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A Comparative Study of Macro- and Microstructures in al-Muʿjam al-Wasīṭ, Oxford Advanced Learner's Dictionary, and Great Dictionary of the Indonesian Language: Implications for Digital Lexicography

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ABSTRACT

Background: Monolingual dictionaries serve as essential tools in applied linguistics because they construct meaning within a single language and reflect distinctive linguistic and cultural philosophies.
Objective: This study compares the macro- and microstructural designs of *al-Muʿjam al-Wasīṭ* (Arabic), the *Oxford Advanced Learner's Dictionary* (OALD, English), and the *Kamus Besar Bahasa Indonesia* (KBBI, Indonesian) to explore how their structures represent pedagogical, morphological, and normative principles.
Method: A qualitative descriptive method with content analysis was employed, analyzing *30 purposively selected equivalent lemmas* ('ilm/knowledge/pengetahuan) from the three dictionaries. The data were coded using a *content-analysis matrix* covering seven microstructural components (phonetics, grammatical labels, definitions, examples, collocations, etymology, and pragmatic notes) and three macrostructural indicators (entry system, indexing, navigation). Comparative interpretation and theoretical triangulation were used to ensure analytic validity.
Results: *al-Muʿjam al-Wasīṭ* applies a root-based macrostructure emphasizing morphological coherence; OALD employs an alphabetical and learner-centered design enriched with phonetic, collocational, and pragmatic features; and KBBI functions as a normative reference with limited microstructural depth. These distinctions demonstrate how different language ideologies shape dictionary design and usability.
Conclusion: The findings indicate that integrating Arabic morphological logic

with English pedagogical accessibility could significantly enhance Indonesian lexicography, particularly in developing a hybrid digital KBBI model suited for the AI-driven era of linguistic research and language learning.

Keywords: *Monolingual Dictionary; Macrostructure; Microstructure; Lexicography; Digital Dictionary.*

ABSTRAK

Latar Belakang: Kamus ekabahasa merupakan perangkat penting dalam linguistik terapan karena membangun makna dalam satu bahasa yang sama serta merefleksikan filosofi linguistik dan budaya yang melandasinya.

Tujuan: Penelitian ini membandingkan desain makrostruktur dan mikrostruktur *al-Muʿjam al-Wasīṭ* (Arab), *Oxford Advanced Learner's Dictionary* (OALD, Inggris), dan *Kamus Besar Bahasa Indonesia* (KBBI, Indonesia) untuk menjelaskan bagaimana struktur tersebut merepresentasikan prinsip pedagogis, morfologis, dan normatif.

Metode: Penelitian ini menggunakan metode deskriptif kualitatif dengan analisis isi, menganalisis *30 lema padanan* ('ilm/knowledge/pengetahuan) yang dipilih secara purposive dari ketiga kamus. Data dikodekan menggunakan *content-analysis matrix* yang mencakup tujuh komponen mikrostruktural (fonetik, label gramatikal, definisi, contoh, kolokasi, etimologi, dan label pragmatik) serta tiga indikator makrostruktural (sistem entri, pengindeksan, navigasi). Interpretasi komparatif dan triangulasi teoretis digunakan untuk memastikan validitas analitik.

Hasil: *al-Muʿjam al-Wasīṭ* menerapkan makrostruktur berbasis akar yang menonjolkan koherensi morfologis; OALD menggunakan rancangan alfabetis yang berorientasi pada pembelajar dan diperkaya fitur fonetik, kolokasional, serta pragmatik; sedangkan KBBI berfungsi terutama sebagai otoritas normatif dengan kedalaman mikrostruktural yang terbatas. Perbedaan ini menunjukkan bagaimana ideologi kebahasaan memengaruhi desain dan kegunaan kamus.

Kesimpulan: Temuan penelitian menunjukkan bahwa integrasi logika morfologis Arab dan aksesibilitas pedagogis Inggris dapat meningkatkan kualitas leksikografi Indonesia, khususnya dalam pengembangan model KBBI Digital hibrida yang sesuai dengan era kecerdasan buatan dan pembelajaran bahasa berbasis teknologi.

