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Vocabulary Notebooks as a Noteworthy Powerful Instrument in Technical Vocabulary Learning

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This research paper attempts to investigate the organization and effectiveness of vocabulary notebooks by distinguishing several benefits the implementation of this technique brings in the acquisition of technical terminology through an "English for Specific Purposes course". When tackling with language learning, it is needless to emphasize the noteworthiness and the importance of vocabulary in this process. Appertaining to technical terminology, this plays entirely pertinent. Various studies have concluded that vocabulary notebooks (henceforth VN) efficiently expose different learners' strategies within this single strategy, which led us to research VN. These research data were obtained mainly by applying the observational research technique, a vocabulary oral and written exam, and a comprehensive questionnaire on the effectiveness of the Vocabulary Notebook. Mechanical Engineering, Textile Engineering, and Hydrotechnical Engineering students at the Polytechnic University of Tirana were selected to obtain the data. The observation is partly overt and partly covert. Students of Mechanical Engineering and Textile Engineering (75 students) are the treatment group wherein the Mechanical Engineering students are an overt group and the Textile Engineering students serve as the covert observational group while on the other hand, the Hydrotechnical Engineering (45 students) students are the control group. The data were obtained during and at the end of the semester. Throughout the observation all along the 1st semester, it was perceived that most of the students organized their VN by utilizing mainly Microsoft Word downloaded on their Smart Phones, while the rest used the traditional paper notebook to organize their technical VN. The organization of the VN reflected the strategies each of the students implemented to learn technical terminology. At the end, students were tested on their acquired terminology through an oral and a short-written exam and then a questionnaire was handed to them. The students of the overt group making use of a digitalized form of a Notebook resulted to have acquired most of the technical vocabulary. In the main, the overt group outperformed the covert group on the acquisition of technical vocabulary, while the control group's score on the oral exam was significantly below, compared to the all-inclusive treatment group. Students' questionnaire revealed that overall students had a positive approach to this strategy and they embraced the autonomy acquired throughout the semester by implementing this strategy. With the exception of the effectiveness on vocabulary acquisition, which was on higher levels, this strategy proved itself once again to be an enhancer and promoter of learner autonomy.

Keywords: vocabulary notebooks, autonomous learning, technical terminology
List of Abbreviations: VN – Vocabulary Notebook, ME – Mechanical Engineering, TE – Textile Engineering

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Introduction

Vocabulary is essential apropos of communication be it spoken or written, but its significance and importance is indispensable when dealing with English for Specific Purposes (ESP). As future professionals, for the purpose of understanding the meaning of the terms, be it while reading or listening to certain content with technical terminology, a considerable receptive vocabulary (professional and scientific papers or books, etc.) is needed, while on the other hand in order to express themselves writing or speaking (drafting reports, making presentations of certain projects, etc.), professionals will need an appreciable expressive vocabulary. In 1972, Wilkins defined best the role of vocabulary in communication by stating, "Without grammar, very little can be conveyed, without vocabulary nothing can be conveyed". This statement is also supported by Valdez (2023), who states that there is a metaphor about the relationship of vocabulary and grammar: grammar is a string and vocabulary is the copper cash. The string is really necessary; however, the coins can never be neglected. Without grammar, only limited information could be transferred, while if vocabulary is absent, nothing could pass by and then grammar is nobody. A considerable number of technical vocabulary is requisite and pivotal for students of ESP in order to operate as well as possible in their future professional fields. As ESP lecturers, throughout the years we have noticed that students, as Knight (1994, p. 285) says, consider vocabulary as "…their number one priority". Students are aware of the role terminology has on their future professional careers. It is unquestionable that without a terminology stock in the English language, their future as engineers will not blossom the same.

"Vocabulary learning is one of the major challenges that foreign language learners face during the process of learning a language" (Ghazal, 2010, p. 84). Therefore, we assume that it is of vital importance in the field of ESP learning to emphasize the importance of vocabulary learning and to devote more time and attention to this aspect of language learning because the absence of a rich vocabulary can be a hindrance to enhancing listening, reading, writing and speaking skills. This statement is fully supported and complemented by Baba (2009) who says that learners are aware that their limited vocabulary will hinder a good quality of writing.

In light of the fact that this part of language acquisition is regarded as being crucial, importance is given to the strategies students should use in order to acquire and practice this terminology as effectively as possible. This poses a challenge, especially for teachers who have to apply different teaching and learning strategies in order to, ultimately, have an effective technical terminology learning and teaching process. We think that it is imperative that steps be taken to investigate practical and efficient strategies for assisting students in expanding the breadth and depth of their vocabulary, which will ultimately result in successful and efficient ESP vocabulary acquisition. Vocabulary Notebook, is the one language learning strategy that will be the subject of this research work.

The aim of this study is to point out the techniques, students used to organize their VN and acquire technical terminology as well as the effectiveness and benefits of VN in the acquisition of technical vocabulary. The target of the research

belongs to students of Mechanical Engineering and Textile Engineering, being the treatment group, and students of Hydrotechnical Engineering at the Polytechnic University of Tirana, being the control group. The study's results will be covered in detail in a separate section, and conclusions, restrictions, and recommendations will be outlined at the end.

