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Research article discussion moves and steps in papers on medicine: academic literacy and respect for readers

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Abstract. Discussion section of a research article (RA) is an essential part of a paper where findings are interpreted and built into a broader context. This study looks at a corpus of 64 discussion sections from medical RAs. Using move analysis we examine texts produced by four groups of writers: (1) native English speakers (n=16), (2) non-native English speakers using English as a Lingua Franca (ELF) to communicate their research (n=16), (3) Russian authors employing ELF to communicate research in international journals (n=16), and (4) Russian authors publishing in ELF with Russian journals listed in international databases (n=16). In line with the Al-Shujairi et al.'s (2019) model of the Discussion section of medical RA, we identified nine moves. Three of these moves include steps, implying a more structured and detailed approach. Furthermore, an additional third step (Strengths) is identified in Move 7 in our corpus, indicating a preference among authors to further highlight effectiveness of their arguments. This study describes discrepancies between Russian authors' approach to writing a Discussion section and the conventional rhetorical structure of medical articles. For scientific writing to integrate into English-medium scholarly community, it is imperative that authors rely on accepted rhetorical moves and steps. This way academic English functions as a lingua franca, ensuring effective global academic communication.

Keywords: Academic Lingua Franca; Research articles; Discussion section; Communicative moves; Communicative steps; Disciplinary variation; Academic literacy

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Риторические ходы и шаги в секции «Дискуссия» исследовательской статьи по медицине: академическая грамотность и уважение к читателю

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Аннотация. Секция «Дискуссия» – ключевой раздел научной стати, в котором результаты исследования интерпретируются и встраиваются в более широкий научный контекст. Настоящее исследование изучает корпус из 64 разделов «Дискуссия» медицинских статей. Используя риторический анализ, мы исследуем тексты четырех групп авторов: (1) англофоны (n=16), (2) не носители английского языка, использующие английский как лингва франка для описания исследования (n=16), (3) российские авторы, которые пользуются английским как лингва франка для публикации исследования в зарубежном журнале (n=16), (4) российские авторы, которые публикуют статьи в российских журналах, издаваемых на английском языке и индексируемых в международных базах данных (n=16). Аналогично модели Аль-Шуйяири и др. (2019), описывающей раздел «Дискуссия» медицинской научной статьи, мы выделили девять ходов. Три из них дробятся на шаги, подразумевая более структурный и детальный подход. Более того, на основе нашего корпуса в Ходе 7 был выделен дополнительный шаг (Сильные стороны), что свидетельствует о желании авторов подчеркнуть сильные стороны их исследования. Настоящая статья описывает различия в подходе российских авторов к написанию секции «Дискуссия» и общепринятой риторической структурой медицинской статьи. Для интеграции в англоязычное исследовательское сообщество научное письмо должно придерживаться принятых риторических моделей. Таким образом академический английский становится лингва франка и обеспечивает эффективную международную научную коммуникацию.

Ключевые слова: Академический лингва франка; Научная статья; Секция Дискуссия; Коммуникативный ход; Коммуникативный шаг; Дисциплинарные различия; Академическая грамотность

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Introduction

In the recent decades, the global spread of academic knowledge is fully dependent upon the quality of the English language and the requirement to the RAs (research articles) structure. Publishing in English in high-quality journals has become a common benchmark among non-Anglophone academia. International journals are focused on following the standards of academic writing in English thus making it essential for accepting manuscripts for further publication.

Unfortunately, for most non-Anglophone writers their inability to understand and follow the conventional RAs structure can become problematic. Moreover, even if the authors design their manuscripts dividing them into IMRAD sections they often fail to convey the necessary content through appropriate rhetorical organisation of the RA. The quality of argumentation in RAs is closely connected to its rhetorical organisation. That is why it becomes crucial to strengthen the author's point of view by empirical evidence. This can be achieved through strict adherence to the models of moves and steps according to the RAs section.

ELF as a means of communicating research

The use of English as a Lingua Franca (ELF) as well as ability to engage in academic argumentation is pivotal in communicating research. The difficulties of articulating an effective argument and inability to follow rhetorical patterns or standards of academic discourse often become an obstacle for non-Anglophone writers when they try to have their research published. It starts with the stage of reviewing when non-Anglophone writers are criticised for their failure to present the results of their research clearly and critically. Moreover, ineffective English language also hurdles the publication process and deprives non-Anglophone writers of being read and cited.

ELF mainly used in academia does not coincide with English as a national language and an element of national culture (Faber, 2010). ELF is expected to be comprehensible and at the same time maintain the presence of other languages in one way or another, exerting an influence on the way the common language is used (Mauranen, 2017). The non-native speaker of English is not supposed to achieve an extremely high level of proficiency in the language, since ELF appears to be a vehicular language enabling non-natives to communicate their research. This way, to the forefront comes their ability to implement their academic writing skills and knowledge of academic conventions. Failure to meet the requirements leads to the insufficient argumentation and limited ability to participate in academic discussion. Potential to communicate via their manuscripts is inextricably linked to the skill of the non-Anglophone writers to leverage rhetorical organisation through following moves and steps of a RA realising the necessity of each component and applying the knowledge of ELF. The possibility of misinterpretations and misunderstandings in delivering the research in English by the non-Anglophones makes it essential to resort to some preventive strategies like rhetoric and enhanced explicitness (Mauranen, 2006).

Previous research on rhetorical organisation of RAs

Exploring rhetorical structure of the RA, Swales (2004) defined move in genre analysis as a discoursal or rhetorical unit that performs a coherent communicative function in a written or spoken discourse. Moreover, Pho (2009: 17) mentioned that there was its own communicative purpose in each move,

and combined, these moves contributed to the general communicative purpose of the text. In move analysis, any section is considered as a series of moves within the general patterns of the text and all the moves together serve the overall communicative purpose of the genre (Fazilatfar and Naseri, 2014), steps being lower level parts of moves which fulfil the communicative function of the move to which they belong (Swales, 1990). Move can be a sentence or group of sentences or even a paragraph serving one or multiple functions in the text. Step is a very specific rhetorical means that is employed to reveal and realise multiple functions of a move.

Most of the studies about the Introduction section (Swales, 1990; Swales, 2004; Samraj, 2005; Cortes, 2013) were focused on the implementation of Swales' Create a Research Space (CARS) model (Swales, 1990) where each move serves the communicative purpose of the article introduction. Examining an Abstract section, Samraj (2005), Jiang and Hyland (2017), Xiao et al. (2022) state that this section reflects all the moves in full RA (Swales, 1990; Hyland, 2000). Disciplinary variations of RA abstracts revealed that even in the case of shared moves, the frequencies of occurrence may be different across disciplines and some of the moves become optional (Darabad, 2016; Xiao et al., 2022). Alhuqbani (2013), Musa et al. (2015), Tawalbeh (2021) scrutinised the disciplinary differences between RA abstracts in terms of their adherence to the existing models.