Kata Kunci *Kamus Ekabahasa; Makrostruktur; Mikrostruktur; Leksikografi; Kamus Digital.*

INTRODUCTION

Lexicography, a branch of applied linguistics, is very important for recording, describing, and teaching language. It is no longer just a list of words and their meanings; it has become a teaching tool that shows the cultural, semantic, and pragmatic aspects of communication. In this evolution, the monolingual dictionary has become one of the best tools for learning a language and doing linguistic research because it gives information about meaning, context, and grammar all in the same language.The monolingual dictionary promotes internal meaning construction by omitting translations into other languages, thereby enhancing learners' semantic and cognitive engagement with the target language.[1]

The principle underlying monolingual dictionary compilation is that each lexical item should be defined and exemplified in its own language. With this method, people may better understand the language system and the complicated network of meanings that it has.[2] The theories of al-isytikāq (meaning "derivation") and al-jadhr (meaning "root") in Arabic linguistic tradition illustrate this notion by categorizing lexical entries based on root consonants and their morphological derivatives.[3]

The Majmaʿ al-Lughah al-ʿArabiyyah in Cairo created the al-Muʿjam al-Wasīṭ, which is one of the most well-known modern dictionaries that follows this ancient root-based system.[4] This tool lets users explore word families that share a root, including ʿalima ("to know"), ʿallama ("to teach"), and taʿallama ("to learn"), by showing how the words are related and how deep their meanings are.But Western lexicographic traditions, especially those that have to do with English, value education and clarity very highly.A. S. Hornby wrote the first Oxford Advanced Learner's Dictionary (OALD), which is a classic that many people enjoy in the field of learner's lexicography. The 10th edition contains a linear alphabetical macrostructure and various microstructural characteristics, such as grammatical information, stylistic labels, sample sentences, phonetic transcriptions, and collocations.[5] Words are more than just symbols, and this methodical way of teaching shows pupils how they operate in real life. A user-centered strategy that integrates linguistic description with instructional usefulness is exemplified by OALD's design. An example of an instructional dictionary is shown here.[6] Please refer to the Kamus Besar Bahasa Indonesia (KBBI) for details on the regulations and correct use of the Indonesian language.

Since its 1988 debut, the KBBI has undergone many revisions. Everyone may now use it as a digital platform. This exemplifies the progressive nature of both language and technology. However, only a little amount of phonetic or collocational data is incorporated, and the majority of its structure is still based on a normal alphabetical system.[7] Rakhmawati [8] While KBBI's standardization function is very important, it might benefit from instructional features that help students understand pragmatic subtleties or semantic linkages. Lexical comparisons reveal that different linguistic systems and cultural understandings of meaning may be revealed by comparing the organizational principles of dictionaries from different languages and cultures.[9] A structural knowledge of meaning is constructed in Arabic lexicography via the use of morphology and derivation. Conversely, the goal of lexicography in English and Indonesian is to facilitate dictionary usage and learning. The need of updating Arabic dictionaries to serve as active learning tools rather than static storage spaces is emphasized by Ansori, Fahraini, and Firdaus.[10]

Another point made by Hanifah [11] is the need of using a root-based method to show the relationships between words in Arabic dictionaries. Both English and Indonesian dictionaries tend to comit this. The digitalization of lexicographic materials is an expanding field in Indonesia, however there are ongoing efforts to make these resources more accessible and relevant. The online KBBI is convenient, but it maintains a prescriptive paradigm rather than a descriptive or learner-centered one. According to Lecheheb [12] and Zidna Rizqia et al. [13], the need to include corpus-based data, Natural Language Processing (NLP), and perennially updated information are similar modernization difficulties faced by Arabic and Indonesian dictionaries. To fill these gaps, we should look to new global lexicographic concepts, but we should also be careful to preserve each culture's and language's distinctive features. The Arabic dictionary al-Muʿjam al-Wasīṭ, the English Oxford Advanced Learner's Dictionary, and the Indonesian Kamus Besar Bahasa Indonesia were the three monolingual dictionaries used in this study. We use macrostructural and microstructural notions to study the dictionaries, which originate from different language traditions.

However, despite valuable studies on Arabic, English, and Indonesian lexicography individually, there remains no comprehensive comparative research that systematically examines the macro- and microstructural designs of these three monolingual traditions within a unified analytical framework. This constitutes the major research gap in contemporary comparative lexicography. This study addresses that gap by connecting the morphological tradition of Arabic lexicography with the pedagogical design principles of English learner's dictionaries to inform the future development of Indonesian digital lexicography. This research analyzes and contrasts the two sources to better understand their teaching goals, lexical information structures, and dictionary definitions. This study is significant for three primary reasons. First, by comparing Eastern and Western lexicographic procedures in different languages, it shows how cultural and linguistic beliefs

affected how dictionaries were made. Second, it shows how macro- and microstructural frameworks impact how people understand words and absorb new vocabulary, which is a big step forward for applied linguistics. Third, it has ramifications for the future of practical lexicography in Indonesia, especially with the development of a monolingual online dictionary that amalgamates English syntax with Arabic morphological logic. This study aims to provide the theoretical foundation for hybrid lexicography by elucidating the structural similarities and functional disparities across the three dictionaries. Incorporating the normative authority of Indonesian lexicography, the pedagogical focus of English learner's dictionaries, and the etymological depth of Arabic dictionaries is the goal of developing this paradigm. Digital dictionary production is a dynamic area, and this study advances both theoretical discourse and practical innovation within it.