Literature Review

According to Nation (2001), the use of vocabulary learning strategies in learning vocabulary helps in facilitating the process of vocabulary acquisition… and …a large and rich vocabulary can be acquired with the help of Vocabulary learning strategies.

Additionally, students/teachers implement these strategies in accordance with students' learning types and students' needs. During the process of vocabulary development, students need to be directed and guided by their teachers to manage study time to optimize learning both inside and outside of the classroom (Rogers, 2018). Teachers should come to recognize students' needs, strengths, and weaknesses, in order to obtain the set objectives.

Earlier, there have been various vocabulary learning strategies among scholars such as Schmitt and Schmitt (1995), Gu and Johnson (1996), and Nation (1990) etc. However, among these different strategies, there is a common denominator: the vocabulary notebook.

Gu and Johnson (1996) identified six different strategies, among which note-taking. Schmitt and Schmitt 1995 focus on VN has been on the theoretical framework and some practical suggestions for the organization of these notebooks. Spotlight has been on vocabulary acquisition from different perspectives and activities relevant to different linguistic approaches and attitudes of learners while fostering independent learning. Certain studies were conducted having a direct bearing on VN.

Fowle (2002), conducted a study on the matter of VN at the end of which, he shared positive perspectives emphasizing the effectiveness of this strategy on vocabulary acquisition and on fostering autonomous learning.

Dennison (2014) did not share the same result in his study's outcomes compared to Fowly. It concluded that students showed reluctance rather than willingness to keep VN.

A vocabulary notebook is germane to strategies within a single strategy of vocabulary acquisition and this makes it an easily adaptable instrument for all types of learners taking into consideration Bookengsaen and Intaraprasert (2014) who state that different students or learners may use different strategies.

Muhaimin, Munir, and Suharsono (2018) expressed that "to learn vocabulary effectively, students must not only have the ability to do the learning, but they also must be able to reflect on their own ways of learning", and VN allows for that to happen. Additionally, Luchini and Ferreiro (2023) state that "… it could be true to say that the most effective way for learners to enhance their active vocabulary repertoire is for them to be centrally involved in their learning process". VN is one

of the language learning strategies that provide students with the possibility and ability to guide and manage their learning process, while on the other hand fostering them in choosing different techniques to complete the VN, consequently promoting and enhancing autonomous learning skills.

Mohseni-Far (2007, p. 146), while presenting his attitude towards vocabulary acquisition in general touches upon vocabulary notebooks while stating "getting information about a lexical unit, learners may take notes, in the form of vocabulary notebooks… Note-taking is one of the basic strategies often recommended by researchers in the field of vocabulary learning.

According to Zhang and Wu (2020), the use of vocabulary notebooks can enhance students' vocabulary acquisition, especially in terms of vocabulary depth. Moreover, findings by Hsieh (2019) discovered that using a vocabulary notebook can improve students' retention and acquisition of vocabulary while encouraging active participation and independent learning. However, a number of variables, including the learner's features and the instructional technique, affect how effective vocabulary notebooks are. Ren and Li (2020) draw attention to the possible advantages and difficulties of using vocabulary notebooks and other technology to assist EFL learners' vocabulary acquisition. According to these researches, vocabulary notebooks can be a useful tool for EFL non-majors learning ESP vocabulary, but how effective they are will depend on how carefully different contextual elements are taken into account. However, even though keeping a VN has some restrictions, like time consumption in choosing words, prudency in judging the usefulness of terms, and in comprehending these terms, that students may face, we assume that the advantages of a VN overshadow these drawbacks.

Methodology of Research

Research Design

The experimental research design was applied in the current study. In an experimental research design, the dependent variable is monitored after the independent variable is altered through treatment or intervention. This allows researchers to examine the impact of the independent variable on the dependent variable. Students' technical lexis concerning definitions in the English Language, translation and definition in the Albanian Language, and terms' application in technical contexts, is the independent variable. The dependent variable refers to the effectiveness of VN in technical terminology acquisition and enhancements as well as the techniques implemented in the completion of the VN. VN itself is the intervening variable, being administered to obtain technical vocabulary augmentation and retention.

The research questions of this study are:

Which are the techniques students use to organize their VN and acquire technical terminology?

Is VN effective and what are the benefits of it in the acquisition of technical vocabulary?

Participants and Location

The study was conducted at Polytechnic University of Tirana. The sample consists of 120 students, 45 of whom are students of Mechanical Engineering, 30 students of Textile Engineering, and 45 students of Hydrotechnical Engineering at Polytechnic University of Tirana.

Students of Mechanical and Textile Engineering serve as the experimental group, while the Hydrotechnical Engineering students are the control group of this research.

Within the experimental group, there is a division into the covert and overt groups. Mechanical Engineering students are the overt group being knowledgeable of the study while the Textile Engineering students are the covert group who have no information that they are being observed until the vocabulary oral exam at the end of the semester.

Instruments

Observation

Seeing is believing. One of the tools implemented in this study is observation. Students of both control and experimental groups have been in the loop throughout a full semester. Students of the treatment group have had the guidance of the teacher during the organization of the notebook and on the other side there has been a close observation of students, regarding their strategies for organizing and learning the terminology of their correspondent field of study. Special attention is given not only to students' attitudes towards VN, but also to students' collaborative activities and peer interactions were observed.