Research on the Method section also reflects different patterns of rhetorical structure for different disciplines (Kanoksilapatham, 2003; Peacock, 2011). Interestingly, for medical RAs and sociological RAs, similar main moves in Method Section were identified aiming at describing the process of data collection, concepts and variables in the study, statistical techniques of data analysis (Brett, 1994; Nwogu, 1997; Musa et al., 2015). Method section in engineering and biochemistry RAs is an integral section and needs detailing methodological procedure (Kanoksilapatham, 2005; Lim, 2006; Huang, 2014; Musa et al., 2015).

The Result section is considered to be a thoroughly constructed discourse aimed at persuading the readers of accuracy and validity of the scientific facts thus forming the ground for peculiar claims in the field (Gao and Pramoolsook, 2021). The organisational patterning of this section is highly dependent on the discipline (Brett, 1994; Yang and Allison, 2003; Lim, 2010; Gao and Pramoolsook, 2021). The scholars exploring the RA results section insist that there is a difference in the number of moves and section headings according to the subject area. Yang and Allison (2003) found out that the Result section in applied linguistics empirical RAs is cyclical and briefly comments on the findings. Brett (1994) stated the communicative categories of the Research section in sociological articles is based on the previous research and showed that there are certain similarities with Discussion sections of Science RAs. He also confirmed that the main difference across the disciplines appeared to be in the Method s and Results sections, and not in the Introduction and Discussion as it was expected (Brett, 1994). Moreover, some research shows that the Results section can be combined with the Discussion one. Such an approach is based on the point that the Discussion section starts with elaborating the results and explaining the outcomes within the existing literature (Irawati, 2022) thus merging the two sections.

Moves and steps in RAs Discussion section

Swales (1990) stated that the rationale for the genre designs the schematic structure of the discourse, influences and limits the choice of content and style. Communicative purpose is both a privileged criterion and one that operates to ensure that the framework of the genre is narrowly focused on comparable rhetorical action (Swales, 1990: 58).

Discussion section in RAs appears to be the most challenging. Scholars have proposed the schematic structures of the RA Discussion

section for several decades. They explored various corpora in a number of disciplines: sociology (Brett, 1994), biology (Hopkins and Dudley-Evans, 1988), biochemistry (Kanoksilapatham, 2005), physics, biology, environmental science, business, language and linguistics, public administration, and law (Peacock, 2002; Thanajirawat and Chueanongthon, 2022), dentistry (Basturkmen, 2012), medicine (Smith, 1984; Nwogu, 1997; Huang, 2014; Fernández, 2016; Al-Shujairi et al., 2019, 2020), applied linguistics and language teaching (Yang and Allison, 2003; Basturkmen, 2009; Irawati, 2022).

Previous research has revealed several models studying rhetorical patterns of Discussion section. The model proposed by Hopkins and Dudley-Evans (1988) presented RAs discussion sections as cyclical in terms of the choice of moves. Having investigated and extended the Swale's approach to a study of a Discussion section, the authors described eleven moves: Move 1: Background Information, Move 2: Statement of Result (S.O.R.), Move 3: (Un)expected Outcome (the writer comments on whether the result is expected or not), Move 4: Reference to Previous Research (Comparison) (the writer compares his or her result with those reported in the literature), Move 5: Explanation of Unsatisfactory Result (the writer suggests reasons for a surprising result, or one different from those in the literature), Move 6: Exemplification (the writer gives an example to support his or her explanation), Move 7: Deduction, in which the writer makes a claim about the generalisability of the particular results, Move 8: Hypothesis, in which the writer makes a more general claim arising from his experimental results, Move 9: Reference to Previous Research (Support) (the writer quotes previous work to support his or her deduction or hypothesis), Move 10: Recommendation, in which the writer makes suggestions for future work, Move 11: Justification, in which the writer justifies the need for the future work recommended. They stated that clear cyclical patterning in the writer's choice of moves appeared to be crucial and focused on the only one compulsory move – Statement of Result that can occur several times at the beginning of each cycle (Hopkins and Dudley-Evans, 1988; Ruiying and Allison, 2003; Irawati, 2022).

Later this model was modified (Holmes, 1997; Peacock, 2002) taking into account the differences in corpora from various disciplines and revealing the different number of moves and move cycles (Gao and Pramoolsook, 2021). Basturkmen (2012), having studied move-step structure in dentistry research, defined and commented on two patterns of argumentation in commenting moves: one centred on explanations and the other centred on comparisons and evaluations. Dujsik (2013) adopted Peacock's (2002) revised model in analysing move-step structure of applied linguistic RAs and suggested intra-disciplinary variations within this field. Maswana et al. (2015) studied rhetorical structure of engineering RAs and found out that related studies deal with subdisciplinary variations.

Nevertheless, Ruiying and Allison (2003) criticised Hopkins and Dudley-Evans' (1988) framework for being a single-level scheme of analysis (move) and proposed a two-level scheme (moves and steps) of the RA Discussion section. Their hierarchical seven-move framework with a number of steps implementing some of the moves still included all the features identified by Hopkins and Dudley-Evans (1988). The move 'Commenting on Results' due to its frequency of occurrence in the RA Discussion section turned to be an obligatory move while 'Reporting Results' and 'Summarising Results' were less frequent and considered as quasi-obligatory (Yang and Allison 2003; Soodmand Afshar et al., 2018). They also identified three optional moves in the Discussion section: 'Summarising the Study,' 'Evaluating the Study,' and 'Deductions from the Research'.

Research on the rhetorical structure of the Discussion section in medical RAs is still scarce. Al-Shujairi et al. (2020) insisted that

the Discussion section draws the attention of not only the discourse community but also the ordinary people. In their research (Al-Shujairi et al., 2019) they took Peacock's model (2002) of eight moves and adopted it. As Peacock's framework was based on the analysis of papers from both soft and hard sciences it was considered as a suitable one for medical RAs. As Peacock's model had only moves, Al-Shujairi et al. (2019) introduced several steps that can contribute to the communicative purpose of a move due to its communicative function. The rhetorical structure of the medical RAs Discussion section based on Peacock's (2002) model of rhetorical moves identified 9 moves (Al-Shujairi et al., 2019). Still, there are 7 moves (Concluding Information, Background Information, Findings, Explanation, Expected or Unexpected Outcome, Reference to Previous Research and Claim) seen as obligatory and conventional in medical RAs. This might indicate that researchers in medicine pay more attention to writing their Discussion section following more conventional moves and only few optional compared to RAs Discussion sections in other disciplines. The reason could be the multiple authors of research articles in the field of medical science. What is more, Move 7: Concluding Information involved the presentation of two steps (limitation and recommendation) and turned out to be an obligatory move in medical RAs proved by 100% occurrences (Al-Shujairi et al., 2019). Scholars believe that the frequency of occurrence of this move in the medical RAs Discussion section derived from the nature of the discipline. In other words, the medical science field is associated with the health of human beings and thus stating Move 7 can preserve the validity of the research article clearly (Huang, 2014; Al-Shujairi et al., 2019).