LITERATURE REVIEW

2.1 Theoretical Foundations of Lexicographic Structure

Since its humble beginnings as a word list, lexicography has seen tremendous transformation. Semantic description and instruction are now part of this applied branch of linguistics. The systematic process of selecting lemmas, arranging entries, and creating definitions has long been defined as lexicography. For the sake of internal consistency of meaning and better understanding of the linguistic system, the basic tenet of monolingual dictionaries is that every lexical item must be defined in the same language.[1]

2.2 Arabic Lexicography: Root-Based Morphology and Etymological Depth

With this concept, it is possible to comprehend semantic fields and lexical links in a single language without resorting to translation. In the second century Hijri, with the publication of Kitāb al-ʿAin, the first known Arabic dictionary, by al-Khalīl ibn Ahmad al-Farāhīdī, the scientific compilation of dictionaries in the Arabic lexicographic tradition began. This system transitioned from a phonetic arrangement centered on articulation points (*makhārij al-ḥurūf*) to one based on roots (*al-jadhr*).[14] The method that was established by the Majmaʿ al-Lughah al-ʿArabiyyah in Cairo laid the groundwork for contemporary Arabic lexicography, which included the reference work known as al-Muʿjam al-Wasīṭ. The root-based paradigm classifies words based on their morphological and etymological connection, which is called al-isytikāq (derivation), as well as their derived forms, which are based on their triliteral or quadriliteral roots. The technology aids users in recognizing semantic relationships between similar lexemes by grouping terms like ʿalima (to know), ʿallama (to teach), and taʿallama (to learn).[15] Embodying a fundamental premise of Arabic linguistics that morphology and semantics are intimately related this technique necessitates high-level language expertise.Western lexicography, especially that published in English, is characterized by a focus on ease of use. The foundation of this method is descriptive linguistics. Syarifaturrahmatullah et al. [16] demonstrate that hybrid models such as the updated editions of Al-Munawwir are beginning to integrate classical Arabic structures with modern digital expectations, offering an early example of how traditional morphology can coexist with user-oriented features. These insights further reinforce the need for a comparative framework that not only examines structural differences across dictionary traditions but also evaluates their relevance for contemporary digital lexicography

2.3 English Learner's Dictionaries: Pedagogy and Pragmatic Accessibility

A. S. Hornby's Oxford Advanced Learner's Dictionary (OALD), which he first compiled in the mid-century, is widely recognized as the premier instance of lexicography focused on learners. A very systematic and alphabetically arranged macrostructure is seen in its current versions, particularly the 10th edition (2020). The microstructure is more intricate and include things like grammatical data, examples, collocational patterns, stylistic labels, phonetic transcriptions, and real-

life instances.[7] Because of its many useful aspects, OALD is a great tool for teachers who want their students to grasp not only meaning but also use, context, and register.

2.4 Indonesian Lexicography: Standardization and Digital Challenges

The lexicography of Indonesia shifted from the colonial-era bilingual dictionaries to the national monolingual standards after independence. Since its first publication in 1988, the Kamus Besar Bahasa Indonesia (KBBI) has grown into a crucial reference work. It defines terms and their proper use as well as establishes their meaning in the nation; it accomplishes more than that, however. The digitization of KBBI, however, has lagged behind that of dictionaries used by Western students. You may get it online in its fifth version (2024), although the framework is still rather basic. To aid users in grasping context nuances, the dictionary lacks phonetic transcriptions, collocational data, and pragmatic information. Rakhmawati [8] draws attention to this shortcoming and argues that the KBBI has to rethink its microstructure in order to cater to modern users' demands for more depth and interaction.

2.5 Macrostructure and Microstructure in Lexicographic Theory

The difference between macrostructure and microstructure is the theoretical basis of lexicographic structure. Al-Farouqi states that, [15] Alphabetical order, topic indexing, and cross-referencing are all examples of macrostructure of entries. Having all of these features combined makes navigating much simpler. The root-based macrostructure, which categorizes entries according to consonantal families with comparable meanings, is still used by Arabic dictionaries such as al-Muʿjam al-Wasīṭ. For example, the root ʿ-l-m encompasses a network of concepts pertaining to understanding, instruction, and education, illustrating the interconnectedness of words in terms of their meaning. In contrast, morphologically informed readers will have an easier time navigating English and Indonesian dictionaries because to their alphabetical macrostructure. This sequential sequence is enhanced for educational purposes by the OALD by using topic labels such as "academic vocabulary" and cross-references to idioms and phrasal verbs.

