ACQUIRING PROFICIENCY IN USING NAVAL ENGLISH TERMINOLOGY: STRATEGIZING THE PROCESS OF TEACHING AND LEARNING ESP VOCABULARY FOR THE NAVAL ACADEMY MILITARY STUDENTS

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Abstract:*The present paper reports on the findings of the research project entitled "Contextualizing Naval Lexical Content: A Research into the Ways and Means of Facilitating the Acquisition of Specialized Terminology by Naval Students", conducted at "Mircea cel Batran" Naval Academy, Constanta, between 2015 and 2016. The project aimed at identifying a series of efficient teaching strategies, means and materials which could be proven through piloting to enhance our naval students' retention, internalization and generative use of specialized vocabulary in work-related communication. The main phases of the research project included designing a set of surveying instruments in order to explore the present teaching and learning situation with its strengths, weaknesses and needs, followed by the production and piloting of a collection of teaching materials and finally the interpretation of the teacher and student feedback data in view to future material design. The research hypothesis was that the process of acquiring specialized vocabulary and developing general communicative competences might be optimized through an explicit and deliberate connection made between the lexical content and the assigned learning tasks, on the one hand, and the linguistic requirements of the occupational context, on the other. The underlying research assumption on which this project was based was that any ESP course needs to reflect the learners' profile and linguistic needs as much as possible. The more these needs are met and reflected in the choice of materials and procedures, the more successful the teaching and learning process is. In addition, it was anticipated and verified in the piloting stage, that the more aware of explicit learning strategies the learners were, the more efficient they were in their leaning efforts.*
Key words: *ESP vocabulary teaching and learning, material design*

INTRODUCTION

The project was based on an action research, carried out with the purpose to identify the best means and methods of teaching specialized English vocabulary to our Naval Academy students. The project team envisaged employing the findings of this research project as the theoretical foundation for the creation of new teaching materials, which would be used in conjunction with the current lecture notes and practical materials to expand the students' knowledge of specialized English vocabulary.

1. RESEARCH OUTLINE

1.1 Background
The first phase in the present research project was to define and describe the teaching and learning context in which the needs analysis and piloting were conducted.
English is taught as a compulsory subject to all military students at the Naval Academy, throughout the four years of study. Each semester, military students receive 28 hours of instruction in general English knowledge and skills focusing on developing their ability to communicate both orally and in writing for personal and transactional purposes. The military students also receive another 28 hours per semester this time focusing on terminology from the naval sphere. The list of textbooks teaching naval English terminology, which are currently in use at the Naval Academy, include: *Career Paths: Navy. Books 1 and 2* by John Taylor & James Goodwell, *Naval Ships, Module 962*, *Navy Terminology – Seamanship, Volume 9600-I* and *Navy Terminology – Seamanship, Volume 9600-II.*
English courses are held both in traditional classroom settings and in two multimedia computer laboratories with an Internet connection. The present research has selected a group of 30 1st year military students as its target population for the piloting of the designed materials. The proficiency level of the target group of students was pre-intermediate to intermediate (B1/B1+ on the CEFRL scale) with little prior knowledge of specialized vocabulary.

1.2 Research aim. Research hypothesis.

The aim of the action research was to gain insights into the most efficient combination of language tasks and assignments, types of input, methods and approaches, material design, proven through piloting to maximize vocabulary acquisition and have a general positive impact on the language learning process.

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1.3 Research method and instruments

This scientific undertaking was materialized in **an action research project**. This type inquiry is an action research through which participants "examine their own educational practice systematically and carefully using the techniques of research." [1] Its classification as an action research was justified by its intention to identify and address issues and solve specific problems within the classroom and generate realistic and sustained improvements in language learning. In addition, the research approach was **qualitative** since it was expected to facilitate a better understanding of the students' motivation and performance while, at the same time, allowing us to explore and reflect upon the teaching-learning processes.

The phases of the research process were:
1) identifying problems through the needs analysis to establish the levels at which action was required;
2) selecting the target student population to be involved in the research project;
3) conducting theoretical research to determine which teaching methods and approaches best respond to the issues identified in the needs analysis phase;
4) designing of the teaching materials to be piloted;
5) conducting the empirical study process by piloting the materials and observing the teacher and learner response to them;
6) applying the surveying instruments and systemizing the findings;
7) interpreting the findings and drawing conclusions as to future remedial actions

The instruments of survey employed in the research project were the following:
1) initial needs analysis questionnaire for the teacher;
2) initial needs analysis questionnaire for the students;
3) post-piloting feed-back form for the teacher;
4) post-piloting feed-back form for the student.