Research on rhetorical organisation of the RA Discussion section contributed to the literature significantly. Thorough examination of the moves and steps across disciplines made it possible to find similarities and distinctions between various fields. Still, little research reveals the difference between the Discussion section rhetorical structure in the articles written by Native and non-Native speakers of English. Moreover, no research was carried out on comparing different corpora including Anglophones, groups of the authors using ELF for communicating their research and Russian authors publishing in English in international journals and in Russian journals indexed in international databases. This prompts the following research questions: (1) Are native English-speaking authors more sensitive to the conventions of rhetorical organisation of the Discussion section in research articles?; (2) How independent are Russian authors in following the rhetorical structure of the Discussion section in research articles?

Materials and methods

Corpus

This study is designed as a move analysis using a qualitative approach. The corpus of the present study consisted of Discussion sections of 64 ELF articles in different medical publications. We selected articles in which Discussion is a standalone section, meaning that it is not merged with Results, Conclusions, or any other parts of a RA. The length of Discussion sections varies, since different journals have different requirements.

This corpus was subdivided into four sub-corpora according to the established criteria: the journal publishers' origin and linguacultural background of the authors. To ensure that the sub-corpora are comparable, balanced and representative (Dash and Arulmozi, 2018), each of them was built according to the same principles: sources of RAs, number of RAs in each corpus, RA structure, background of the authors. This similarity in the status of publications can ensure consistency of linguistic data, which will be obtained.

Table 1. Sources presented in the corpus
Таблица 1. Источники, представленные в корпусе

Source title	Quartiles	CiteScore	% Cited	SNIP	SJR
NS INT and MULT INT					
International Immunology	Q2	6.8	90	1.256	1.86
Journal of Applied Physiology	Q2	5.6	82	1.28	1.253
Journal of Diabetes	Q2	5.5	79	0.978	0.949
European Journal of Clinical Microbiology and Infectious Diseases	Q2	5.4	80	1.174	1.154
RUS INT					
The Lancet	Q1	133.2	74	25.787	14.607
Cancer Cell	Q1	52.9	91	5.274	12.578
European Respiratory Journal	Q1	25.3	91	3.602	4.722
International Journal of Infectious Diseases	Q1	14.8	85	1.729	2.006
BMC Medicine	Q1	14.2	79	3.011	3.447
Clinical and Experimental Allergy	Q2-Q1	8.8	89	1.219	1.166
International Journal of Molecular Sciences	Q1-Q2	7.8	76	1.263	1.154
Viruses	Q1-Q2	7.1	74	1.071	1.29
Journal of Functional Biomaterials and Functional Materials	Q3	5	60	1.044	0.637
Pharmaceuticals	Q1-Q2	4.7	70	1.02	0.799
Indian Journal of Psychiatry	Q2-Q3	4.4	67	1.049	0.771
Journal of Pathology Informatics	Q1-Q2	4.3	60	1.034	0.644
Brain Sciences	Q3-Q2	3.9	68	0.938	0.752
Plastic and Reconstructive Surgery - Global Open	Q2	2.4	50	1.007	0.671
International Journal of Surgery Case Reports	Q3	1	42	0.58	0.193
Dentistry Journal	Q2-Q3	4.0	67	1.179	0.536
RUS RUS					
Biomedical Photonics	Q3-Q4	1.8	56	0.5	0.235
Research Results in Pharmacology	Q4-Q3	1.7	48	0.292	0.185
Vestnik Oftalmologii	Q3-Q4	0.8	40	0.233	0.268
Pirogov Russian Journal of Surgery	Q4-Q3	0.6	32	0.214	0.183

All RAs were published between 2019 and 2022 and come from international peer-reviewed English-medium journals indexed in Scopus. We were aiming at including journals with similar indicators, such as average citations per document and source normalised impact per paper. Unfortunately, it was not always possible, so we chose journals with the closest parameters. Since the overall pool of available Anglophone and non-Anglophone non-Russian author's publications in English-medium journals is large (MED INT), for these two groups the selected indicators were the closest and all the journals are indexed as Q2. These journals are published by Wiley-Blackwell, Oxford University Press, American Physiological Society, and Springer Nature.

The pool of Russian author's publications is significantly smaller, so we had to allow for variations in journal parameters (see Table 1). Papers by Russian authors are published by international houses including Elsevier, Springer Nature, Wiley-Blackwell, Multidisciplinary Digital Publishing Institute, Wolters Kluwer Health, Wolters Kluwer Health (INT). The selected journal rankings range between Q1 and Q3. The Russian publishing houses selected for this research are Russian Photodynamic Association, Belgorod State National Research University, and Media Sphera Publishing Group (RUS). They all comply with our selection criteria: they have their medical journals indexed in Scopus and offer papers in English. The rankings are Q3-Q4, however, we included into the corpus only the papers published in years when the journal was indexed as Q3. It should be noted that some of the Russian journals explicitly state that they referred to translation services in order to publish selected papers in English.

According to the publishers' origin, the RAs are subdivided into two groups: international non-Russian publications and international journals published by Russian institutions, the former represented by 48 RAs from twenty different titles, including *International Immunology, Journal of Applied Physiology, Journal of Diabetes, European Journal of Clinical Microbiology and Infectious Diseases, The Lancet, Cancer Cell, European Respiratory Journal, International Journal of Infectious Diseases, BMC Medicine, Clinical and Experimental Allergy, International Journal of Molecular Sciences, Viruses, Journal of Functional Biomaterials and Functional Materials, Pharmaceuticals, Indian Journal of Psychiatry, Journal of Pathology Informatics, Brain Sciences, Plastic and Reconstructive Surgery - Global Open, International Journal of Surgery Case Reports,* and *Dentistry Journal*. The latter included 16 RAs in English and came from four Russian journals: *Biomedical Photonics, Research Results in Pharmacology, Vestnik Oftalmologii, Pirogov Russian Journal of Surgery*. All RAs are empirical papers which were published between 2019 and 2022 mainly by teams of authors with occasional single authorships.

The second criterion for creating sub-corpora is linguistic peculiarities of the RAs. The first group of papers was written by Anglophone authors (NS – 16 papers), the second one demonstrates the use of ELF for communicating research (MULT – 16 papers), and the third one includes only papers written by authors whose native language is Russian (RUS – 32 papers). By studying the authors' affiliation, background and education (based on the information available on their web-sites or CV), we determined whether the author should be referred to the first, second, or third group. This classification will enable us to compare and contrast the organisation of the Discussion sections and the realisations of specific moves and steps in ELF medical papers written by Anglophone speakers, representatives of non-Anglophone linguocultural communities, Russian authors in international journals and Russian authors in Russian publications indexed in international databases. The NS sub-corpus represents the use of English by British, American, Australian and Indian researchers (NS). Non-Anglophone authors (MULT) include speakers of a variety of languages,

including French, Spanish, Italian, Chinese, Japanese, Korean, German, Danish, Norwegian, Finnish, Greek, Turkish, Hebrew, who come from 18 different countries (Belgium, China, Denmark, Finland, Germany, Greece, Israel, Italy, Japan, Korea, Norway, Spain, Switzerland, Turkey, Lithuania, Hungary, Belgium, the Netherlands). This range can ensure representativeness of the sample.