The internal structure of each dictionary item is what microstructure refers to. Part of speech, pronounciation, etymology, meaning, examples of use, and collocations are all often included. [17] The normal microstructures of Arabic dictionaries are often brief and center on the basic meaning (*al-maʿnā al-aṣli*) and its derivative meanings (*al-maʿnā al-musytaqq*). They fail to provide enough illustrations. Conversely, OALD and other modern learner's dictionaries demonstrate a learner-centered perspective by concentrating on real-world examples and practical features. Both the meaning of words and their practical application may be enhanced with the aid of collocations and usage notes.

2.5 Research Gap and Theoretical Positioning

Although significant studies have examined Arabic, English, and Indonesian lexicography individually, there remains a lack of integrated comparative research that systematically analyzes how macrostructural and microstructural principles operate across these three monolingual traditions. Existing scholarship highlights challenges in Arabic digital lexicography, limitations in the microstructure of KBBI, and the pedagogical strengths of English learner's dictionaries. However, these findings have not been synthesized into a unified theoretical model that explains how morphological precision, pedagogical clarity, and digital innovation may be combined to inform the future development of Indonesian lexicography. To map the theoretical landscape more clearly, Table 1 synthesizes key studies that address structural, pedagogical, and digital issues in Arabic, English, and Indonesian dictionaries.

Table 1. Synthesis of Key Literature on Lexicographic Development

Author(s)	Focus of Study	Key Findings	Relevance to Present Study
Ansori et al. [10]	Modernisation of Arabic dictionaries	Need for pedagogical and learner-oriented approaches	Supports the need for innovative instructional design in future dictionaries
Rakhmawati [8]	Microstructural analysis of KBBI	Lack of phonetic, collocational, and pragmatic data	Demonstrates structural limitations of KBBI
Lecheheb [12]	Digitalisation of Arabic dictionaries	Need for NLP and corpus integration	Aligns with global trends in digital lexicography
Zidna Rizqia et al. [13]	Arabic–Indonesian digital dictionary	Online platform limitations and lack of dynamic updating	Reinforces the urgency of revising KBBI for modern use

These studies collectively highlight the need for a hybrid lexicographic model that integrates morphological precision, pedagogical richness, and digital innovation precisely the conceptual gap this research aims to address. This theoretical positioning establishes the foundation for the present study, which conducts a triadic comparison of *al-Muʿjam al-Wasīṭ*, OALD, and KBBI to formulate design principles for a next-generation Indonesian digital dictionary.

METHOD

3.1 Research Design

This research uses content analysis as its fundamental framework. It takes a qualitative-descriptive technique. The purpose of this study is not to collect quantitative data, but to better understand the structural patterns, meanings, and connections between dictionaries from various linguistic traditions; hence, the qualitative paradigm is more appropriate. Content analysis is a systematic and repeatable method of categorizing large amounts of text data according to well specified coding criteria, as stated by Krippendorff.[1] Without changing the overall meaning of the words, the researcher may be able to comprehend and categorize dictionary entries based on their structural components. This research mainly aims to provide light on the macro and microstructure of lexicographic designs. Whether the items are organized by form or alphabetically, this is what the macrostructure is all about. Phonetics, grammatical labels, etymology, definitions (*al-taʿrīf* [التعريف]), occurrences (*al-amṡilah* [الأمثلة]), collocations, and pragmatic information are all addressed by the microstructure of each entry. The study's overarching goal is to demonstrate, via comparison, how dictionaries grounded in the Arabic, English, and Indonesian language frameworks handle the operational dynamics of these two aspects. The three main dictionaries were chosen as the main sources of data because they display varied traditions in monolingual lexicography. The research was conducted over a sixth-month period (January–June 2025), including data collection, coding, comparative analysis, and synthesis

3.2 Data Sources and Selection Criteria

The Majmaʿ al-Lughah al-ʿArabiyyah published the first one in Cairo, which is al-Muʿjam al-Wasīṭ. It is a prime example of the root-based Arabic lexicographic tradition. The second is the 10th edition (2020) of the Oxford Advanced Learner's Dictionary (OALD), which was produced by Oxford University Press. It exemplifies the Western learner-centered approach to instructional lexicography. The third is the fifth version (2024) of the Kamus Besar Bahasa Indonesia (KBBI), which the Indonesian Ministry of Education, Culture, Research, and

Technology put together. It is the country's official dictionary. We chose these three sources not only because they have different languages, but also because they each reflect one of three main lexicographic philosophies: morphological, pedagogical, and normative. The procedure of collecting data was done in a succession of processes that were all linked together. The first thing to do was to write down and keep track of examples of words from each dictionary. Words that imply the same thing were picked, such as ʿilm (knowledge) in Arabic, knowledge in English, and pengetahuan in Indonesian. The entries were examined to determine both the macrostructural organization (entry sequence, root structure, indexing) and the microstructural components (phonetic transcription, grammatical categorization, definition type, instances, collocations, and etymology). A total of 30 lemma pairs were selected using purposive sampling. The criteria included: (1) semantic equivalence across Arabic, English, and Indonesian; (2) high-frequency conceptual words; and (3) representation of various morphological patterns.