2. RESEARCH FINDINGS: THE INTERPRETATION OF RESULTS

2.1 Needs analysis: results and interpretation

This research project was articulated on the results of the initial needs analysis conducted both on the student pilot group and on their teacher. All the 30 student respondents were asked to fill out a 13-question needs analysis form administered at the beginning of the second semester of their first year of study. The aim of the survey was:

- to identify the students' views on the importance of studying naval English terminology;
- to synthesize their evaluation of the existing teaching materials in terms of the level of interest and the perceived efficiency of the assigned tasks and activities;
- to determine their affective response to the existing group dynamics and the types of input offered by the existing materials;
- to test their awareness of language learning strategies.

The results of the student needs analysis have provided essential insights concerning the teaching and learning process of naval English terminology.

First of all, all students (100%) perceived English as an important subject to study and justified their choice by making a clear connection between their future professional context and the use of their knowledge of English. In this respect, 46.6% of the respondents chose answer b. "I will need English to perform my duties as a naval officer" to question 2 in their NA form. The other 20% envisaged a further development from an academic and professional standpoint (question c) and therefore included English as a necessary component. Considering the fact that both question b and question c targeted a professional usage of English, they can be considered together thus accounting for 66.6% of the perceived employment of the students' knowledge of English

as opposed to 33.3% who preferred to use English for personal activities. The ratio is also confirmed by the students' answers to question 3 with reference to their perceptions of the usefulness of studying general English vocabulary versus specialized lexical content. 66% of the students indicated that they found the study of general English vocabulary "relatively useful" to which the 4% who found it "not useful" can be added, thus yielding approximately a percentage of 70% of students who were not particularly interested in the study of general English. On the other hand, 43% of the students indicated naval English vocabulary as "very useful", a percentage which could be corroborated with the other 54% of the students who found naval English "useful". Adding it up, knowledge of naval English vocabulary is, general speaking, considered to be "very useful" and "useful" by 97% of the students while approximately 70% of the students found the study of general English as "relatively useful" and "not so useful". However, these percentages do not argue against the teaching of general English, but rather expose the strong affective response that students have to validating studying efforts in a real-life professional context.

Moving on, the students were asked to indicate the language areas which they would like to improve during the English classes. The areas could be divided into receptive skills (reading and listening), productive skills (speaking and writing) and lexical range (naval English terminology). The results show a preponderance of the productive skills (approximately 40% combined) closely followed by lexical range (32%). The receptive skills were only selected by 28% of the students. These numbers can be interpreted by the perceived increased difficulty of actively and spontaneously expressing oneself in English (orally or in writing) combined with a strong need of acquiring specialized vocabulary.

On the other hand, the language tasks which students anticipate to perform in their professional lives are preponderantly receptive in nature. 90% of the students foresee that they will use their knowledge of English to inform themselves about issues of professional interest (reading comprehension) corroborated with the 89% who envisage participating in trainings and courses (reading and listening comprehension). On the productive front, 35% see themselves communicating in multinational contexts "to some extent" while 50% believe that they will only have little opportunities to communicate in professional contexts. The inference that can be made by interpreting the results to questions 4 and 5 is that students believe that they have stronger receptive skills which they anticipate to use more than the productive skills that they feel less confident in

using because of lack of practice and opportunity. Therefore, the identified need is for more opportunities in the classroom to practice the acquired specialized vocabulary through productive tasks which are perceived to be closely related to the professional context.

The students were also asked to evaluate the existing teaching materials in terms of topics, activities and tasks, types of input and classroom interaction. The vast majority of the students (80% combined) indicated that they found the topics "very interesting" and "interesting". The answers to the open-ended question targeting their suggestions for additional topics to be discussed in their Naval English classes revealed an interest for materials which were connected to life as students in a military academy.

If the topics covered by the existing teaching materials were found to be of high interest, the students' answers to question 8 showed that 72 % (combined) found the activities and tasks "not very interesting" and "not interesting". This choice can be corroborated with the answers to questions 8 and 9. Students indicated in large numbers (more than 60%) that most "often", in their English classes, they read and answer questions, followed by listening activities and using vocabulary in speaking activities which are "sometimes" done. They also pointed out that they "rarely" watch videos and "never" use the Internet during their English classes. Nevertheless, question 9 illustrates the fact that most students (over 70%) found doing listening, speaking and writing activities "interesting", while watching videos and using the Internet ranked as "very interesting" among 64% of the students. The numbers show a preference for productive tasks based on audio, video and digital input.

