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SIZE AND DEPTH OF WORD KNOWLEDGE: THEORETICAL PERSPECTIVES AND CHALLENGES

APPLIED LINGUISTICS

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Statement of the problem. There is considerable truth in the view that vocabulary knowledge is a reliable predictor of learners ‘proficiency’ in a foreign language. Linguists, scholars, language teachers and learners agree that vocabulary is closely related to the four language skills as words are the primary carriers of meaning [28, p. 217]. Researchers have long noted the important role of word knowledge as a forecaster of overall reading ability [e.g. 15, 16, 21], it is highly correlated with writing [7, 27], listening [14, 29] and speaking, as Meara states, “lexical competence is at the heart of communicative competence” [10, p. 35].

In recent years, vocabulary acquisition has been an increasingly interesting topic of discussion that has resulted in numerous ways and theories of how vocabulary knowledge should be investigated and modelled. However, despite the rapid increase in vocabulary research from the turn of the millennium, a number of leading vocabulary researchers [e.g. 11, 21, 26] still insist that more work needs to be done in this field.

Actuality. The research on the acquisition of word-level competency, vocabulary aptitude and measuring how well a word is known is getting more attention. Thus, research on the amount of vocabulary necessary for language proficiency and depth of vocabulary knowledge becomes essential. Therefore, the present paper intends to review in detail the relationships between the size and depth of vocabulary knowledge and how they are conceptualized by scholars, and it also tries to present the main challenges and criticisms.

The subject of this paper is to examine how vocabulary size and depth can be conceptualized and interpreted. The central **purpose** of this study is to reveal the distinction made by leading researchers and discover the similarities and connections between these notions giving a better understanding of the topic. **The object** of this paper is to find and outline researches where size and depth of vocabulary knowledge were investigated and measured from different points of view.

Findings and discussions. There is no clear-cut answer to the question of what vocabulary knowledge involves. A well-known, influential framework for vocabulary knowledge was introduced by Richard [22, p. 83] who defined seven aspects of knowing a word: knowing the degree of probability of encountering that word in speech or print, knowing the limitations imposed on the use of the word according to variations of function and situation, knowing the syntactic behaviour associated with that word, possessing the knowledge of the underlying form of word and the derivatives that can be made from it and the knowledge of the network of associations between that word and the other words in language, knowing the semantic value of the word and finally, knowing many of the different meanings associated with the word. Later, Chapelle [2] suggested four dimensions for vocabulary knowledge, such as vocabulary size, knowledge of word characteristics, lexicon organization, and processes of lexical access. Furthermore, Henriksen [8] distinguished a partial-precise knowledge, a depth of knowledge and a receptive-productive dimension of lexical competence. In Nation's [16, p. 27] influential descriptions with a receptive/productive feature, knowing a word means the knowledge of form (written, spoken form and word parts), meaning (meaning and form, concepts and reference, associations) and use (grammatical functions, collocations and constraints on use) of the lexical unit. Qian [20] developed four dimensions from the earlier frameworks including vocabulary size, depth of vocabulary knowledge (including pronunciation, spelling, morphological properties,

syntactic properties, meaning, register, frequency and added collocations), lexical organization, and automaticity of receptive-productive knowledge. Meara [12] in describing a model of lexical competence distinguished vocabulary size, vocabulary organization, and vocabulary accessibility/automaticity. In addition, Daller et al. [4, p. 8] in vocabulary acquisition defined lexical breadth, lexical depth, and he uses the term lexical fluency instead of automaticity. However, it seems that there are certain overlaps in the different versions, it has to be stated that the authors describe them in different ways and propose different ways to operationalize them. For example, Henriksen's depth of knowledge, may sound close to Daller et al., but in fact it is discussed more in terms of network building similar with Meara's conception of vocabulary organisation which is a structured, lexical network where the focus is on the links between words and on how they can inform the person about the network as a whole.