The observation is a participant observation. With participant observation, researchers actively gather data and participate in the study itself by asking questions to students, observing behaviors and writing them down.

Vocabulary Oral Exam and Short Vocabulary Test

During the last week of the semester an oral exam on vocabulary acquisition in conducted. Students were asked questions on terms definitions and translations but also comprehension questions on these terms. During the oral test, students were asked random questions concerning different topics dealing with Mechanical Engineering concepts as well as terms they had retrieved from other sources and incorporated in their own VN.

The main purpose of this choice was to test students' verbal communication skills by making use of the terminology included in their VN. Oral exams help students develop authentic communication skills in their discipline. Oral tests allow students to develop the ability to communicate in skill areas they will need later in the workplace (Stoutenburg, 2023).

The *short Vocabulary Test* duration was 15 minutes. The test was divided into 4 sections, dealing with definition and translation; synonyms and antonyms;

illustration through sentence examples, and usage of the terms in context. The first two sections consisted of 7 words each. If they correctly found the definition and translation of 5 words or more, they would get the maximum of points. The third section comprised 3 words. If the students answered correctly to two or more, they would get a maximum of points. The fourth section focused on a paragraph with 5 blank spaces in it to be completed. The missing words were part of the request. If the students completed without errors at least three of them, they would get a maximum of points as well.

Questionnaire

All participants of the treatment group were willing to share the whole process of the notebook vocabulary organization and terminology learning truthfully through the completion of the questionnaire on notebook effectiveness. The questionnaire consists of 8 questions handed to ME and TE students. The purpose of this questionnaire was to gain some insights into the students' points of view and attitudes towards VN as well as to specifically distinguish the techniques used by them during its completion. The questionnaire was filled in by 74 students out of 75 total. It was handed to them manually after failing to complete it online. Students showed a reluctance to complete the questionnaire online, therefore we proceeded manually.

Procedure

The research was initiated in the second week of the semester. Students of Mechanical Engineering (Henceforth ME) and Textile Engineering (henceforth TE) were asked to organize a Vocabulary Notebook. This Notebook would be part of the teaching and learning process in class and during their study time at home. Only students of ME were notified that this VN, serving as a comprehensive assessment tool, will be blended in with other elements for the final assessment. The choice was personal on whether it would be a paper Notebook or a digital (mobile-based) one. Students were required to include the new terms they would encounter throughout the semester during lectures, in other authentic texts, and in other sources. Students of TE had no information they would be part of research until the end of the semester.

The strategies they implemented to acquire and retain these terms through VN were entirely personal. Still, the teacher mentioned only once some basic techniques, to supply them with some hints they will avail themselves of, such as 1. Source Language definition, pictures especially when dealing with tools or types of machinery, authentic materials on a specific term, translations on the target language, synonyms or antonyms of the term, and illustrations through a sentence or short paragraphs. Only these basic techniques were mentioned in order to foster autonomous learning and let students figure out the whole process.

However, the Mechanical Engineering students were under the teacher's constant supervision and guidance every week, giving each student the opportunity to share his/her approach and strategies for organizing the notebook and learning

the terms, as well as giving her feedback on the VN. Also, different activities on vocabulary acquisition were introduced in class and students' attitudes toward these activities were observed.

On the other hand, students of Textile Engineering were asked once in three weeks about their ongoing work with the notebook.

Data collection ended the last week of the semester, the 14th one, where students of both Mechanical and Textile Engineering performed an oral exam on terminology acquisition, and a short vocabulary test as well as a questionnaire on the effectiveness of this VN was handed to them.

By making use of different tools for the study, we seek to give a much clearer picture of the VN implementation and its effectiveness. It is worth mentioning that students were invited to voluntarily contribute the results of their oral/written exam and questionnaire to the research.

Findings

Data obtained from this study will be analyzed from different perspectives. The data obtained from the questionnaire and the exams on technical terminology will be analyzed from two viewpoints: overt and covert group. The focus will be on techniques implemented for the completion of the VN and on both exams' results. The data from the Observation will be presented taking into consideration students' interaction and students' decisions on traditional paper vocabulary notebooks & digital vocabulary notebooks.

Usage of Traditional Paper Vocabulary Notebooks and Electronic Notebooks (Mobile-Based)

Technology's involvement in the learning and teaching process is not a novelty anymore in today's educational system. Teachers try to incorporate different technologies such as Video Projectors, Videos, PPT presentations, etc., whenever it is possible in their teaching process in class by making language classes more interactive, flexible, and innovative due to various online resources as tools for valuable professional development as stated by Cosgun and Savas (2019) and students too, on the other hand, are prone to and willing to integrate digital technologies in their autonomous self-governing learning process and as (Cripps, 2020) and (Panmei and Waluyo, 2023) point, students enjoyed using technological tools and indicated that digital technologies had become an important skill to bring them closer to the rich environment of the target language. Findings from the observation where on focus was student's attitude towards the completion of VN and the techniques they implemented in class to complete the VN, resulted in a division of students into two groups. The first group decided to make use of traditional paper notebooks and the second group decided to organize their VN through a digital tool, Microsoft Word (in most cases) downloaded on their smartphones.