To mitigate the possible effect of the journal requirements and editing process on the RA text, wherever possible we selected the same number of NS and MULT RAs from every journal. This was not possible for RUS RAs due to their limited availability and a small number of publications by Russian authors in the same journal.

Data analysis procedures

After building the corpus, the moves and steps (if applicable) in each discussion section were manually tagged and coded. The moves were labelled with "M" followed by a numeral indicating the move number (e.g., M1 for Move 1, M2 for Move 2), and the steps were labelled with "S" followed by a numeral indicating the step number (e.g., S1 for Step 1, S2 for Step 2). For example, M1S2 represents Move 1 Step 2. Following the approach outlined by Holmes (1997), the sentence was used as the unit of analysis to identify and examine the moves. The communicative purpose of each move served as the defining characteristic.

The analysis of moves and steps was carried out according to Dudley-Evans' (1994) methodology. The identification of these moves and steps was based on linguistic indicators such as specific lexemes, expressions, verb forms, and conjunctions. For instance, a phrase like “the findings of this study showed that...” was seen as a clear sign of Move 2 (Findings). The analysis did not focus on how dominant a particular move was within the text, but rather it simply identified whether each move was present or not.

All three researchers, who are experienced instructors in academic writing for both English and Russian at university level, independently carried out an analysis of the rhetorical moves and steps in the Discussion sections of research articles. Their professional background and skills equip them with the necessary expertise for this task. Also they underwent specific training on the application of the coding procedure, which allowed them to perform move analysis at the sentence level, using both linguistic indicators and content as cues. The degree of agreement between the coders, known as inter-coder reliability, was found to be at 85%, a range which aligns with the approach suggested by Miles et al. (2013). Given that individual moves within the adopted approach are executed through a series of steps, the authors of the article regarded the presence of a step as equivalent to the presence of a move. The coding process caused discussions, negotiations and clarification of the criteria for assigning codes. This iterative process helps ensure the consistency and accuracy of the coding system used in the analysis.

The researchers use a frequency measurement methodology established by Kanoksilapatham (2005) to assess the prevalence of each rhetorical move in the discussion sections. This method employs a cut-off point of 60% to determine the significance of a move. According to this system, if a particular move is found in all (100%) the discussion sections analysed, it is categorised as 'obligatory.' If it's found in 60% to 99% of the sections, it's regarded as 'conventional.' Conversely, if it appears in fewer than 60% of the discussion sections, it's marked as 'optional.' This technique helps elucidate the differential application and significance of each rhetorical move in the discussion parts of scholarly research papers.

Results

Our study examined the moves and steps organisation of the RA Discussion section in medical papers written in English by Anglophone writers, groups of non-Anglophone writers and Russian writers using ELF for communicating research in international journals and Russian authors

publishing the results of their research using ELF in Russian journals indexed in international databases. The comparison between these four sub-corpora was traced via rhetorical moves and steps usage. The analysis was based on the model of rhetorical organisation of the RA Discussion section in medical articles adopted by Al-Shujairi (2019). Table 2 reveals the moves and steps identified in the analysed corpora.

Table 2. Rhetorical moves and steps in medical sciences RAs Discussion section
Таблица 2. Риторические ходы и шаги в секции «дискуссия» в научных статьях по медицине

Rhetorical Moves	**Steps**	**Function**	**Example**
Move 1: Background information	Step 1: Restating objectives Step 2: Representing research design Step 3: Defining a construct	Move 1: to prepare the readers for the discussion of the results. Step 1: to restate the purpose of conducting research. Step 2: to represent some methodological aspects such as data collection, analysis procedure, tools, and instruments. Step 3: to define an important and central variable of the research in order to start a discussion	Step 1: Restating objectives In this study, we set out to explore place-based and individual-level variations in the occurrence of diabetesrelated hospitalizations following an ED visit. (Ferdinand et al., 2020) Step 2: Representing research design This prospective cohort study with 1013 adults and 360 children, who were previously hospitalised with laboratory confirmed SARS-CoV-2 infection, assessed the 6- and 12-month prevalence of post-COVID-19 condition, according to the WHO case definition, along with phenotypes and risk factors. (Pazukhina et al., 2022) Step 3: Defining a construct Malakoplakia (“soft plaque”) is a multi-system chronic granulomatous disorder that can affect any organ but most frequently affects the genitourinary tract [4, 7, 14]. The pathogenesis is incompletely understood but is thought to represent a deficiency in host phagocytic activity due to decreased cyclic guanosine monophosphate production. (Kinsella, 2021)
Move 2: Findings		To present the findings of the research with relevant evidence (statistics, graphs and tables)	Our results suggest that there are substantive place-based differences in the occurrence of hospital admissions that stem from ED visits for diabetes-related care. In our non-censusspecific analyses, we noted that residents of noncore areas were significantly more likely to

Rhetorical Moves	Steps	Function	Example
			use the ED more often and subsequently become hospitalized for diabetesrelated conditions compared to those in urban areas. (Ferdinand et al., 2020)
Move 3: Expected or unexpected outcome		To comment on the expectedness of the results in relation to the research questions or hypothesis	As expected, overload of the left plantaris muscle by denervation of synergists in our study led to hypertrophy as demonstrated by the increase in plantaris mass and FCSA. (Ajime, 2021) Despite this, phylogenetic analysis displayed a surprisingly conserved t304/ST6 clone, with very little variation in terms of resistance and virulence genes. (Enger, 2022)
Move 4: Reference to previous research		To compare and/or contrast the results with those reported in the literature.	Previous research has shown that rural residents are less likely to receive preventive services that may alleviate the need for emergency diabetes-related care such as access to glucose-monitoring supplies, regular hemoglobin A1c blood checks, nutrition counseling, foot checks, annual eye examinations, and diabetes education.36 (Ferdinand et al., 2020)
Move 5: Explanation	Step 1: Reasoning Step 2: Exemplification Step 3: Elaboration	Move 5: to provide explanation for expected or unexpected results or one that differs significantly from previous research. Step 1: to give reasons Step 2: give examples from the data obtained Step 3: provide an elaboration based on the reasons given	Step 1: Reasoning It is not unlikely that our knowledge of TBEV sequences remains limited (e.g., rare variants remain undiscovered), but the remarkably stark separation of subtypes observed so far requires an explanation. If the virus was gradually changing over time, there would have been a smooth gradient of genetic distances. (Deviatkin et al., 2020) Step 2: Exemplification The relationship between amount and effect still generally holds for subcutaneous insulin, but this relationship does not necessarily hold when insulin is administered by other routes. For example, Howey et al demonstrated that 10 U of regular