It can clearly be seen that over the last two or three decades, research on vocabulary has brought with it an increase with regard to terminology. Vocabulary scholars have developed a number of descriptive frameworks where two of the most commonly accepted distinctions used are vocabulary breadth, size, or quantity and depth, or quality.

Nation defined [15, 16] vocabulary size as the number of words for which a learner has at least some minimum knowledge of meaning. A size test provides basic measures of a learner's overall vocabulary knowledge but counting known lexical items is not so simple since it is important to decide what a word unit is: a word form, lemma or word family. Considering the base form of the word as one unit means that e.g. speak, speaks, speaking are counted as separate units but to store them this way in the mental lexicon might not be possible. The other option is to consider the base form of the word (lemma) and its inflected forms in the same part of speech as one unit solving the previously mentioned problem. However, Bauer and Nation argued that certain word forms with

frequently used affixes (e.g. -ble, -er, -ish) could be included in the same word family. But certain problems arise, as for instance considering speaker and speakable have different meanings and they are likely to be stored as separate units in the mental lexicon. Besides, Schmitt and Zimmerman highlighted that word families may not be viable to use for assessing productive vocabulary knowledge because without having a high level of proficiency, it is hard to know all the word forms within the word family productively [5, pp. 9-10]. In addition, Gyllstad [6, p. 19] stated that it is questionable to assume that once a member of a word family is known all the other members will be known too if one has never seen some of them.

To answer the question, of how much vocabulary should a language learner acquire in order to understand academic material is also a controversial issue. However, studies have shown that focusing on the most frequent 3,000 high frequency words provide materials for spoken discourse and reasonable text comprehension, the most frequent 5000 words allow learners to read authentic texts and to understand most of the communicative context of the text and 10,000 words allow for university study in the target language [3, 9, 17].

To approach vocabulary depth from a theoretical perspective is also difficult. The qualitative aspect of vocabulary knowledge on one hand reflects how well a particular word is known, or on the other hand, how well words are organized in the learner's lexicon reflecting the learner's ability to relate words to semantically linked words [8]. The first approach can be subdivided into the component or dimension (knowing a wide range of aspects of the word) and development approaches (attempting to capture degrees of word knowledge) [4, pp. 9-10].

In the word-centred view, Anderson and Freebody [1, p. 93] for the concept of depth provided the 'precision of meaning' definition, which means the quality of understanding the word; the difference between having a vague idea or a specific knowledge of what a word means. Within researchers who

accepted the dimension approach, Nation [16] gave the most comprehensive definition of knowing a word mentioned earlier in this paper: knowledge of various aspects of a given word such as, e.g. frequency and collocation, limitations on use, syntactic behaviour, basic forms and derivations, association with other words, semantic value. However, Schmitt has hypothesized that the different word knowledge aspects of Nation's framework are also developmental in nature as each of the aspects (spoken form, written form, meaning, grammar, collocation, register, frequency, associations) develop at different rates [24, 25].

Concerning the 'lexicon-oriented' view, Henriksen gave the first definition, where he named the depth of vocabulary knowledge as network knowledge: the ability to relate to semantically linked words. She and Meara pointed out that "the larger a learner's vocabulary size, the more strongly new words are embedded into an already existing network of words and the development of vocabulary depth involves the restructuring of the network of words" [5, pp. 9-10].

Another general approach to conceptualizing depth is the receptive (being able to comprehend lexical items when listening or reading) and productive mastery (being able to produce lexical items when speaking or writing) of an item. In connection with this statement, Read [21, p. 154] arose the question "Is there a certain minimum amount of word knowledge that is required before productive use is possible?" From the component word knowledge perspective Schmitt stated that productive mastery is more difficult and takes more time to acquire than the receptive one where knowing the form-meaning link may be enough.

An additional, newly addressed concept to understand the depth of word knowledge is to know how fluently (the ability to use that knowledge in both comprehension and production), automatically the lexical items can be used in each of the four skills.