Samples of the VNs can be found in the Appendix.

Table 1. Traditional Paper Notebook and Electronic one (Overt Group)

Traditional Paper Notebook	Electronic Notebook
10 Students	35 students

Table 2. Traditional Paper Notebook and Electronic Notebook (Covert Group)

Traditional Paper Notebook	Electronic Notebook
23 Students	7 students

Tables 1 and 2 indicate that the majority, a great number of students organized their notebooks electronically, especially the overt group ME students. Almost 80% of ME students decided themselves to embrace technology and use it for educational purposes. There is a significant difference in the use of paper vocabulary notebooks between the two groups, where 7 TE students out of 30 made use of Electronic (mobile-based) Vocabulary Notebooks which means 15% compared to 80% of ME.

Overall, during the observation, when asked why they chose this technique most of the students implied that they found it easier and considered it a more effective and productive way of organizing notebook vocabulary and learning vocabulary via Microsoft Word (a Word Doc.).

During the observation, it was noticed that all students made use of a notebook, even the ones who decided to organize their VN in an electronic form. They initially wrote down the word in a paper notebook, and then they proceeded with the VN in a Microsoft Word Doc. This statement is a partial reflection of what nowadays is referred to as hybrid learning which according to Doering (2006) refers to the blending and mixing of the learning environments: face-to-face classroom instruction and online environment. Students of ME engagement with internet sources was discernible while they made use of Documentaries on their field of study, YouTube videos, TikTok, and Instagram short reels to understand concepts and terms and then expand, perceive, and master their technical vocabulary.

Traditional paper VN organization on students of TE and 5 of ME was restricted only to two to three techniques: definition and translation to Albanian, few providing sentence examples for each, while 5 students had word-formation of the term included in the VN. However, their interest in different activities and games on terminology during lectures was considerable.

While the dictionary via Microsoft Word, consisted of definitions and translations as well, there were longer explanations concerning the meaning of the term. Some students had pictures incorporated in the document. We should emphasize the fact that there were students who printed the electronic dictionary and handed it on paper.

A considerable number of TE students and just a few of ME reflected some burdensomeness in organizing this VN when they asked if it was obligatory or not. Nevertheless, throughout the semester, their commitment to the VN flourished compared to their perspective at the beginning which was not positive. Some of them showed enthusiasm in creating their own dictionary.

It can be assumed that ME students' awareness of the research since the beginning and the fact that this VN would be a prerequisite in the final evaluation,

served as incentives and great motivational tools for them to implement this strategy while learning technical vocabulary.

Collaboration among students of ME was noticed during the discussion on VN organization while students exchanged their techniques with one another and during various activities on terminology acquisition provided by the teacher in class. Once there was a "peer- assessment" of the vocabulary notebook where students evaluated each other's work. They asked each other about certain definitions or translations, mainly. Consequently, they learned from one another and this interaction helped in the enhancement of technical vocabulary.

From the observation, we learned that they even shared TikTok or Instagram short videos, known as "Reels" with one another. The videos consisted of different contents, be it on tools, part of types of machinery, mechanical operations, and engine operations relevant to the same content students have been introduced to in lectures and seminars, etc.

Students' Oral Exam and 15 Minutes of Vocabulary Test

During the last week of the semester, students performed an oral exam and a short vocabulary test on the technical vocabulary of the textbook and lectures as well as the terms from other sources they had attached to the VN. Part of their VN were terms from the textbook, during lectures, and terms they had attached from other sources. They were asked for definitions, translations, synonyms or antonyms, phrases with the terms, and implementations of certain terms in different contexts.

Samples from the Short Vocabulary Test

a) Find the definition and the translation of the terms below:
Connecting rod – a piece that transfers motion from a piston to a main engine shaft- shufer lidhese.
b) Fill in the gaps. Choose which word best fits each blank. _____ occurs when heat is transferred through _____ currents in a fluid.
c) Write your own sentences making use of these terms: Couplings, Feather edge…etc.
d) Put the terms in the right place

Table 3 shows the number of students who have obtained the maximum of points in each of the exercises. The numbers show the ratio between the students who have obtained the maximum of points in each exercise over the total number of students.

Table 3. Students' Results on Technical Vocabulary Acquisition (Relevant to the Terms from Textbook and Lectures) Short Vocabulary Test

	Students	**Definitions/ Translations**	**Synonyms/ Antonyms**	**Usage in Sentences**	**Usage in Context**
Overt Group	45	40/45	36/45	35/45	37/45
Covert Group	30	19/30	16/30	15/30	18/30
Control Group	45	35/45	25/45	23/45	24/45

From the results, we can conclude that the overt group outperformed the covert and control group. Students of ME, being aware of the significant and considerable importance of the VN in their final evaluation, devoted lots of time and effort to it by consequently acquiring and retaining many more terms compared to TE students.

However, in terms of the treatment group and control group, the control group's performance was significantly below compared to the treatment group.

The oral exam aimed to measure the receptive and expressive technical vocabulary of the students. Taking into consideration that both groups have been working with the same textbook during lectures and seminars, they were asked the same questions on topics from textbooks and terms they themselves had attached to the VN. Students of ME outperformed the covert group of TE, whose commitment to the VN compared to ME students had been trivial.