Rhetorical Moves	Steps	Function	Example
			human insulin (R) administered intravenously generated only 62% of the glucose-lowering effect (as measured by glucose infusion rate area under the curve during clamp studies) compared with 10 U of R administered subcutaneously, and the clinical effect of intravenous insulin ended after 4 vs 11 hours for subcutaneous insulin.29 (McGill et all., 2020) Step 3: Elaboration The actual bimodal distribution of nucleotide distances can be explained by either (1) quantum events (rapid adaptation of a subtype to a new host or niche, possibly a factor for TBEV-Eur that has its distinct vector) or (2) the relatively long persistence of a virus in a limited focus and subsequent extinction of intermediate lineages and global spread of the few contemporary ones, or a combination of the two mechanisms. (Deviatkin et al., 2020)
Move 6: Claim		To present the claim about the generality of some or all of the reported results, which is concluded from the line of argumentation in the previous part of the paper	Undoubtedly, such an important structure in connecting different areas of the human brain can play a central role for targeted disease treatment. (Nikolenko et al., 2020)

Rhetorical Moves	Steps	Function	Example
Move 7: Concluding information	Step 1: Limitation Step 2: Recommendation	Move 7: to describe the limitations of the research and give suggestions for further research by pinpointing particular issues to be addressed or improvements in the research methodology Step 1: to describe limitations Step 2: to provide recommendations	Step 1: Limitation Limitations include the fact that this was not a treat-to-target trial, and there was divergence in fasting glucose levels between treatment groups at the end of the study. The study did not capture 7-point SMBG profiles; thus, it is possible that there was more daytime hyperglycemia with TI, and, in turn, this may explain some of the observation of less hypoglycemia with TI vs LIS. SMBG may also have shown that bedtime BG values were higher with LIS, which could explain the differences in FBG. (McGill et al., 2020) Step 2: Recommendation This clinical case clearly demonstrates the diagnostic algorithm for patients presenting with Cushing's syndrome and an unknown ectopic ACTH secreting tumor. Only comprehensive examination by clinical, biochemical, and radiological methods makes possible the detection of the source of ectopic ACTH secretion and allows for identification of such rare conditions. ACTH-dependent Cushing's syndrome, caused by a pheochromocytoma is extremely rare, but should be considered as a possible source for ACTH production. (Krylov et al., 2020)
Move 8: Implication		To indicate the implications of the findings	Additionally, our data offer major insights into the S. Typhi-specific CD4+ TM responses elicited in the TI mucosa and suggest that these responses are the result of local immunomodulatory mechanisms capable of influencing T cell activation, expansion and differentiation, resulting in unique phenotypes and perhaps specificities than those in the systemic compartment. (Booth, 2019)

Rhetorical Moves	Steps	Function	Example
Move 9: Summary of results		To provide a brief summary of the results	In conclusion, we have demonstrated that oral Ty21a immunization elicits S. Typhi-specific CD4+ TM responses in the TI mucosa with distinct effector functions and characteristics that are unique, overlapping only partially with those observed in the systemic compartment (Fig. 8). (Booth, 2019)

The findings of this study position it within the broader context of existing research in the field, underscoring its connection to the wider scientific community. In the Discussion section, nine moves were identified. These were classified as 'obligatory,' 'conventional,' or 'optional,' varying depending on whether the authors were native English speakers or non-native speakers, as well as the type of journal they intended their manuscripts for. This analysis highlights the potential influence of authors' linguistic backgrounds and target publication venues on the rhetorical structure of their academic writing.

Rhetorical moves in medical sciences RAs Discussion section by Anglophone writers

None of the moves in the Discussion section of medical articles by native English speakers are considered obligatory (see Table 3). Moves 2 (Findings), 4 (Reference to previous research), 5 (Explanation), and 7 (Concluding information) appear most frequently, making them conventional. The remaining moves are categorised as optional.

Table 3. Occurrence of the rhetorical moves in medical sciences RAs Discussion section by Anglophone writers
Таблица 3. Распространенность риторических ходов в секции «Дискуссия» в исследовательских статьях по медицине, написанных авторами-англофонами

Moves	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	Percentages, 100%
Move 1. Background Information																	50
Step 1: Restating objectives					+	+			+	+							25
Step 2: Representing research design					+	+					+						31,25
Step 3: Defining a construct	+		+				+				+					+	25
Move 2. Findings	+	+		+	+	+	+	+	+	+	+	+	+	+	+	+	93.75
Move 3. Expected or unexpected outcome	+	+						+	+			+				+	37,5
Move 4. Reference to previous research	+	+	+		+		+	+	+		+	+	+	+	+	+	81.25

Moves	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	Percentages, 100%
Move 5: Explanation																	68.75
Step 1: Reasoning	+	+		+	+			+	+				+		+	+	56,25
Step 2: Exemplification					+						+						12,5
Step 3: Elaboration	+			+	+		+										25
Move 6: Claim																	0
Move 7: Concluding information																	87.5
Step 1: Limitation		+	+	+		+	+	+		+	+	+	+	+	+	+	81.25
Step 2: Recommendation			+		+					+			+	+		+	37.5
Move 8: Implication	+	+	+	+	+	+	+			+		+					56.25
Move 9: Summary of results	+	+		+	+	+		+		+	+			+		+	62.5

Rhetorical moves in medical sciences RAs Discussion section by non-Anglophone writers

Non-native English-speaking authors, who published their manuscripts in journals significant within their subject area, adhered more closely to the conventions of the rhetorical structure of the Discussion section. As you can see from Table 4. For this group of researchers, Move 2 (Findings) was deemed obligatory. Moves 1 (Background Information), 4 (Reference to previous research), 7 (Concluding information), and 9 (Summary of results) in the corpus of this group were classified as conventional.

Table 4. Occurrence of the rhetorical moves in medical sciences RAs Discussion section by non-Anglophone writers

Таблица 4. Распространенность риторических ходов в секции «Дискуссия» в исследовательских статьях по медицине, написанных авторами-неанглофонами

Moves	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	Percentages, 100%
Move 1. Background Information																	68.75
Step 1: Restating objectives	+			+	+	+	+	+	+		+						50
Step 2: Representing research design	+	+				+	+	+		+						+	43.75
Step 3: Defining a construct				+			+										12.5

Moves	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	Percentages, 100%
Move 2. Findings	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	100
Move 3. Expected or unexpected outcome										+	+						12,5
Move 4. Reference to previous research		+	+	+	+	+	+	+	+		+	+	+	+	+	+	87.5
Move 5: Explanation																	56.25
Step 1: Reasoning			+		+			+	+	+	+	+		+	+		56.25
Step 2: Exemplification									+		+						12.5
Step 3: Elaboration			+		+			+	+	+	+				+		43.75
Move 6: Claim				+													6.25
Move 7: Concluding information																	81.25
Step 1: Limitation		+			+	+	+		+	+		+	+	+	+	+	68.75
Step 2: Recommendation	+	+				+		+									25
Move 8: Implication	+		+		+		+		+		+		+				43.75
Move 9: Summary of results	+	+	+	+	+	+	+	+	+	+	+	+	+	+		+	93.75

This finding suggests a deliberate effort by non-native speakers to comply with established rhetorical norms in their field, possibly to enhance the clarity and credibility of their work.