To conceptualize vocabulary knowledge, Meara and Wolter argued that vocabulary size and vocabulary organisation is a much more productive way of looking at vocabularies than vocabulary breadth and depth. In this theory, a word that is recognised as a word in a language, but where nothing more is known about it, has no links and is not networked. If there is some knowledge gained about how the word can be used, then it develops links with other words and begins to network and the type of the links does not matter. In this conceptualization, depth of knowledge could be measured by counting the number of links in a word's network. They pointed out that if the target words are well-chosen "vocabulary size is not a feature of individual words: rather it is a characteristic of the test taker's entire vocabulary" [p. 87]. They suggested looking at features which are characteristic of a learner's whole lexicon, rather than features which are characteristic only of single words. Meara, disagreeing with Schmitt's statement about receptive-productive mastery, pointed out that: "items with the right kind of connection would become productive, while those lacking these connections would remain at a receptive level" [13, pp. 86-88].

Another critical issue stated by Gyllstad [6, pp. 20-21] is connected to the lexical items larger than one single orthographic word. In his example, the sequence of 'break a record' has two possible readings: it can be called as a free combination (destroying a vinyl record) because to understand its meaning by adding up the meanings of the individual components is possible, or it would be called a collocation, since the verb 'break' is used in a figurative, de-lexical sense in the second reading. As some lexical items behave as single orthographic words, such as collocations, maybe they should be incorporated into measures of vocabulary size.

The connection between size and depth is complex. Schmitt [25] investigated different researches from the point of view of how size and depth were measured and created seven main categories to whether they were conceptualized as: receptive vs. productive mastery; knowledge of multiple

word knowledge components; knowledge of polysemous meaning senses; knowledge of derivative forms (word family members); knowledge of collocation; the ability to use lexical items fluently; the degree and kind of lexical organization. He concluded that giving one overall theory is impossible and all aspects of vocabulary knowledge seem interrelated; the size-depth relationship depends on various factors such as the size of the learner's lexicon, on how each is measured, and the learner's first language, and this relationship should depend on one's purpose of use. After choosing the type of word knowledge to be investigated, he suggested to discuss findings only in terms of that particular type of knowledge, to consider which form-meaning level a test user wish to use and to interpret the scores not just e.g. presenting only the number of words 'known'. Schmitt also highlighted that more depth tests should be validated. Finally, for future research agreeing with Meara and Wolter, he assumed that investigating vocabulary organization would be a more productive way of looking at vocabulary knowledge.

Discovering the relationship between the two terms, related research has shown that breadth and depth of vocabulary knowledge [18, 19, 28] are interdependent. As Schmitt highlighted it is almost impossible to assess one's vocabulary size without assuming some depth of knowledge of the words tested, and vice versa, measuring vocabulary size is at the same time a measure of vocabulary depth [5, pp. 9-10]. However, most researchers and language teachers agree to separate the two terms for diagnostic purposes; many scholars assume that basic form-meaning knowledge is part of the vocabulary size knowledge construct, and that depth comes beyond this basic knowledge.

Conclusions and recommendations. As it can be seen, though several conceptualizations have been developed, there is a lack of an overall, unambiguous theory containing all of the multifarious aspects of lexical knowledge. However it can be stated, that the two concepts are interrelated and the relationship between them depends to a large degree on how each is

estimated and conceptualized. The findings of this study revealed that due to the complex nature of size and depth of vocabulary knowledge, more research is still necessary. Though, a lot of studies have dealt with word knowledge, in many cases they were investigated in connection to the first language or second language, but less research can be found in relation to the foreign language. Considering the centrality of vocabulary knowledge, future investigations could also consider how vocabulary size, but mainly depth can be employed in the four skills.