3.3 Data Collection and Coding Procedure

The next thing to do was to code and systematically identify the structural qualities. The criteria used to evaluate each item in the dictionary are based on lexicographic theory. In order to visually represent the connections and differences across the dictionaries, the data was then grouped into comparison tables. Last but not least, the researcher placed the data in the perspective of modern lexicographic and pedagogical concepts via interpretive analysis. The data analysis procedure used in this study is an integrated four-step method. As a preliminary step, we must narrow the data set down to just the most relevant items and structural details, excluding any irrelevant information. Next, we need to categorize the observed features into two main categories: macrostructure and microstructure. Classification describes this process Comparative interpretation is the third stage. Here, we compare and contrast the various dictionaries to see where they overlap and where they diverge. As an example, the research contrasts the triliteral root system (*al-jadhr* [الجذر]) used by al-Muʿjam al-Wasīṭ with the alphabetical systems used by OALD and KBBI. In the next step, known as theoretical synthesis, we consider the observed patterns in light of prior research in order to generate new ideas and approaches to instruction.

3.4 Data Analysis and Validation Strategies

Quality and validity of qualitative findings are of the utmost importance in this kind of research. Consequently, three strategies were used. The first method is known as source triangulation, and it involves verifying the findings using secondary academic literature in Arabic, English, and Indonesian lexicography, as well as checking them against three separate dictionaries. Second, all three dictionaries must be analytically consistent by making use of the same coding matrix and same table architecture. This consistency ensures that the results may be reproduced without any bias. Finally, theoretical verification ensures that the results are understandable in a way that is consistent with the lexicographic concepts put forward by Firdaus et al.[10] In addition, Al-Qarni.[15] The methodological framework of this research is defined by an iterative process of observation and interpretation. The first thing a researcher should do is look for appropriate entry examples. Their ordering, indexing, and linkages are examples of macrostructural traits; their definitions, phonetic transcriptions, sentence usage, and collocations are examples of microstructural features.

We examine the interconnections between the various layers to find out how the structure enables the dictionary to accomplish its primary objective, which might be to instruct, define, or establish criteria. After then, the views and lexicographic norms of all the various language groups are brought together to provide a whole picture. This research focuses only on the textual and structural features of dictionaries, ignoring their sociolinguistic and pragmatic applications. This study does not include any studies that examine user behavior or usability testing. Only authentic printed and digital editions of the dictionaries were used in the research to ensure the data's

correctness. In addition to triangulation and theoretical verification, peer debriefing was conducted with academic colleagues to ensure analytical consistency. Member checking in this study was implemented in the form of expert review, in which interpretations of macrostructural and microstructural features were discussed with specialists in lexicography to confirm the accuracy of the analytical framework.

3.5 Ethical Considerations and Research Scope

This study relies exclusively on published dictionaries that are open for academic use. All data are used for analytical purposes only and are fully cited according to academic standards. Because this research does not involve human participants, ethical approval was not required. The primary purpose of this study is not to evaluate the product's efficacy for consumers, but rather to provide the framework for future conceptual and descriptive studies. Despite these caveats, a comprehensive examination of the ways in which macrostructural structure and microstructural detail interact to influence dictionary functioning may be accomplished using this rigorous and flexible analytical method. Theoretically, this study strengthens lexicography, and practically, it offers guidance for the creation of digital monolingual dictionaries that strike a good balance between technical accessibility and historical linguistic depth through the use of content-based interpretation and comparative analysis.

RESULT AND DISCUSSION

4.1 Result

The findings reveal that al-Muʿjam al-Wasīṭ, the Oxford Advanced Learner's Dictionary (OALD), and the Kamus Besar Bahasa Indonesia (KBBI), three monolingual dictionaries, have certain commonalities but also have some significant differences. These distinctions stem from the fact that they are produced inside distinct conceptual and organizational contexts. The research continues by exploring the two crucial components of lexicographic structure: macrostructure and microstructure. What follows is an analysis of the ways in which these elements impact pedagogy and student achievement.