Rhetorical moves in medical sciences RAs Discussion section by Russian writers in international journals

Russian authors who submitted their manuscripts to international journals indexed in international databases demonstrated different preferences in the selection of moves, showing less familiarity with the rhetorical organisation of the text in medical articles (See Table 5). Specifically, only Move 2 (Findings) and Move 4 (Reference to previous research) were categorised as conventional within this group's corpus, while the rest of the moves were labelled as optional.

Table 5. Occurrence of the rhetorical moves in medical sciences RAs Discussion section by Russian writers in international journals

Таблица 5. Распространенность риторических ходов в секции «Дискуссия» в исследовательских статьях по медицине, написанных российскими авторами в международных журналах

Moves	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	Percentages 100%
Move 1. Background Information																	37.5
Step 1: Restating objectives		+						+									12.5
Step 2: Representing research design					+				+								12.5
Step 3: Defining a construct	+		+														12.5
Move 2. Findings	+	+	+	+	+	+	+	+	+	+			+	+	+	+	87.5
Move 3. Expected or unexpected outcome	+											+				+	18.75
Move 4. Reference to previous research	+	+	+	+	+	+		+	+	+	+		+	+		+	81.25
Move 5: Explanation																	50
Step 1: Reasoning	+	+				+								+			25
Step 2: Exemplification										+	+						18.75
Step 3: Elaboration	+											+	+				18.75
Move 6: Claim	+		+	+			+		+	+	+		+				50
Move 7: Concluding information																	75
Step 1: Limitation	+	+		+	+					+	+				+	+	50
Step 2: Recommendation				+	+		+	+	+			+					37.5
Move 8: Implication			+		+	+	+	+			+	+		+	+	+	62.5
Move 9: Summary of results		+		+								+	+	+			31.25

The fixed pattern could suggest different academic writing conventions or a need for more training in the rhetorical norms of medical articles in the international context for the Russian authors.

Rhetorical moves in medical sciences RAs Discussion section by Russian writers

in Russian journals indexed in international databases

The corpus of this group exhibited similarities with that of the previous group. Russian authors who published articles in Russian journals indexed in international databases conventionally employed only Move 2 (Findings) and Move 4 (Reference to previous research).

Table 6. Occurrence of the rhetorical moves in medical sciences RAs Discussion section by Russian writers in Russian journals indexed in international databases
Таблица 6. Распространенность риторических ходов в секции «Дискуссия» в исследовательских статьях по медицине, написанных российскими авторами в русских журналах, индексируемых в международных базах данных

Moves	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	Percentages, 100%
Move 1. Background Information																	37.5
Step 1: Restating objectives																	0
Step 2: Representing research design	+		+	+	+			+									31.25
Step 3: Defining a construct					+							+					12.5
Move 2. Findings	+	+	+		+	+	+	+	+	+	+		+	+	+	+	87.5
Move 3. Expected or unexpected outcome		+											+				12.5
Move 4. Reference to previous research	+	+		+	+	+	+	+	+	+	+	+	+	+	+	+	93.75
Move 5: Explanation																	37.5
Step 1: Reasoning		+		+					+		+					+	31.25
Step 2: Exemplification				+													6.25
Step 3: Elaboration				+											+		12.5
Move 6: Claim					+	+		+		+				+	+		37.5
Move 7: Concluding information																	56.25
Step 1: Limitation	+				+	+			+							+	31.25
Step 2: Recommendation						+	+	+		+	+						31.25
Move 8: Implication	+								+						+	+	25
Move 9: Summary of results				+										+		+	18.75

The observed pattern, which aligns with that of Russian authors publishing in international journals, suggests the presence of shared writing conventions or similarities in the training and practices of these authors, regardless of the differences in their chosen publication outlets (see Table 6).

Comparison of move status in four sub-corpora

Table 7 presents the status of each move within the sub-corpora. This table provides a comprehensive overview of the evolving status of moves and steps in each sub-corpus, and the percentage of their occurrence highlights the significance of each move and step as perceived by the different groups of authors.

Table 7. Comparison of move status in four sub-corpora
Таблица 7. Сравнение статуса ходов в четырех подкорпусах

Rhetorical Moves	Model	sub-corpus MED NS INT	%	sub-corpus MED MULT INT	%	sub-corpus MED RUS INT	%	sub-corpus MED RUS RUS	%
Move 1: Background information	C*	Op	50	C	68.75	Op	37.5	Op	37.5
Step 1: Restating objectives	Op	Op	25	Op	50	Op	12.5	Op	0
Step 2: Representing research design	Op	Op	31,25	Op	43.75	Op	12.5	Op	31.25
Step 3: Defining a construct	Op	Op	25	Op	12.5	Op	12.5	Op	12.5
Move 2: Findings	C	C	93.75	Ob	100	C	87.5	C	87.5
Move 3: Expected or unexpected outcome	C	Op	37,5	Op	12,5	Op	18.75	Op	12.5
Move 4: Reference to previous research	C	C	81.25	C	87.5	C	81.25	C	93.75
Move 5: Explanation	C	C	68.75	Op	56.25	Op	50	Op	37.5
Step 1: Reasoning	Op	Op	56,25	Op	56.25	Op	25	Op	31.25
Step 2: Exemplification	Op	Op	12,5	Op	12.5	Op	18.75	Op	6.25
Step 3: Elaboration	Op	Op	25	Op	43.75	Op	18.75	Op	12.5
Move 6: Claim	C	Op	0	Op	6.25	Op	50	Op	37.5

Move 7: Concluding information	Ob	C	87.5	C	81.25	C	75	Op	56.25
Step 1: Limitation	Op	C	81.25	C	68.75	Op	50	Op	31.25
Step 2: Recommendation	C	Op	37.5	Op	25	Op	37.5	Op	31.25
Move 8: Implication	Op	Op	56.25	Op	43.75	Op	62.5	Op	25
Move 9: Summary of results	Op	Op	62.5	C	93.75	Op	31.25	Op	18.75

Notes:* **C- conventional; **Ob**-obligatory; **Op**-optional

The comparative analysis presented offers valuable insights into disciplinary, linguistic, or publication-specific patterns in the organisation and presentation of academic arguments.