Reference List

1. Anderson R. C., Freebody P. (1981). Vocabulary knowledge. // Guthrie J. T (Ed.), Comprehension and teaching: Research reviews. Newark, DE: International Reading Association, 1981. – pp. 77–117.
2. Chapelle, C.A. Construct Definition and Validity Inquiry in SLA research. // Bachman, L.F. and Cohen, A.D. (Eds.). Interfaces between Second Language Acquisition and Language Testing Research. – Cambridge: Cambridge University Press, 1998. – pp. 32-70.
3. Cobb, T. Computing the Vocabulary Demands of L2 Reading. // Language learning and technology, 2007. – Vol. 11 – № 3, – pp. 38-64.
4. Daller, H., Milton, J., & Treffers-Daller, J. Editors' Introduction: Conventions, Terminology and an Overview of the Book. // H. Daller, J. Milton, & J. TreffersDaller (Eds), Modelling and Assessing Vocabulary Knowledge. – Cambridge: Cambridge University Press, 2007. – pp. 1-32.
5. Dóczi, B., & Kormos, J. Longitudinal Developments in Vocabulary Knowledge and Lexical Organization. – New York: Oxford University Press, 2016. – p. 240.
6. Gyllstad, H. Looking at L2 Vocabulary Knowledge Dimensions from an Assessment Perspective – Challenges and Potential Solutions. // L2 Vocabulary Acquisition, Knowledge and Use: New Perspectives on Assessment and Corpus Analysis. Eurosla Monographs Series, 2013. – Vol. 2, – pp.11-28.
7. Hanks, P. Lexical Analysis: Norms and Exploitations. – Cambridge, MA: MIT Press, 2013. – p. 462.
8. Henriksen, B. Three Dimensions of Vocabulary Development. // Studies in Second Language Acquisition, 1999. – Vol. 21, – pp. 303–317.
9. Laufer, B. (1992). How Much Lexis is Necessary for Reading Comprehension? // H. Bejoint, & P. Arnaud (Eds.), Vocabulary and Applied Linguistics. – London: Macmillan, 1992. – Vol. 48, – pp. 126-132.

10. Meara, P. The Dimensions of Lexical Competence. // Brown, G., Malmkjaer, K. and J. Williams (eds.), Performance and Competence in Second Language Acquisition. – Cambridge University Press: Cambridge, 1996. – pp. 35-53.
11. Meara, P. Review Article: The rediscovery of vocabulary. // Second Language Research, 2002. – Vol. 18, – № 4, – pp. 393-407.
12. Meara, P. Designing vocabulary tests for English, Spanish and other languages. // C. Butler, M. Gómez-González & S. Doval Suárez (Eds). The dynamics of language use. – Amsterdam: Benjamins, 2005. – pp. 271-286.
13. Meara P., Wolter B. V-Links: Beyond Vocabulary Depth. 2004. [Електронний ресурс] – Режим доступу: http://www.lognostics.co.uk/vlibrary/MearaWolter.2004.pdf
14. Nassaji, H. The Relationship between Depth of Vocabulary Knowledge and L2 learners' Llexical Inferencing Strategy Use and Success. // The Canadian Modern Language Review, 2004. – Vol. 61, – №1, – pp. 107-134.
15. Nation, I. S. P. Teaching and Learning Vocabulary. – New York: Newbury House, 1990. – pp. 275.
16. Nation, I. S. P. Learning Vocabulary in Another Language. – Cambridge University Press, 2001. – p. 478.
17. Nation, I. S. P. & Waring, W. 'Vocabulary Size, Text Coverage and Word Lists' // N. Schmitt, & M. McCarthy (Eds.), Vocabulary: Description, Acquisition and Pedagogy – Cambridge: Cambridge University Press, 1997. – p. 6-19
18. Nurweni, A., & Read, J. The English Vocabulary Knowledge of Indonesian University Students. // English for Specific Purposes, 1999. – Vol 18, – pp. 161-175.
19. Qian, D.D. Assessing the Roles of Depth and Breadth of Vocabulary Knowledge in Reading Comprehension. // Canadian Modern Language Review, 1999. – Vol 56, – pp. 282-308.
20. Qian, D.D. Investigating the Relationship between Vocabulary Knowledge and Academic Reading Performance: an Assessment Perspective. // Language Learning, 2002. – Vol 52, – № 3, – pp. 513-536.
21. Read, J. (2000). Assessing Vocabulary. Cambridge, UK: Cambridge University Press, 2000. – p. 279.
22. Richards, J.C. The Role of Vocabulary Teaching. // TESOL Quarterly, 1976. – Vol 10, – pp. 77–89.
23. Schmitt, N. Review Article: Instructed Second Language Vocabulary Learning. // Language Teaching Research, 2008. . – Vol 12, – pp. 329-363.
24. Schmitt, N. Key Issues in Teaching and Learning Vocabulary. // R. ChacónBeltrán, C. Abello-Contesse, & M. Del Mar Torreblanca-Lopéz, (Eds.) Insights into Non-native Vocabulary Teaching and Learning. – Bristol: Multilingual Matters, 2010. – pp. 28-40.

