THE USE OF VERSATEXT IN TEACHING ENGLISH FOR SPECIFIC PURPOSES AT MEDICAL UNIVERSITIES

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This article explores the integration of data-driven learning tools, as exemplified by VersaText, into the process of teaching English for Specific Purposes in medical education. The study investigates the efficacy of VersaText’s functions (Word Cloud, Concordance, and Profiler) in enhancing language acquisition and proficiency development among medical students. Through a series of classroom-based activities and exercises, students engage with authentic medical texts, analyze linguistic patterns, and develop a deeper understanding of specialized medical terminology. This study discusses the benefits of integrating open-access materials sourced from PubMed and other databases with VersaText’s features, further enriching the learning experience by exposing students to real-world medical discourse. By incorporating such authentic materials, educators can enhance students’ awareness of current research literature and reinforce their understanding of medical terminology within a contextually relevant framework. The pedagogical implications of using VersaText in ESP teaching are discussed, highlighting its potential for fostering active engagement, collaborative learning, and critical thinking skills. Furthermore, the article emphasizes the need for ongoing research to further refine and expand the use of data-driven learning tools in ESP teaching methodologies. This study contributes to the growing body of literature on technology-enhanced language learning and provides valuable insights for educators seeking to optimize ESP instruction in various professional contexts.

Keywords: Versatext, Word Cloud, Concordance, Profiler, data-driven learning, English for Specific Purposes, medical education, PubMed.

In the field of English for Specific Purposes (ESP) instruction, the integration of innovative technologies shows significant potential for enhancing learning outcomes [8; 9]. In particular, data-driven learning (DDL) tools have become increasingly applied in ESP settings due to their efficacy in facilitating targeted language acquisition through analysis of authentic language data [5; 13]. By leveraging the vast repositories of corpora, these tools offer tailored insights into the specific linguistic demands of various professional domains, including but not lim-
It is indeed critical for learners to be exposed to real-world language patterns that are prevalent in their respective fields. Through the analysis of these patterns, learners gain meaningful insights into the discourse conventions and terminology prevalent in medical and other professional domains. Moreover, data-driven learning tools enable educators to design exercises and tasks that closely align with the linguistic needs of learners, thereby fostering meaningful engagement and facilitating mastery of domain-specific language skills [7]. Such tools enhance the relevance and authenticity of ESP instruction, empowering students to navigate and communicate effectively within their chosen professional spheres.

This article explores the utilization of the VersaText digital platform [12] as a pedagogical tool, and investigates the efficacy of its integration to augment ESP teaching methodologies to meet the needs of medical and dental students. The primary objective of this study is to analyze the linguo-didactic potential of VersaText in facilitating language acquisition and proficiency development among medical students. By relying on our teaching experience and previous studies [1; 6], we developed the system of tasks and exercises designed for ESP classes by utilizing VersaText’s dynamic features and interactive capabilities, to address the specific linguistic demands inherent in medical discourse. Our study contributes to the growing body of literature on technology-enhanced language learning and provides valuable insights for educators seeking to optimize ESP instruction in medical contexts.

VersaText offers numerous benefits for teaching, particularly within specialized contexts such as medical universities [7]. VersaText’s suite of functions: including the Word Cloud, Concordance, and Profiler, are instrumental in serving specific didactic purposes aimed at enhancing language learning and comprehension of professional vocabulary and terminology inherent in medical discourse. Each of these features offers unique insights and tools that adjust to distinct pedagogical objectives, contributing to a comprehensive and immersive learning experience for students. Together, these functions provide support for medical students, empowering them to navigate the features of medical terminology with confidence and precision.

The Word Cloud function (Figure 1) provides a visual representation of words in a piece of discourse, where the size of each word corresponds to its frequency or importance within a given text or corpus, thus allowing students to grasp the most relevant vocabulary at a glance. In language learning and teaching, word clouds serve as powerful tools for visualizing vocabulary and identifying key terms. By presenting words in a visually appealing format, word clouds capture students’ attention and stimulate interest in exploring language. Educators can utilize word clouds to facilitate various language learning tasks, such as brainstorming, word association, and vocabulary review. Hence, word clouds offer a dynamic and interactive approach to language learning and teaching, fostering engagement, creativity, and a deeper understanding of linguistic concepts. Figure 1 demonstrates the Word Cloud of the article “ARIA-EAACI care pathways for allergen immunotherapy in respiratory allergy” by Bousquet et al. (2021) [3], which can be used during a classroom session on allergy with 2nd-year medical students.