In 10 papers within the non-Anglophone and Anglophone sub-corpora, Move 7 includes an additional step (Strength), which allows the author to directly articulate the strong aspects of their research that differentiate it from other studies of the same type. Usually this step comes before Limitation and Recommendation. In Al-Shujairi et al. (2019) rhetorical moves model used for our research, the Strength step is not specified. It is necessary to take this innovation into account in order to refine the system of steps used for the elaboration of moves (see Table 8).

Table 8. Specified model of rhetorical moves and steps in medical sciences RAs Discussion section
Таблица 8. Уточненная модель риторических шагов и ходов в секции «Дискуссия» в исследовательских статьях по медицине

Rhetorical Moves	Steps
Move 1: Background information	Step 1: Restating objectives Step 2:Representing research design Step 3: Defining a construct
Move 2: Findings	
Move 3: Expected or unexpected outcome	
Move 4: Reference to previous research	
Move 5: Explanation	Step 1: Reasoning Step 2: Exemplification Step 3: Elaboration
Move 6: Claim	
Move 7: Concluding information	Step 1: Strength Step 2: Limitation

Rhetorical Moves	Steps
	Step 3: Recommendation
Move 8: Implication	
Move 9: Summary of results	

Considering international journals sub-corpora we have come to the conclusion that although most Discussion sections include a more or less direct reference to the benefits of the findings and results, some present then as a separate part of the section. It is manifested in the explicit wording. In the papers from our sub-corpora we come across the following examples: "a major strength of this study"[1], "the main advantage of our study"[2]. It can be attributed to journal requirements, but it is not consistent, since some papers in one journal include strengths, while others do not, which is the case in, for example, *Journal of Diabetes*. With very few exceptions[3], the Strength step usually precedes limitations and can be formatted either as a separate subsection of Discussion or built into the text as a paragraph.

We have found 3 instances of this step in MED NS INT, 3 instances in MED MULT INT and 4 in MED RUS INT. The MED RUS RUS sub-corpus does not exhibit the occurrence of this step. RAs Discussion sections in MED RUS RUS generally focus on restating findings and offer limited interpretation and analysis, which is required to state strength and limitations of the study.

The examples below support our idea of the importance of this step in delivering the argument and explicitly analysing the quality of the research:

A major strength of this study is the use of a pre-positioned data collection method using ISARIC Core CRF for acute phase data and ISARIC Long-term Follow-up Study CRF. Another strength is the large sample size, and this cohort has the longest follow-up assessment of hospitalised adults to date. Stratification to determine whether the symptoms were persistent following COVID-19 was another novel aspect of the study. At the same time, this cohort study has some limitations[4].

Strengths of this study include the large sample, the objectively measured blood glucose (including fasting and 2-hour plasma glucose), and comprehensive assessment of lifestyle behaviours. Nevertheless, there are some limitations that need to be clarified[5].

Notably in our RAs corpus there are no instances of stating strengths without an explicit description of limitations, which might indicate that these steps tend to be implemented together, or that implementation of strengths is conditional on presence of limitations.

Discussion

The purpose of this study was to examine the common rhetorical structure observed in the Discussion section of research articles across different groups of authors, including Anglophone speakers, non-Anglophone authors from various linguistic and cultural backgrounds, and Russian authors. The analysis encompassed authors publishing in international journals as well as Russian authors publishing in either international or Russian journals indexed in international databases.

Disciplinary conventions of academic communication

Each discipline has its unique conventions and expectations, which are reflected in how information is presented, the kinds of arguments that are made, and the specific language used. The studies by

[1] Example from Osmanov et al., 2022
[2] Example from Shishorin et al., 2022
[3] Example from Park et al., 2021
[4] Example from Munblit, 2021
[5] Example from Cao, 2021

Swales (1990), Posteguillo (1999), Thompson (1993), Hyland (2009), and Burrows et al. (2019) offer insightful perspectives on how academic writing varies across disciplines. For instance, Swales' concept of discourse communities underscores that each discipline forms a unique community with its specific communication norms (Swales, 1990). Posteguillo and Thompson's works further highlight how these rhetorical strategies can differ across fields and how one approach might not be universally effective (Posteguillo, 1999; Thompson, 1993).

The impact of disciplinary norms and conventions extends to the discussion sections of research articles, where the presentation of results, argumentation, and interpretation might vary considerably based on the disciplinary traditions. However, there is also significant variability within disciplines and among individual authors (especially in case of novice or non-anglophone writers), adding another layer of complexity. Being aware of these disciplinary variations is essential for those engaging with academic texts, whether they are writing, reviewing, or interpreting them. This knowledge helps to set appropriate expectations and to approach these texts with a nuanced understanding of their unique rhetorical contexts. It also aids in the development of critical reading skills, as readers can better evaluate the strengths and weaknesses of a text when they understand its disciplinary context.

Rhetorical moves and steps in Discussion section of medical papers

When comparing research articles (RAs) in the Discussion section within the same discipline between international and Russian journals indexed in international databases, similarities were observed in terms of move analysis, while differences were identified at the level of step analysis. The discovery of similarities at the level of move analysis indicates shared genre expectations and standards within the discipline, which apply to both international and Russian journals. At the same time, differences at the level of step analysis highlight specific characteristics and diversity within each subcorpus.

In Al-Shujairi's (2019) move model for the Discussion section, Move 1 (Background information) was categorised as a conventional move. In the present study, it retains this status within the non-English-speaking author community, while Russian and English-speaking authors consider it optional (see Table 7). However, there is significant variation in authors' preferences at the level of steps within this move. Notably, Russian authors in articles published in Russian journals indexed in international databases did not adhere to Step 1 (Restating objectives), and the remaining steps across all subcorpora fell significantly behind the overall Move 1 in terms of percentage ratio. Interestingly, Step 3 (Defining a construct) was expressed by a limited number of authors in all sub-corpora, although English-speaking authors used it more frequently than non-English-speaking authors.

As can be seen from Table 7, high-frequency occurrences of Move 2 (Findings) and Move 4 (Reference to previous research) were found in all sub-corpora. These findings align with Moyetta's (2016) study on psychology corpora and Basturkmen's (2012) study on research articles in dentistry, which also reported a high level of frequency for these moves. However, the two sub-corpora with Russian authors reflect ambiguous understanding of these moves. Approximately 30% of Russian authors restated the results rather than interpreted them, and the reference to previous research was not used for comparing the obtained results with existing knowledge, but for summarising their own thoughts.

On the other hand, authors proficient in English (English-speaking authors) were more prepared to comment on the degree of expectedness/unexpectedness of results (Move 3: Expected or unexpected outcome). The same results obtained Moyetta (2016) revealing that Anglophones address this move more. The other three groups of authors

demonstrated relatively moderate attention to this move. Still all four sub-corpora prove this move to be optional that contradicts Al-Shujairi (2021) who found this move to be conventional in medical RAs. It might be ascribed to the desire of non-Anglophone authors to omit this move due to their inability to use the English language properly. The other reason can be attributed to embedding this move into Findings (Move 2: Findings).