25. Schmitt, N. Size and Depth of Vocabulary Knowledge: What the Research Shows. // Language Learning, 2014. – Vol 64, – № 4, – pp. 913-951.
26. Singleton, D. M. Exploring the Second Language Mental Lexicon. Cambridge, New York: Cambridge University Press, 1999. – p 360.
27. Stæhr, L. S. Vocabulary Size and the Skills of Listening, Reading and Writing. // Language Learning Journal, 2008. – Vol 36, – pp. 139-152.
28. Vermeer, A. Breadth and Depth of Vocabulary in Relation to L1/L2 Acquisition and Frequency of Input. // Applied Psycholinguistics, 2001. – Vol 22, – pp. 217- 234.
29. Vidal, K. Academic Listening: A source of Vocabulary acquisition? // Applied Linguistics, 2003. – Vol 24, – № 1, – pp. 56-89.

Summary

The importance of vocabulary knowledge in research on language proficiency has been highlighted over the thirty years. To facilitate the understanding of lexical knowledge better, this paper takes a closer look at some of the suggestions and attempts to unravel how the different aspects of vocabulary knowledge can be described and how the terms relate to each other. From a theoretical perspective, the findings revealed that to give one, overall definition for either vocabulary size or vocabulary depth is impossible. The study also managed to define some challenges and problems in the field of vocabulary research.
Key words: vocabulary knowledge, size and depth of vocabulary knowledge, problematic issues

Резюме

Величина та глибина знань лексичного запасу: Теоретичні перспективи та виклики

Поповнення словникового запасу дуже важливо при вивченні мови. Лінгвістичні та соціолінгвістичні аспекти розвитку, збагачення словникового складу були в центрі уваги мовознавців на протязі останніх 30 років. Їх аналіз дає змогу краще зрозуміти тенденції розвитку мови взагалі. З метою кращого розуміння лексичних знань, в даному дослідженні докладніше розглянуті деякі пропозиції та спроби щодо опису різних аспектів знання лексики та як терміни стосуються один одного. З теоретичної точки зору, висновки показали, що дати єдине загальне визначення для розміру лексики або глибини знання лексики неможливо. Дослідження також дозволило визначити деякі проблеми в галузі вивчення словникового складу мови.

Ключові слова: знання лексики, величина та глибина знань лексики, проблемні питання

Величина и глубина знаний лексического запаса: Теоретические перспективы и вызовы

Пополнение словарного запаса очень важно при изучении языка. Лингвистические и социолингвистические аспекты развития, обогащение словарного состава были в центре внимания языковедов на протяжении последних 30 лет. Их анализ позволяет лучше понять тенденции развития языка вообще. С целью лучшего понимания лексических знаний, в данном исследовании подробнее рассмотрены некоторые предложения и попытки для описания различных аспектов знания лексики и соотношение этих терминов. С теоретической точки зрения, выводы показали, что дать единственное общее определение для размера лексики или глубины знания лексики невозможно. Исследование также позволило определить некоторые проблемы в области изучения словарного состава языка.

Ключевые слова: знание лексики, величина и глубина знаний лексики, проблемные вопросы

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