The students' preferred types of input were the target of question 10 and the results confirmed their earlier choices. 50% (combined) of the students described reading texts as "very interesting" and "interesting" while the percentages went significantly higher for the other types of input. More than 70% (combined) of the students ranked pictures, illustrations, diagrams, drawings as "very interesting" and "interesting", approximately 76% (combined) indicated that videos were "very interesting" and "interesting", 68% (combined) appreciated audio texts as "very interesting" and "interesting" while 84% (combined) considered online digital resources as "very interesting" and "interesting".

The needs analysis also looked into the students' preferred types of classroom interaction and revealed that 52% inclined towards working in pairs while 32% enjoyed group work. Only 14% opted for individual work. However, question 12 revealed that 43% of the respondents indicated

that student-student interaction takes place in the language classroom "to some extent" while 37% chose the "not so much" option, thus 80% combined claimed that there was little student-student interaction in the classroom. As far as the student-teacher interaction was concerned, the majority (72%) of the students opted for "a lot" to describe the quantity of exchange between the teacher and students during the classroom.

The last question of the needs analysis form targeted the students' awareness of individual vocabulary learning strategies. It was an open-ended question and the synthesis of the key-words recurring in the student's answers revealed that approximately 60% relied on dictionary work in connection with writing down the L1 translation of target words in their notebooks. It is quite clear that students were very little aware/ in possession of a range of learning strategies and that they needed extra training in this respect.

The second component of the needs analysis was the questionnaire for the teacher. First of all, the teacher was asked to provide her evaluation of the existing teaching materials in terms of the language skills practice they offered. The teacher pointed out that the current materials focus "a lot" on learning and practicing specialized vocabulary and reading comprehension. The development of the students' listening comprehension was less prominent in the materials ("to some extent") while the productive skills (speaking and writing) were practiced only "a little" with the help of the ready-made tasks included in the existing teaching materials. The teacher also intimated that the ready-made materials were only "to some extent sufficient" for the teaching and learning process and that she needed to supplement them with "some" extra activities that she developed herself. The teacher also indicated the areas which needed supplementary materials: "practicing with specialized vocabulary", "oral communication skills", "written communication skills" and "assignments and group projects". The last question on the teacher NA form targeted the use of ICT in the naval English lessons and the teacher intimated that there were no ICT elements in the existing teaching materials. Overall, one can infer that there is a certain scarcity of ready-made teaching materials especially those targeting the development of the productive skills while, at the same time, integrating the new target lexical content.

2.2 Post-piloting feedback: results and interpretation
The insights gained from interpreting the needs analysis results laid the foundation for designing a new set of teaching materials which would attempt to respond to as many issues highlighted in the NA as possible. The designed teaching materials aimed at better contextualizing the target vocabulary with the help of a variety of input types (not just reading texts), which were more appealing to the students because they made a better and clearer connection between the target language and the real-life professional context. The tasks were more student-centered and were meant to promote student-student interaction while engaged in collaborative, cognitive and constructivist learning processes. After the piloting sessions the students were asked to answer a feed-back questionnaire which would verify the degree to which the overall aim and operational objectives of the materials had been reached.

The first three questions looked at the level of interest raised by the topics discussed in the piloted materials and the assigned tasks and activities. The level of interest in the topics was somewhat similar to that emerged from the NA, that is 85% (combined) of the students found the topics "very interesting" and "interesting". Moreover, question 2 specifically targeted the appeal of the L1 input and revealed that 96% (combined) of the students found L1 input as "very interesting" and "interesting". Moving on, the new tasks seemed to exert a far greater appeal than the ones in the NA. Thus, 90% (combined) of the students found the tasks and activities "very interesting" and "interesting" in comparison to only 28% in the NA. In addition, the students best responded to tasks which asked for pair (48%) and group work (40%) as opposed to individual work (12%).

Next, the students were asked to indicate the type of input which best facilitated their vocabulary acquisition. The pictorial/graphical type of input ranked the highest among 60% of the students, closely followed by the video input (53%) and online digital materials (48%). The results proved that visual content activated the students' prior knowledge of the topic, helped them make better contextual inferences and wass more effective in facilitating the retention of the new target vocabulary in the long-term memory.

Question 6 asked for the students' self evaluation of the progress made after the piloting sessions in 5 areas. They could choose as many areas as they felt appropriate. The results showed that the students felt the most significant improvement in "using the new specialized vocabulary in speaking" (60%), "understanding the meaning of new specialized vocabulary" (44%) and "using the new specialized vocabulary in writing" (35%). It is interesting and encouraging to notice that areas in which the students indicated the highest perceived improvement were the very ones they had identified as problematic in the NA phase.