Figure 1. Word cloud of the article by Bousquet et al. (2021) [3]
The Word Cloud from Figure 1 can serve as a foundation for the following exercises and activities:

– Word cloud analysis: students analyze the word cloud, identify the most prominent terms and discuss their significance in relation to the topic. This can help students grasp the key concepts and terminology associated with asthma and allergy.

– Creating collocations: students select key terms from the Word Cloud and identify possible collocations by brainstorming additional words or phrases that frequently co-occur with these terms in medical literature. Once students have identified collocations, they can construct sentences or short paragraphs to demonstrate how these terms are used together in the context of allergic rhinitis. This task fosters critical thinking skills, enhances vocabulary acquisition, and promotes a deeper understanding of the relationships between medical terms.

– Group discussion: students are divided into small groups and each group is assigned a specific section of the word cloud to analyze in depth. Groups discuss the relevance of the terms within their assigned section, and then present their findings to the class. This promotes collaborative learning and allows for a deeper exploration of the content.

– Concept mapping: students create a concept map based on the word cloud, connecting related terms and concepts to illustrate the relationships between different aspects of asthma and allergy. This visual representation can aid in conceptual understanding and retention of key information.

Further, VersaText’s Concordance function (Figure 2) is one more effective tool that can be used in language learning and teaching. It displays every occurrence of a specific word or phrase within a corpus of text, along with its surrounding context. This tool allows learners to analyze how the word is used in different contexts, including its collocations, grammatical structures, and shades of meaning. Concordances provide learners with authentic examples of language usage, allowing them to observe patterns, identify common word combinations, and understand the varied contexts in which words are used. By engaging with concordances, learners can enhance their vocabulary, improve their understanding of grammar and syntax, and develop their overall language proficiency. Moreover, concordances can be used by teachers to create targeted exercises and activities that facilitate meaningful practice and reinforce language learning objectives.

Figure 2 demonstrates the Concordance of the lemma “search” in the article “Differences in reporting the ragweed pollen season using Google Trends across 15 countries” by Bousquet et al. (2018) [2].

<table>
<thead>
<tr>
<th>#</th>
<th>Left context</th>
<th>KWIC</th>
<th>Right context</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>surveillance tool that uses aggregated Google</td>
<td>searches</td>
<td>summarise the searching trends of specific queries</td>
</tr>
<tr>
<td>2</td>
<td>uses aggregated Google searches to summarise the</td>
<td>searching</td>
<td>trends of specific queries. Recent studies have</td>
</tr>
<tr>
<td>3</td>
<td>assess whether there were differences in the Google</td>
<td>searches</td>
<td>of AR and related topics for ragweed pollen allergy</td>
</tr>
<tr>
<td>4</td>
<td>allergy. We analysed multiple time series of Google</td>
<td>search</td>
<td>data on rhinitis, allergy, and pollen in Europe</td>
</tr>
<tr>
<td>5</td>
<td>based on Google Search, shows how often a particular</td>
<td>search</td>
<td>term is entered relative to the total search volume</td>
</tr>
<tr>
<td>6</td>
<td>particular search term is entered relative to the total</td>
<td>search</td>
<td>volume across various regions of the world and in</td>
</tr>
<tr>
<td>7</td>
<td>), and the vertical axes show how often a term is</td>
<td>searched</td>
<td>relative to the total number of searches globally</td>
</tr>
<tr>
<td>8</td>
<td>term is searched relative to the total number of searches</td>
<td>globally (<a href="https://trends.google.com">https://trends.google.com</a>). The following</td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>GT, data are normalised to the highest number of</td>
<td>searches</td>
<td>for each topic. A score of 100 meant that, on that</td>
</tr>
<tr>
<td>10</td>
<td>, on that day, the topic had the highest number of</td>
<td>searches</td>
<td>over the reference period included in the search</td>
</tr>
<tr>
<td>11</td>
<td>searches over the reference period included in the</td>
<td>search</td>
<td>(5 years in the present study) in that particular</td>
</tr>
<tr>
<td>12</td>
<td>since the score in each area depends on the series of</td>
<td>searches</td>
<td>during the reference period in that area. Moreover</td>
</tr>
<tr>
<td>13</td>
<td>reference period in that area. Moreover, a high level of</td>
<td>search</td>
<td>(e.g., “allergy”) reduces the level of the other</td>
</tr>
<tr>
<td>14</td>
<td>e.g., “allergy”) reduces the level of the other</td>
<td>searches</td>
<td>To account for this issue, we performed searches</td>
</tr>
<tr>
<td>15</td>
<td>searches. To account for this issue, we performed searches</td>
<td>that included and excluded “allergy” Selection</td>
<td></td>
</tr>
<tr>
<td>16</td>
<td>supplementary Figures 1 and 2. When the term “allergy” was</td>
<td>searched</td>
<td>, different patterns could be observed at the country</td>
</tr>
<tr>
<td>17</td>
<td>allergy” peaks during the corresponding “ragweed”</td>
<td>search</td>
<td>peak. In Canada, Croatia, Hungary, and the USA,</td>
</tr>
<tr>
<td>18</td>
<td>the term “ragweed” appeared to be less frequently</td>
<td>searched</td>
<td>, but there was a peak of “allergy” during the “ragweed</td>
</tr>
<tr>
<td>19</td>
<td>there was a peak of “allergy” during the “ragweed”</td>
<td>search</td>
<td>peak. Using the GT translation, many countries</td>
</tr>
<tr>
<td>20</td>
<td>not have a ragweed peak. In Italy, we conducted the</td>
<td>search</td>
<td>for “Lombardia” (Lombardy) and the results were</td>
</tr>
</tbody>
</table>