Macrostructural Analysis

The macrostructure of the dictionary dictates the organization of words and sentences as well as the navigation of an information system. According to Nielsen, the organization of lemmata is just one part of the lexicographic macrostructure (1990). The appendices, user's guide, and preface all contribute to the system's overall structure and make it a complete dictionary.[18] The compiler's linguistic notions are laid bare, whether they are based on alphabetical order, thematic organization, or morphology. An examination of the three systems reveals that al-Muʿjam al-Wasīṭ is morphology-driven, OALD is an alphabetical model that prioritizes schooling, and KBBI is organized based on normative criteria that prioritize language norms. [19]

Table 2. Comparative Overview of Macrostructural Features

Aspect	*al-Muʿjam al-Wasīṭ*	*Oxford Advanced Learner's Dictionary*	*Kamus Besar Bahasa Indonesia*
Entry System	Root-based (*al-jadhr* [الجذر])	Alphabetical	Alphabetical
Indexing	Limited thematic indexing	Extensive (idioms, phrasal verbs)	Limited thematic list
Navigation Mode	Print or PDF-based	Digital and hyperlinked	Online search-based
User	Scholarly and	Pedagogical and learner-	Normative and

Orientation	etymological	centered	prescriptive
Primary Function	Explains derivational families	Enhances learning and comprehension	Regulates standardized usage

The study demonstrates that al-Muʿjam al-Wasīṭ adheres to the conventional lexicographic principle in Arabic, which is to classify words according to their triliteral or quadriliteral roots.Meaning and structure are closely linked in this system, which embodies the essence of Arabic morphology (i).[20] In a number of words related to knowledge are derived from the root ʿ-l-m (ع-ل-م), including *ʿalima* ("to know"), *ʿallama* ("to teach"), and *taʿallama* ("to learn"). The ability to map morphological and semantic networks is a great feature of this technology. Because of this, users can observe the relationships between words from different families.[21] Despite its accessibility, it is challenging to quickly find entries. Those unfamiliar with Arabic morphology may find this problematic.

But the OALD is a utility-first alphabetical macrostructure, so it's not all bad. Its digital versions also include smart search engines, cross-references, and subject grouping for comparable elements like idioms and phrasal verbs. By simplifying the process of finding terms with similar meanings or usages, the method makes learning more enjoyable. Macroscopic organization in modern lexicography may be even more useful for instruction with the addition of features like "Wordfinder" boxes and topic appendices. [22] is a While both systems use alphabetical order, the KBBI is far more rigid and unbending. Although KBBI Daring's online platform has better search capabilities, it lacks semantic linking and dynamic cross-referencing. Conversely, KBBI is designed to be a tool for controlling language use to ensure it adheres to standards. So, rather than encouraging users to freely explore, its macrostructure prioritises norms and order.

A comparative mapping of macrostructural features shows that OALD offers the richest navigation and support tools, al-Muʿjam prioritizes morphological logic, and KBBI retains the sparsest expansions due to its normative orientation. It is clear from these differences in macrostructure that different dictionaries have different views on language and culture. [22] is a There is a strong focus on morphological integrity in Arabic lexicography, functional pedagogy in English lexicography, and linguistic uniformity in Indonesian lexicography. Integrating these ideas into a more all-encompassing digital framework is the problem for modern lexicography. According to Lew (2024), lexicography's expansion, spurred by digital and AI technologies, has started to transcend traditional linear macrostructures. Better dictionaries that are both dynamic and coherent in terms of their semantics have emerged as a consequence, allowing them to meet the needs of a wider range of languages and classrooms.[23]

Microstructural Analysis

The microstructure represents the internal composition of each entry, the level where the dictionary communicates meaning most directly to its users. This includes phonetic representation, grammatical category, definition type, usage examples, collocational patterns, and etymological notes.[24] Comparative observation reveals that each dictionary prioritizes different microstructural elements according to its intended function.

Table 3. Comparative Overview of Microstructural Elements

Element	*al-Muʿjam al-Wasiṭ*	OALD (10th Edition)	KBBI (5th Edition)
Phonetic Representation	Diacritics (*ḥarakāt*) only	IPA transcription + audio	Not available
Grammatical Label	Minimal (root category)	Full (noun, verb, adjective, etc.)	Basic POS only
Definition Type	Concise and	Contextual and graded	Denotative, minimal

	etymological		illustration
Example Sentences	Rare or absent	Authentic contextual sentences	Very limited
Collocations	Absent	Extensive (with usage notes)	Not included
Etymology	Occasional	Comprehensive	Absent
Pragmatic Labels	None	Formal, informal, academic	Rare ("cak." for colloquial)

The findings demonstrate that the microstructure of al-Muʿjam al-Wasīṭ is concise and rooted in etymology, with an emphasis on the core meaning of every word. It doesn't always provide you with helpful labels or teach you how to use things. Conversely, the OALD contains copious amounts of phonetic data, context-dependent meanings, real-life instances, and collocational information. Its emphasis on the learner is evident from this. Santos and Patel [17] agree with this. They claim that modern dictionaries can't just focus on language and grammar if they want to be useful for teaching and research purposes.