The webquest piloting session was extremely successful, fact also proven by the high percentages of students who described it "very interesting" and "interesting" (90% combined). The students particularly appreciated working in groups to produce a project (62%) while learning more about the topic of the lesson by doing online research was indicated as a useful outcome by 54% of the students.

The personal glossary was also a successful component as 92% (combined) of the students found it "very useful" and "useful". The last open-ended question asked the students for ideas on how to improve the personal glossary. A significant number of students referred to the possibility of storing it online, digitally, so as to include links and visual/video input which would be otherwise impossible to do on paper. They pointed out that writing internet addresses on paper does not help much as they are not readily accessible and what is more, an online version could easily be amended, and updated at any time.

All in all, the students' reaction to the new materials, as emerged from the results of the piloting feed-back questionnaire was a positive, enthusiastic one based on high motivation and a strong learning drive.

After the piloting sessions, the teacher who was involved in piloting the materials participated in a feed-back interview. The teacher was first asked to reflect upon the efficiency of the materials in facilitating the students' acquisition of the target vocabulary. She started with the presentation phase and appreciated the tasks that activated the student's prior knowledge of the topic and aroused their interest in the topic. Then, the teacher described the positive impact of the contexts provided by the materials, especially the L1 input which was particularly well received by the students and acted as a strong motivation booster for further communication. The students clearly related to the L1 input on a personal, affective level and understood the connection between the prospective occupational setting in which they would use their knowledge of English and their learning efforts in class. The vocabulary practice activities, included in the practice stage of the lessons, were found to be extremely beneficial in further ensuring the students' multiple retrieval and ultimate retention of the target vocabulary. The teacher mentioned the positive aspect of being able to choose from a variety of ready-made activities which allowed for a better adjustment to the classroom needs and profile.

Question 2 in the feed-back interview targeted the efficiency of the materials in developing the students' communicative skills. The teacher pointed out that the production stage of the lessons offered the students numerous opportunities to use the acquired vocabulary generatively, both orally and in writing. Moreover, the teacher pointed out that she particularly appreciated the fact that the materials did not exclusively focus on vocabulary acquisition; on the contrary, they were articulated on an integrated-skill approach as all the four language skills were developed during the lessons. The explicit focus on the language functions, with dedicated tasks and input was seen as a welcome addition by the teacher who stressed the importance of teaching both ESP and general English skills to our students.

In terms of the input types offered by the pilot materials, the teacher appreciated the variety of input, textual, audio, video, pictorial and graphical which catered to the needs of a diversity of learning styles. The availability of such a selection of input, spared the teacher from doing extra materials development work and allowed her to focus on classroom teaching and management. Moving on, the teacher discussed the overall didactic organization of the materials and the logical sequence to the tasks. The teacher best appreciated the compactness and completeness of the materials. These functioned as integral textbook units not as individual materials which otherwise would have needed to be fit in the larger lesson framework. The logical progression from presentation to practice and production allowed the teacher to take the students on a successful didactic journey at the end of which they met the aims and objectives set out at the beginning of the lesson.

The successful student-centered approach promoted by the pilot materials was another point made by the teacher during the interview. She intimated that students were very enthusiastic about working in pairs or groups to carry out the assigned tasks which, in the opinion of the teacher, impacted beneficially on their overall performance. Thus, the collaborative and social-cognitive components of the learning process were activated and involved students in a variety of roles inside the groups (leader, participants) which emphasized the necessity of taking responsibility for one's own learning process and being accountable for your own contribution to a team effort. The teacher welcomed the opportunity to facilitate peer feed-back and student clarification through peer interaction.

The multimedia components of the materials required a certain classroom set-up (laptop, multimedia projector, speakers, etc.) which was provided for piloting reasons. For the future, the teacher suggested using the multimedia self-access center in the Naval Academy so as to facilitate the use of multimedia materials.

According to the teacher, the personal glossary was one of the best components of the materials package. It specifically targeted the acquisition of vocabulary and promoted long-term lexical retention with the help of its features. The fact that students' had to fill in most of the information during the class and outside the classroom as individual research work ensured that they understood all the aspects which contributed to the knowledge of a lexical item, from translations and definitions to visuals, collocations and contexts. It was also extremely efficient in raising students' awareness of a variety of vocabulary learning strategies and thus, promoted student autonomy. The teacher also mentioned that it might be helpful to have an online digital version where students could store, stock and capitalize on the outcomes of their learning process.