Figure 2. Concordance of the lemma “search” in the article by Bousquet et al. (2018) [2].
The Concordance from Figure 2 can be used as a basis for the following exercises and activities:

– Contextual analysis: students examine the concordance lines containing the lemma “search” and identify the contexts in which it appears as different parts of speech, analyze the surrounding words and phrases (e.g., prepositions, nouns, verbs, adjectives, adverbs, etc.).

– Grammar focus activity highlights instances of different grammatical forms of the lemma “search” (e.g., “searches”, “searching”) within the concordance lines. Students identify the grammatical patterns and discuss their usage in the context of medical writing.

– Collocation identification: students analyze the collocations of “search” within the concordance lines and identify common word combinations or phrases.

– Collocation expansion: students expand the list of collocations by brainstorming additional terms that commonly collocate with “search” in the medical context, using online corpora or dictionaries to explore variations and nuances in collocation usage.

Furthermore, the Profiler feature (Figure 3) provides an even more thorough examination of terminology usage, assisting students in deconstructing complex medical texts and analyzing them based on various parts of speech, their frequency, and more.

Figure 3 demonstrates the Profiler interface of the article “Behavioural patterns in allergic rhinitis medication in Europe: A study using MASK-air® real-world data” by Sousa-Pinto et al. (2022) [11].

The Profiler feature from Figure 3 can serve as a valuable resource for classroom sessions, offering a foundation for the following exercises and activities:

– Word frequency analysis: students analyze word frequency data generated by the Profiler interface to identify the most commonly used terms in the medical article. Students can create lists of the most frequently occurring words and discuss their significance in understanding the topic.

– Synonym and antonym identification: students identify synonyms and antonyms of medical terms, discuss the nuances in meaning between different terms and how they are used in clinical practice. Academic vocabulary analysis: students conduct a detailed analysis of the most frequent lexemes in the Academic Word List, including their definition, usage in context, synonyms, antonyms, and related terms. Students can work individually or in small groups to create comprehensive vocabulary profiles for each word, incorporating examples of how the word is used in scientific literature. This task enhances students' ability to comprehend and utilize academic vocabulary in their writing and future research endeavors.

– Identifying boosters and hedges: students identify instances of boosters (e.g., “definitely,” “clearly,” “strongly”) and hedges (e.g., “possibly,” “potentially,” “may”) used in the article, and analyze how they are used within the article to strengthen or weaken assertions. Students can then discuss the impact of these linguistic devices on the persua-
siveness and credibility of the information presented in the article. This task encourages students to critically evaluate the language used in academic writing and enhances their ability to interpret and assess scientific texts effectively.