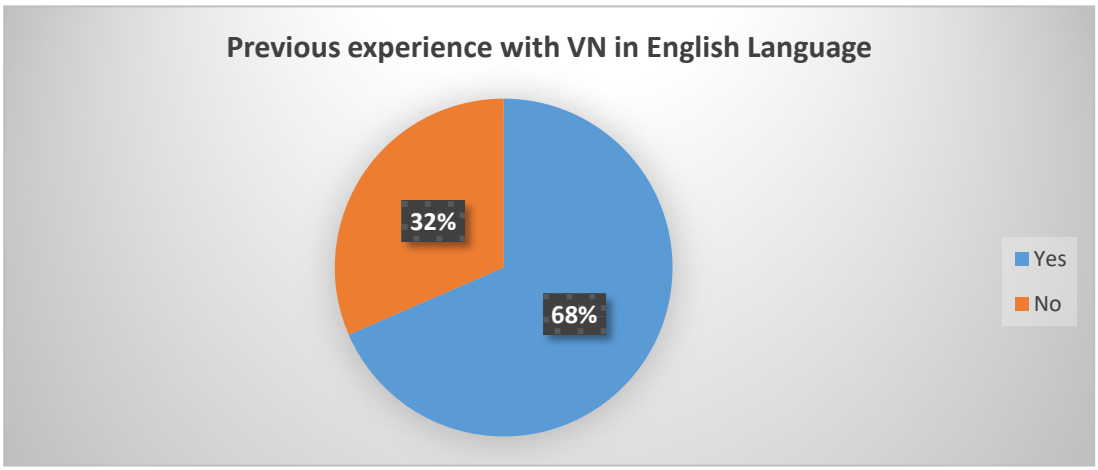
Students of TE had restricted themselves to learning just the definition and translation of the terms. Contextual comprehension was remarkably lacking from TE students compared to ME. We can assume that video assistance for students of ME in completing VN had a considerable effect on this aspect.

Questionnaire's Findings

The questionnaire aimed to reveal students' perspectives and attitudes on keeping a VN and techniques implemented while working on and completing the VN.

The first question of the questionnaire concerned students' previous experience with VN. Most of the students were familiar with keeping a VN, mostly implemented in private courses in English Language in Albanian rather than in high school. The answers concluded that 50 Students had previously had a VN while the rest (24 students) had no previous familiarity with VN. This information is further supported by Figure 1.

Figure 1. Previous Experience with VN in the English Language

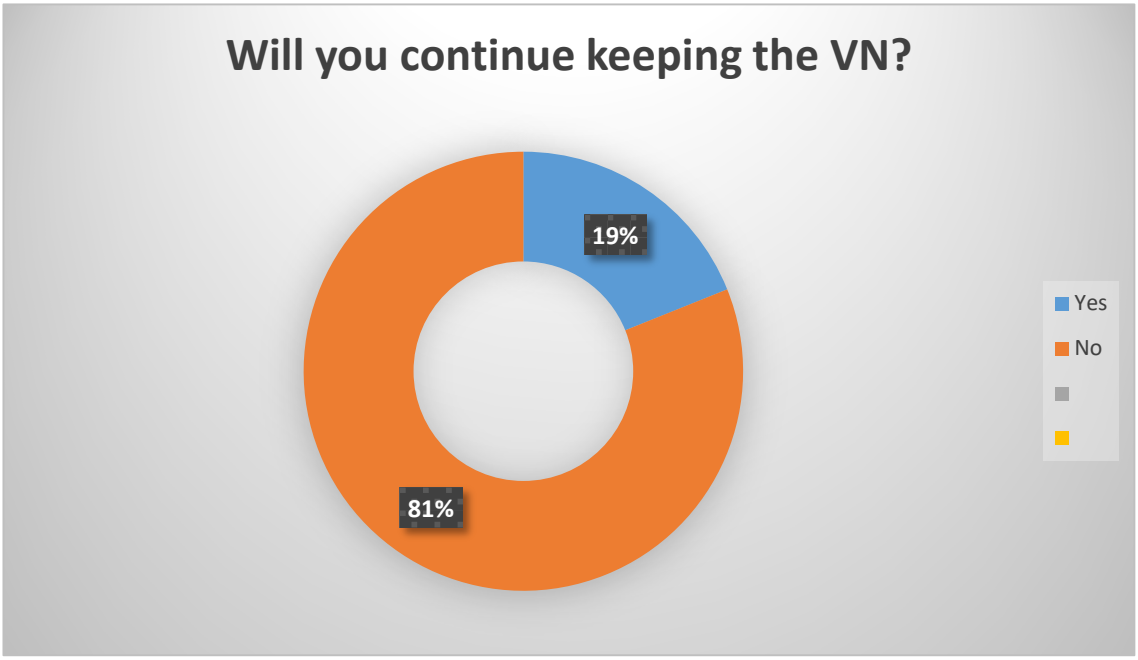


The second question of the questionnaire aimed to shed light on students' experience of keeping a VN. The question was straightforward, whether they enjoyed keeping a VN or not. Figure 2 shows our expectations that not 74/74 enjoyed the organization of VN, bearing in mind the reluctance students manifested at the beginning of the semester. 40% said Yes, 36% said No, and the rest 24% said Sometimes.