One model that organizes the microstructure into various semantic levels, such as lexeme, phraseme, sense field, and lexical unit, is the Phrase-based Active Dictionary (PAD) model that DiMuccio-Failla and Giacomini (2022) produced. Genuine phraseological patterns may be used to provide users with contextualized meaning.

A notion already represented in modern learner's dictionaries like OALD [25] is the relevance of collocational and syntagmatic structures as the true bearers of meaning, according to their paradigm, which is informed by Sinclair's and Hanks's corpus-driven theories. Although KBBI's microstructure is straightforward, it serves normative description purposes well. Limitations in its ability to educate include a lack of phonetic transcription, collocational data, and pragmatic labeling. A more effective instrument for language regulation than a learning tool, KBBI is less useful for second language acquisition, according to Rakhmawati.[8] According to Tarp's lexicographic usability theory, a dictionary must satisfy users' *objective needs* in specific consultation situations. In this sense, the absence of collocational information in KBBI reduces its usability for learners, as it limits their ability to understand and produce contextually appropriate language.[26]

Since OALD provides lexical information on meaning, sound, grammar, and usage in more than one method, it boasts the most complete microstructure. Meaning that changes based on the context is essential for students of second languages.[27] However, unlike Western dictionaries, Al-Muʿjam al-Wasīṭ excels in illuminating the semantic and morphological intricacy of the triliteral system in Arabic.

4.2 Discussion

Functional and Pedagogical Discussion

The comparative findings reveal that the primary educational and communicative objectives inform the structure of each dictionary. Scholars, linguists, and native Arabic speakers who are proficient in using the root-based method are the intended users of Al-Muʿjam al-Wasīṭ. That is in agreement with the claims made by Parida et al. (2025) that root-based dictionaries are more suitable for advanced or expert users due to the high level of knowledge about morphology and the rules of ṣarf required to use them effectively.[28] Also, according to Rahimadinullah et al. (2022), digital advances are necessary to make root identification and study simpler since root-based methods enhance shrub knowledge and preserve morphological depth but are difficult for beginners to grasp.[29] Preserving linguistic heritage and the internal consistency of the Arabic language is its primary goal, rather than pedagogy. [30] Conversely, the OALD represents a novel approach to modern lexicography. Its layout integrates pedagogy with descriptive linguistics.

Students may improve their communication skills via the integration of phonetic transcription, usage examples, and collocational patterns. Firdaus et al. [10] say that how beneficial a dictionary is based on how well it can meet the demands of its users. OALD achieves this by including educational ideas in every part of its structure. Further evidence on the role of instructional design in language learning is presented by Rokhim et al. (2023), whose development of interactive listening media using Articulate Storyline significantly improved learners' comprehension and engagement. With expert validation reaching 97% and student response scores of 94%, their study demonstrates that clear audio-visual input, intuitive navigation, and user-centered interactivity can enhance learning outcomes. Although not directly related to dictionary use, these findings reinforce the argument that language-learning resources including digital dictionaries must adopt more interactive and pedagogically oriented features to support users effectively.[31] But the main job of KBBI is to be a reference for other resources. It respects the standards of Indonesian grammar, meaning, and spelling. But this role needs to evolve now that we live in a digital world. Some things that may make the dictionary easier to use include annotations based on language corpora, data on how often words are used, and updates in real time [32] These changes would make KBBI helpful for both training and regulation by giving it new features. These differences make it clear that no global model can address the needs of language and education correctly. As an example, the Arabic model is well-suited to detailed analysis and exact structure, the English model to effective communication within suitable context, and the Indonesian model to the creation of national standards.A promising approach to lexicographic development, especially in Indonesia, would be to merge the morphological precision of Arabic dictionaries with the instructional dynamism of ESL dictionaries. Pedagogically, these structural differences imply that each dictionary fulfills different instructional needs. Al-Muʿjam al-Wasīṭ supports analytical and morphology-based learning, OALD facilitates communicative competence through contextualized examples and collocations, while KBBI enhances metalinguistic awareness and standardization. Incorporating these complementary strengths into digital lexicography courses could train students to evaluate dictionary usability, compare structural logics, and understand the ideological foundations of different lexicographic traditions.

Implications for Digital Lexicography

This comparative study will have far-reaching effects on digital lexicography beyond structural analysis. In the age of artificial intelligence, according to Lecheheb [12], corpus linguistics, automated morphological analysis, and user-adaptive interfaces are necessary to make dictionaries more helpful.