Finally, the webquest component we discussed by the teacher during the feed-back interview. The teacher mentioned those aspects which, in her opinion, constituted the best assets of the webquest: the fact that students worked in groups to produce a project; the fact that it allowed for continuous assessment, the fact that it was topically connected to the lesson and most of the vocabulary introduced in the lesson was also recycled in the webquest, the fact that promoted self-directed learning through individual research. The teacher, nevertheless, pointed out that the tight classes schedule did not always allow for an entire lesson to be spent on doing a webquest after every single course book lesson. Nevertheless, she suggested that a webquest repository could be stored online and then, within time constraints, after the students have been familiarized enough with the format of such an activity, they could assigned group projects based on the existing webquests.

Conclusions

The findings emerged from this project fully confirmed the initial research hypothesis and assumptions. The positive outcome of the piloting sessions has encouraged the research team to pursue the development of future teaching materials on the same format so that a complete set of instructional materials might eventually be put forth. These materials will be substantiated by the following teaching principles and approaches:

ADEQUATE CONTENT.
We will strive to achieve a suitable balance between the ESP and the general English content presented in the future materials. According to Cantoni-Harvey, "language is essential for understanding content materials and can be taught naturally within the context of a particular subject matter." [2] We operate on the assumption that content knowledge and language awareness are the building blocks for a successful language learning process.

FOCUS ON THE STUDENT.
The materials will be student-centered and tailored to reflect the specific profile of the students. First of all, the tasks will activate and integrate the students' prior knowledge on the topic of the lesson so as to secure their positive affective response to it and, ultimately, conduct to a more efficient cognitive interaction with the contextual input (textual, audio, video) provided throughout the materials.

Second, the topics will closely reflect the occupational context in which the students will use the target vocabulary, thus boosting their overall motivation for learning. In close connection to this, new vocabulary will be presented as it is used in the real-life professional contexts with the help of relevant illustrative material (pictures, diagrams, maps, charts, mind maps) so as to help the students develop a complete picture of how the word functions in the language and thus, internalize its meaning.

Third, input reflecting the students' L1 reality (i.e. texts, pictures, videos, digital materials, etc.) will be deliberately inserted in the presentation stage alongside L2 authentic materials. The purpose is to equip the students with the lexical tools that will help them easily and confidently express *their own* professional reality in English. The motivational value of adding such an input at the presentation stage of the lesson is immense as students discover early on in the lesson that the materials *speak to them and about them* and thus, they are very likely to respond more positively and constructively to them.

EFFECTIVE APPROACHES TO TEACHING AND LEARNING
As far as the teaching and learning of ESP vocabulary are concerned, the input and tasks will be so structured and sequenced as to provide ample opportunities for multiple retrievals. As Born-Leichleitner points out, vocabulary learning "requires a complex cognitive effort." [3] This means that while a new word is being learned, its meaning needs to be actively and repeatedly negotiated in various contexts on the same topic (hence the deliberate choice of a variety of input types which are topically structured) in order to allow students to acquired it and integrate it into their existing network of knowledge.

Moreover, the social-cognitive learning model will be applied with profound implications at the level of task design and student interaction. The tasks will target the development of the communicative functions of the language, prompting students to use the acquired vocabulary in productive contexts.

The social aspect of the learning process is reflected by the choice of collaborative tasks which involve group work on assigned projects (primarily found in the webquest component). In this way students are offered opportunities to interact with their peers and negotiate their comprehension of the content while asking for clarification or verification. Peer cooperation, assuming different roles inside a group while working on projects, using a variety of language functions in English to perform the assigned tasks, offering and receiving peer-feedback are all benefits of collaborative tasks.

Project work will be articulated on the constructivist theories of learning which are particularly salient to ESP contexts that are mostly content-based. Hands-on tasks which foster the development of higher levels of thinking and expect tangible learning outputs will be created in order to offer students the skills and the motivation to use their language knowledge in contexts and for proposes which reflect their future professional lives.

PRODUCING AUTONOMOUS LEARNERS/ USERS

The ultimate goal of any language learning effort (both on the part of the teacher and on that of the student) is to materialize it in practical use. The materials will, therefore, explicitly teach learning strategies so as to determine students to gradually become independent and self-regulated learners. It is essential to increase the students' command of a variety of strategies for the acquisition of knowledge because this learning legacy will ensure successful lifelong learning process.

The team of researchers involved in this project will continue as such and work together to design the teaching materials on the principles described above, thus integrating all the essential insights emerged from the findings of this research enterprise.

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