier, nicer and appealing.

6. Conclusions

Teaching ESP is, undoubtedly, a complex process that implies unique challenges as a result of using specialized language, coping with adult learners and identifying the proper materials. Conceiving, selecting or finding the right teaching support, concentrating on the students' specific needs and motivations, following the current trends of the job demands, finding ways of teaching difficult and, sometimes, unattractive vocabulary items and presenting all in an optimistic frame are just some of the major concerns that an ESP teacher has to handle. There is no direct or clear strategy to follow, no fixed rules or guidelines. Each and every group of students is different and the outcome is wonderful only if the effort is consensual and constant. In time, with practice and experience, the whole teaching process becomes less complicated and the ESP teacher may discover that, by teaching specialized language, the structure of the lessons changes continually. It's a profession where there is no time to get bored; you improve your knowledge at a fast pace every time you work on designing a course and you have numberless possibilities of putting the new vocabulary skills into practice. Indeed, the amount of work is tremendous but the results may be satisfactory or even great if both

parts: the teacher and the student are implicated. It's a team work, not an individual one. Common effort can produce an excellent outcome. There are a lot of other details to be discussed but this is a wide topic which needs further research.

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