An online dictionary needs to be more like an ecosystem, constantly adapting to new information and interacting with linguistic data, rather than a static database. There are three major developments in Indonesian lexicography that could be useful to KBBI down the road. [33] To begin with, rather than only looking for individual entries, morphological search algorithms grounded in al-Muʿjam al-Wasīṭ would allow users to discover word families and derivational networks. Second, including OALD-style phonetic, collocational, and pragmatic information will greatly facilitate language learners' use. Thirdly, actual examples from various current Indonesian registers should be provided via corpus-based contextualization. Siagian et al. (2023) found that digital dictionaries for Indonesian language learners (ILF) need to be bilingual and based on a corpus. ILFs need resources that include phonetic information, affixation patterns, sentence examples, and contextualized usage. The suggested improvements are in line with these needs. Their findings suggest that the current KBBI still has a way to go before it can effectively assist beginners and non-native users with contextual information retrieval and user-centric features. According to their research, KBBI might be improved for native and non-native speakers by including digital search capabilities and statistics on high-frequency words into its structure.[34] If KBBI were used this way, it would become more than just a series of rules; it would be a useful

tool to learn.

Hybrid lexicography, which comes from comparing different things, makes this kind of progress possible. It blends the accuracy of earlier systems with the usefulness and engagement of modern digital platforms.Future multilingual dictionaries might adopt elements from the English learner-centric approach and the Arabic root-based logic. Finally, the findings of this study illustrate that substantial linguistic ideologies are manifested in the technical decisions made during both macro- and microstructural design. The al-Muʿjam al-Wasīṭ exemplifies the pursuit of morphological consistency in Arabic, the OALD illustrates the educational philosophy of English lexicography, and the KBBI signifies the cultural and normative priorities in Indonesian language planning. It is essential to understand and combine these different methodologies in order to create new lexicographic models that are linguistically sound, useful for teaching, and compatible with modern technology.

Future research should involve quantitative analyses such as measuring the frequency of microstructural components (e.g., percentage of entries containing IPA, examples, collocations) and conducting usability testing to determine the efficiency and accuracy of lookups across different dictionary models. Such empirical data would provide stronger validation for structural comparisons and guide the development of more user-adaptive digital dictionaries. Advances in AI-driven lexicography also open new pathways for integrating automated semantic mapping, adaptive user interfaces, and frequency-based learning features, aligning dictionary design with intelligent tutoring systems and personalized learning environments. In the Indonesian context, enhancing KBBI with corpus-based examples, lexical frequency lists, affixation breakdowns, audio features, and multi-register usage would significantly improve its pedagogical functions. Such improvements would transform KBBI from a static normative repository into a dynamic learning tool accessible to both native and non-native learners.

CONCLUSION AND IMPLICATION

The research concluded that a monolingual dictionary's effectiveness is based on how well its macrostructure and microstructure work together. Al-Muʿjam al-Wasīṭ shows how precise Arabic lexicography is by employing its root-based technique (al-jadhr), which shows how words in the same family are related in meaning. The Oxford Advanced Learner's Dictionary (OALD) is one example of a current English dictionary that is easy to use. It achieves this by using phonetic transcription, collocations, and examples from real life. The Kamus Besar Bahasa Indonesia (KBBI) does not provide nearly as much instruction as OALD, but it does promote linguistic norms. The differences amongst these dictionaries show that they all have different ideas about culture and how it might be used in real life.

Indonesian lexicography maintains normative authority, Arabic lexicography emphasizes morphological coherence, while English lexicography concentrates on user-centered learning. This study proposes a hybrid paradigm to enhance Indonesian lexicography by integrating the educational rigor of English, the cultural authenticity of Indonesian, and the morphological structure of Arabic.

Overall, the findings indicate that dictionary effectiveness depends on the balance between macrostructural organization and microstructural richness. Al-Muʿjam al-Wasīṭ excels in morphological coherence, OALD in pedagogical accessibility, while KBBI remains normatively strong but instructionally limited.

The future of dictionary creation will include digital integration. The dictionary becomes more informative and interactive through morphological search engines, corpus-based examples, and AI-powered updates. A contemporary KBBI Digital may therefore serve not only as a normative repository but also as a powerful educational instrument that supports language learning

and revitalization.

The findings support the development of a hybrid KBBI Digital model that integrates Arabic-style root-based search, English-style pedagogical microstructure (phonetics, collocations, pragmatic labels, examples), and Indonesian normative authority. Such a model would strengthen both linguistic standardization and pedagogical usability.

Future research is encouraged to test this hybrid model through empirical methods such as usability testing, eye-tracking, and task-based user performance studies. Integration with NLP technologiessuch as automatic morphological parsers and corpus-driven example extraction—can further enhance the learning potential of Indonesian digital lexicography.

Limitations of the present study include the restricted number of dictionaries analyzed and the focus on selected entries. Therefore, the generalization of findings should be approached cautiously. Further research should expand the dataset, include multiple editions and digital variants, and examine user patterns across different proficiency levels to strengthen the external validity of the conclusions.

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