– Discussion on medical terminology variations observed in different medical articles upon the analysis using the Profiler feature. Students can explore how different authors and researchers may use varying terminology to describe similar concepts in their field.

Thus, the integration of VersaText’s Word Cloud, Concordance, and Profiler functions offers a multitude of benefits in the field of ESP teaching in medical education. Firstly, the Word Cloud feature provides a visual representation of key terms, facilitating immediate comprehension of essential vocabulary related to medical topics. Through exercises like word cloud analysis and creating collocations, students not only grasp core concepts but also enhance critical thinking skills and deepen their understanding of medical terminology. Additionally, the Concordance function enables contextual analysis of specific terms, allowing students to explore subtle meanings and identify common word combinations within medical literature. Tasks such as collocation identification foster vocabulary expansion and promote a deeper understanding of medical concepts. Lastly, the Profiler feature empowers students to conduct comprehensive analyses of academic vocabulary usage, including synonym and antonym identification, boosting their ability to interpret and assess scientific texts effectively.

In conclusion, the integration of VersaText’s functions into ESP education not only enriches learning experiences but also holds significant pedagogical implications for further development of training materials utilizing DDL tools. The use of these functions fosters active engagement, deeper comprehension and retention of medical terminology, promotes collaborative learning, and enhances students’ language proficiency within the medical domain. Educators can use VersaText and other DDL tools to design more interactive and personalized tasks tailored to the specialized needs of medical students. The continued exploration of DDL tools in ESP teaching will equip students with the language skills and competencies necessary for success in their academic and professional endeavors.

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B – data collection; C – data analysis and interpretation;
D – writing the article; E – revising the article;
F – final approval of the article

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The authors declare no conflict of interest.

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This study did not require ethical approval.

**References**

12. Versatext: https://versatext.versatile.pub/
ЗАСТОСУВАННЯ ПЛАТФОРМИ “VERSATEXT” ПІД ЧАС ВИКЛАДАННЯ
АНГЛІЙСЬКОЇ МОВИ ДЛЯ СПЕЦІАЛЬНИХ ЦІЛЕЙ У МЕДИЧНИХ ЗАКЛАДАХ
ВИЩОЇ ОСВІТИ

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У статті досліджено методологічний потенціал застосування програмних засобів корпусної лінгвістики під час викладання англійської мови для спеціальних цілей на прикладі платформи “VersaText”. Проаналізовано можливості досліджуваної платформи (функції “Word Cloud”, “Concordance” і “Profiler”) з метою розвитку мовних навичок студентів медичних закладів вищої освіти. Запропоновано систему вправ і завдань, у процесі виконання яких студенти ознайомлюються з автентичними фрагментами англомовного медичного дискурсу, аналізують найпоширеніші лексичні, синтаксичні, граматичні моделі, стилістичні й прагматичні особливості, використовуючи інструменти платформи “VersaText”. Закентровано увагу на переваги залучення матеріалів з бази даних “PubMed” та інших інформаційних ресурсів при роботі з платформою “VersaText”. Підкреслюється, що використання корпусу автентичних англомовних уможливлює запечення майбутніх лікарів до ознайомлення з останніми науковими досягненнями у світовій медицині, сприяє розумінню медичної термінології у професійно значущому контексті, створює сприятливі умови для колаборативного навчання та розвитку навичок критичного мислення. Автори наголошують на необхідності подальших досліджень, спрямованих на максимально ефективне використання можливостей програмних засобів корпусної лінгвістики під час викладання англійської мови для спеціальних цілей. Дослідження може бути корисним для викладачів англійської та інших іноземних мов при розробці інтерактивних і персоніфікованих навчальних матеріалів.


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ЗАСТОСУВАННЯ ПЛАТФОРМИ “VERSATEXT” ПІД ЧАС ВИКЛАДАННЯ
АНГЛІЙСЬКОЇ МОВИ ДЛЯ СПЕЦІАЛЬНИХ ЦІЛЕЙ У МЕДИЧНИХ ЗАКЛАДАХ
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