Figure 2. Enjoyment in Keeping a VN

Then a question whether they would continue to keep this VN more than 75% of the students answered "No" and the rest said "Yes". By obtaining these results, we conclude that students manifest no predisposition to continuing to keep a VN, their projections on keeping a VN after realizing the course seem to be unfavorable (Figure 3).

Figure 3. Students' Projections on VN



When asked about the main techniques implemented in the organization of the VN the answers varied. From Tables 4 and 5, we can conclude that the most used techniques are the traditional ones, consisting of Translation, accompanied by Definitions in English language and Sentence Illustrations.

Table 4. Techniques Implemented on the Organization of the VN and the Acquisition of the Terms

Definitions in English Language	58/74
Translation in Albanian	74/74
Antonyms and Synonyms	38/74
Sentence Examples	50/74
Pictures	45/74
Consulting each other	40/74

Table 5. "Others" Answers of Students (Electronic VN)

TikTok/Instagram Reels	35/74
YouTube Videos	40/74
Documentaries	40/74

One of the alternatives of this question was "others" where students were asked to individually complete the answer. More than 75% of students belonging to the overt group and 10% of the covert group listed the above techniques concerning Online Platforms. Uncloudy is the fact that, through VN and these techniques each of the students "tailored their notebook" in accordance with their needs and learner's typology.

Students answered on the number of terms included in their VN varied. 90% of the terms included in the VN of TE students were terms they were presented to during lectures. Students of ME had more than 30% of words found by themselves in other authentic documents or in other sources such as documentaries or videos via the abovementioned platforms.

Table 6. The Most Effective Techniques According to Students

Definitions	67
Translations	60
Pictures	57
Videos	45
Synonyms/Antonyms	25
Sentence Examples	35

As for the penultimate question of the questionnaire and one of the most important ones, in reference to Table 6, on the most effective techniques in term acquisition through this VN, they distinguished definitions predominantly with pictures attached, and short videos on social media in order to grasp synonyms or antonyms and to have a productive learning of main concepts, mainly related to the field of mechanical engineering and translation of the word in Albanian as the most effective ones.

The least effective ones based on students' answers were synonyms and antonyms. The concluding question of the questionnaire referred to students' attitudes towards the usage of Vocabulary Notebooks in ESP subject.

Table 7. Students' Attitude Towards VN

	YES	NO
It helped me gain autonomy during my learning process	69	5
After having watched videos, I formulated my own definition of the term and wrote it down	23	51
It was much easier for me to look up a certain term in my VN	57	17
I had it with me in every ESP class.	74	0
I consulted my peers while completing it	60	15
It helped me organize my own dictionary regarding ME /TE	60	14
Having them organized facilitated the acquisition of the terms	62	12
It helped me understand ME/TE concepts	39	35
I think I will keep this after finishing the final exam.	10	64

Some of the statements included in this part of the questionnaire are a product of the observation conducted throughout the semester. As can be seen from Table 7, we are able to state that there is a generally positive perspective of students toward VN. More than 85% of students affirmed the statement on whether VN helped them gain autonomy or not. This statement is supported by another statement that refers to the formulation of videos on their own (which we consider as an indicator of autonomous learning), after having watched videos.

There is a slight contradiction concerning one of the statements. Students affirm that they had the VN in every ESP class, while we confirm that that is not entirely true. There were a few times they didn't have it with them.

Students' interaction witnessed during the observation, is fully supported by students' answers, where 60 of them state they did consult one another while completing the VN.

Discussion

The findings of the research affirmed the noteworthiness and effectiveness of Vocabulary Notebooks in learning technical terms. Students' final results on their Vocabulary test and Oral Exam prevailed teachers' expectations of terminology acquisition via this Vocabulary Notebook.

The results of this study were consistent with the study of Fowle (2002) where students also proved to gain independence while learning and had generally a positive attitude towards keeping a VN. The majority of students proved to be really self-demanding concerning various techniques implemented while organizing the VN and learning the terms even though at the beginning students of TE manifested a strong reluctance to keep the VN. Some explanation for this attitude could refer to the fact that they were not knowledgeable of the significance of this VN in their final assessment and the "mark motivation" was absent.

Embracing technology by exploiting it in the best way possible, by creating a VN using a CLIL approach (via Microsoft Word) is a significant indicator of ME students' interest in learning and retaining ME terminology, while it can also be a more convenient choice due to the commodity of having the VN with them wherever they are. In this respect, students executed a self-evaluation of their capacities and their best-to-implement techniques for the purpose of having the desirable achievement in terminology acquisition and in the overall performance in ESP subject.

Since they are a part of what nowadays is referred to as GENERATION Z and are constantly using cellphones, preferring collaborative learning, using a Word document resulted to be more convenient and comfortable for them. In addition to that, students' commitment to online platforms such as YouTube Videos or Reels in Social Media platforms such as Instagram, TikTok, and YouTube contributed as a revelation of this study. Students availed themselves of these videos in order to have a better understanding of mechanical engineering concepts. They consulted lots of videos in order to understand different operations, actions, and concepts especially those related to the mechanical engineering area. The assistance of visual aids especially videos, made it easier for students to understand the concept and the term, to formulate their own definition of the term and to write it down in the VN which over and above these, enhanced their autonomous approach towards learning. Additionally, when watching a video, students are exposed to the message through two different channels: the oral channel because the information is presented through words, and the visual channel because the information is made available to them through real and in their field-of-interest context. The

presence of VN persuaded them to consult other techniques and strategies to acquire and retain the required terminology. Some of these techniques were directly attached to the VN (translation, definitions, synonyms, antonyms, word formation) whereas, others in reference to the abovementioned (visual aids, videos photos, etc.) were employed as means to understand and retain the terms in an effective way.

Moreover as Bazo, Rodríguez, and Fumero (2016) state, "When applied to a CLIL context, Vocabulary Notebook can help teachers reduce the excessive time that is usually dedicated to teaching specific vocabulary in class", which we presume is an appreciable benefit of VN. However, overall, the techniques used by students were mostly the same. There was no big difference in the choice of techniques while structuring the VN. It is relevant to the era we are living in, the fact that students find it more convenient and practical to just "grab" the smartphone and proceed with typing in and searching for information, definitions etc. for the term they are interested in, rather than getting a pen, notebook and started writing it down.

Teachers allocated considerable time to activities the heart of which was, developing a deep understanding of engineering concepts. Distinct activities were implemented during lectures in order to boost and foster terminology learning and to widen the methodology of their VN completion. Games were part of these activities because Martinson and Chu (2008, p. 478) state "Games are effective tools for learning because they offer students a hypothetical environment in which they can explore alternative decisions without the risk of failure. Thought and action are combined into purposeful behavior to accomplish a goal. Playing games teaches us how to strategize, to consider alternatives, and to think flexibly." The incorporation of games in the completion of the VN was productive and effective, while students attached, through interaction and satisfactory collaboration among and with each other, terms used in games to their VN.

Even though gender was not a focus of this research, it has affected the outcomes. Students of ME, 90% of whom were males, having a captivating interest in their field along with the grown interest in the Mechanical Engineering Industry in Albania, prevailed the other students of TE being 95% females in every aspect concerning VN (in strategies employed and in the retention of engineering terminology). In a study conducted by Bookngsaen and Intarapraser (2014), there was an opposite outcome concerning gender roles in Vocabulary learning strategies, where female students had a more effective and diverse application of strategies. However, we have to emphasize the fact that these samples are different concerning both quantity and methodology.

Students' attitude towards VN was eventually positive based on the questionnaire. We have to admit that students were aware of the benefits of VN (such as autonomous learning, interaction with one another and acquisition of new terms) but, on the other hand, their predisposition to keep this VN even after finishing the ESP subject was low. This result of the research was consistent even with Vela and Rushidi's (2016) study where only a few students asserted, they would maintain the VN.

Conclusions

In the main, from this research, we can conclude that,

1. Students' perspectives while completing the Vocabulary notebook were miscellaneous. First, there was an apparent division in "hand-in-hand with technology" students embracing a kind of hybrid learning and "let us stick to traditional paper notebook" students. They applied different techniques, but in the main, they adhered to English Language definitions, Albanian translation, and sentence illustrations.
2. VN implementation resulted in interaction and collaboration among students in class and outside class. That means, there was a:

    a. Student-centered class rather than a teacher's centered one
    b. positive atmosphere in class,
    c. more information shared among students,
    d. more terminology presented among them
    e. less anxiety and
    f. more self-esteem.

3. Metacognitive strategies were employed by students while organizing and learning the engineering terminology via VN including pictures and digital media, listening and watching English Mechanical Engineering content (videos, Instagram, or TikTok reels).
4. Teachers' feedback and assessment throughout the completion serve as a simulator and motivator for students to devote as much effort as possible to the VN.
5. Vocabulary Notebooks proved to be a promising and noteworthy student-centered approach, wherein students were able to enhance and foster their own autonomy while learning and, as Benson (1997) states, "autonomous learning is more or less equivalent to effective learning". By means of this, having "furnished" students with the right methodology and knowledge on how to learn a language (technical terminology regarding Mechanical Engineering, in this case), is a goal accomplished.
6. Students acquisition of terminology by making use of VN was satisfactory.

Current research findings proposes that further investigation be done in other engineering fields of study. Furthermore, it would be more interesting if there was a solely deep investigation of Digital Vocabulary Notebook and its effect on technical vocabulary.

Limitations of the Study

This study has various constraints that impacted the discussion of the results as well as the veracity and accuracy of the research questions. The first limitation

was the quantity of time available to carry out the present research. We could have discovered more additional data to help answer the research questions if the study was extended to a year. A second restriction concerns the survey sample. A broader variety of replies would result in more reliable outcomes.

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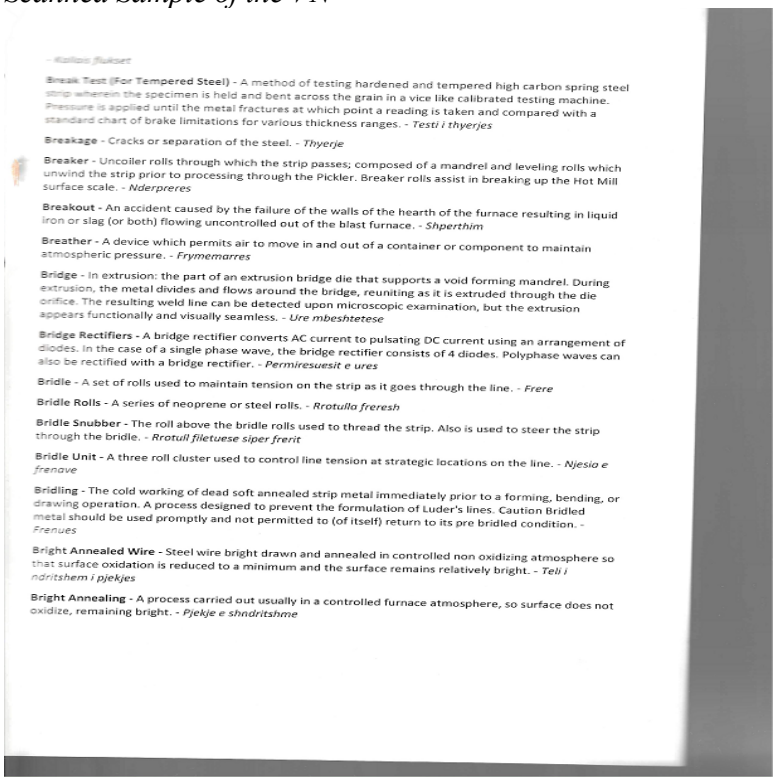
Appendix

Term	Definitions	Translation	Word-Formation
Sacking	Coarse fabric used for bags or sacks	Pelhure thasesh	Sack (root) + ing (suffix)
Screen	A partition consisting of a decorative frame or panel	perde	Screen (noun)
Sewing machine	A textile machine used as a home appliance for sewing	Makine qepese	Sew (verb) + ing (suffix)+machine (noun)

Term	Definition	Translation	Sentence Illustration
Blister	Coating defect consisting of a lower coating film weight on the bottom of the coated sheet caused by high velocity air in the oven.	Fshike	The blisters are hollow, and are usually caused by entrapped air.
Lug bolt	Serves to fasten the wheel of the car to wheel's hub or brake drum	Fiksuese e timonit te makines	Lug bolts are very easy to replace.
Accelerator	A device, typically a foot pedal, which control the speedof a vehicles engine	Pershpejtues (pedali I gazit)	He eased his foot off the accelerator.

Scanned Sample of the VN



- *Kallais flukset*

Break Test (For Tempered Steel) - A method of testing hardened and tempered high carbon spring steel strip wherein the specimen is held and bent across the grain in a vice like calibrated testing machine. Pressure is applied until the metal fractures at which point a reading is taken and compared with a standard chart of brake limitations for various thickness ranges. - *Testi i thyerjes*

Breakage - Cracks or separation of the steel. - *Thyerje*

Breaker - Uncoiler rolls through which the strip passes; composed of a mandrel and leveling rolls which unwind the strip prior to processing through the Pickler. Breaker rolls assist in breaking up the Hot Mill surface scale. - *Nderpreres*

Breakout - An accident caused by the failure of the walls of the hearth of the furnace resulting in liquid iron or slag (or both) flowing uncontrolled out of the blast furnace. - *Shperthim*

Breather - A device which permits air to move in and out of a container or component to maintain atmospheric pressure. - *Frymemarres*

Bridge - In extrusion: the part of an extrusion bridge die that supports a void forming mandrel. During extrusion, the metal divides and flows around the bridge, reuniting as it is extruded through the die orifice. The resulting weld line can be detected upon microscopic examination, but the extrusion appears functionally and visually seamless. - *Ure mbeshtetese*

Bridge Rectifiers - A bridge rectifier converts AC current to pulsating DC current using an arrangement of diodes. In the case of a single phase wave, the bridge rectifier consists of 4 diodes. Polyphase waves can also be rectified with a bridge rectifier. - *Permiresuesit e ures*

Bridle - A set of rolls used to maintain tension on the strip as it goes through the line. - *Frere*

Bridle Rolls - A series of neoprene or steel rolls. - *Rrotulla freresh*

Bridle Snubber - The roll above the bridle rolls used to thread the strip. Also is used to steer the strip through the bridle. - *Rrotull filetuese siper frerit*

Bridle Unit - A three roll cluster used to control line tension at strategic locations on the line. - *Njesio e frenave*

Bridling - The cold working of dead soft annealed strip metal immediately prior to a forming, bending, or drawing operation. A process designed to prevent the formulation of Luder's lines. Caution Bridled metal should be used promptly and not permitted to (of itself) return to its pre bridled condition. - *Frenues*

Bright Annealed Wire - Steel wire bright drawn and annealed in controlled non oxidizing atmosphere so that surface oxidation is reduced to a minimum and the surface remains relatively bright. - *Teli i ndritshem i pjekjes*

Bright Annealing - A process carried out usually in a controlled furnace atmosphere, so surface does not oxidize, remaining bright. - *Pjekje e shndritshme*