Move 5 (Explanation), like in Al-Shujairi's (2019) model, was considered conventional only for English-speaking authors, while all three other sub-corpora featured it as optional. In particular, Russian authors who published their articles in Russian journals were the least active in using this move. Failure to employ Move 5 can be related to the absence of Move 3, which is supposed to provide explanations to expected or unexpected outcomes. At the level of steps within Move 5, all subcorpora identified them as optional. It goes in line with Al-Shujairi (2019) who states that following these steps is not necessary. Moreover, his supposition that medical RAs authors tend to provide more reasons and elaboration is proved by the results of this study (see Table 7).

Move 6 (Claim), which was conventional in Al-Shujairi's (2019) model, was not frequently identified in the analysed RAs. English-speaking authors did not use it, authors from the non-English-speaking group used it sparingly, and Russian authors actively employed it to show contributions to the field and highlight present results. Similar strategies are also noted by Moyetta (2016) for Spanish-speaking authors in psychology articles. Relying on this means of rhetorical RAs organisation indicates that authors from both Russian corpora not only present results but also expound their ideas on the results accordingly.

Move 7 (Concluding information) was not found to be obligatory in the current study. However, both native and non-native English-speaking authors commonly used it as a conventional move. Russian authors, on the other hand, perceived this move as optional. It received the least attention in articles published in Russian journals that are indexed in international databases. Approximately 30 % of authors in each sub-corpus included Step 2 in Move 7. This suggests a complex relationship between the structure of Discussion sections and the competitive academic environment. In a competitive grant environment, researchers may have a motivation to withhold potential directions of future research in order to maintain their leading position in the field. Similar behavioural motivations have been observed by Berkenkotter and Huckin (1995). It is evident that at the current stage, the competition extends beyond grant acquisition to the exploration of promising research directions as a whole, considering the involvement of increasingly diverse groups of researchers in scientific inquiry. A similar situation is observed in Step 1 (Limitation). Not every researcher fully comprehends the limitations of their study and the potential for discussing them in a manner that strengthens the obtained results rather than compromising them. This situation might be influenced not only by the researcher's level of academic literacy but also by the concern of presenting their study as limited and, therefore, imperfect. Moreover, Lindberg (2004) suggests that Limitations usually enhance credibility by providing information about the generalizability of the findings.

Move 8 (Implication) is regarded as optional across all sub-corpora. It is interesting to note that Russian authors rarely employ this move in articles published in Russian journals, while demonstrating higher activity (62%) in their articles for international journals. It does not coincide with Moyetta's (2016) statement that this step appears much more frequently in the Anglophone community. Further investigation on a larger corpus is needed to ascertain the consistency of this pattern. Within the scope of the present study, one possible explanation could be the authors' perception, including

that of Russian authors, regarding the necessity of providing detailed explanations about the applicability of the obtained results to a broad international audience. They may deem it unnecessary to clarify to potential Russian readers the possible applications of the results, influenced by the norms of a high-context culture. However, such an approach appears misguided as journal indexing in international databases necessitates maximising readership and calls for a unified approach not only in the presentation but also in the argumentation of the obtained results.

In contrast to the optional status of Move 9 (Summary of results) in Al-Shujairi's (2019) model, non-English-speaking authors pay the utmost attention to it (almost in 94% of cases), as can be seen from Table 7. However, this conventional status does not resonate with English-speaking authors. The least frequent use of this move was observed among Russian authors publishing in Russian journals indexed in international databases.

Overall reflections and recommendations

Overall findings revealed differences in the implementation of moves and steps in the Discussion section across the sub-corpora. Steps involving stating findings and referring to past studies from Move 2 were the most frequently employed in corpora. Despite almost all moves and steps being represented in all four sub-corpora, the group of non-native English-speaking authors proved to be the most sensitive to their complete implementation. Following them in descending order were native English-speaking authors and Russian authors from both groups. Notably, Russian authors who published articles in Russian journals indexed in international databases demonstrated the lowest level of awareness regarding the quantity and functional content of the rhetorical move of the Discussion section in research articles, particularly those specific to medical articles.

The results obtained suggest the need for systematic measures to improve the academic literacy level of researchers. It is not enough to be involved in research activities; it is crucial to present the results to the scientific community in a way that both the authors' motivation for the research and the significance of the results against existing knowledge on the topic are clear and perceived unambiguously by all potential consumers of scientific content.

The rhetorical organisation of scientific discourse and global academic English, used as a lingua franca, ensure clarity of scientific communication. At the same time, academic English undergoes changes, continuing to evolve and adapt to the changing needs of research communities. For example, in the era of open science and digital technology development, academic English is becoming more accessible and global, affecting its form and usage.

The increasing number of English-speaking authors for whom English is not a native language transforms the architecture of academic English, broadening its lexical and stylistic range. This, however, requires greater clarity and standardisation to ensure mutual understanding. Here, the detailed rhetorical structure of each research paper section gains special significance, allowing filling all potential gaps in understanding and providing the reader with a roadmap for the research. In this context, the Discussion section plays a unique role because the author presents their argumentation to the scientific community, openly states their position, contrasts or compares their data with what is already known in the field. Hence, detailed rhetorical structure and academic literacy are significant success factors that determine the effectiveness of academic writing. Mauranen et al. (2010) emphasise a similar idea suggesting that if a vast majority of writers and readers are non-native English speakers, the focus should be on qualities such as clarity and effectiveness in communication. The concept that there are no native speakers of academic English is also supported by scholars (Lea and Street, 2006; Leibowitz, 2004). Everyone engaging in writing for an

academic community should develop academic literacy and follow rhetorical conventions.

Conclusion

The present study has provided answers to the research questions regarding the degree of independence of national authors in adhering to international conventions of rhetorical organisation of scientific discourse in their field. It was achieved through the analysis of four sub-corpora of medical articles (Anglophone authors, non-Anglophone authors, Russian authors publishing articles in international and Russian journals indexed in international databases). Anglophone authors were found to be less committed to the rhetorical organisation of the Discussion section, while non-Anglophone authors showed greater sensitivity to its architecture. Interestingly, Russian authors publishing in international journals demonstrated a more attentive approach to representing all traditional moves and steps in the section, while Russian authors publishing in Russian journals indexed in international databases showed the least attention to the use of all traditional moves and steps for the Discussion section of medical articles. The results obtained indicate a blurring of the concept of the English language as a phenomenon that relies solely on native speakers in forming its standards. The necessity of systematising efforts to develop the academic literacy of authors from different countries also becomes apparent, as it not only serves a tool for effective presentation of research results, but also reflects the authors' respect for the potential readers of their articles.

As a limitation of the study, it should be noted that if at least one step in a move was present in the text of the article, the move was considered as implemented. Additionally, the study would have benefited from the addition of a fifth sub-corpus – articles by Russian authors published in journals not indexed in international databases. The data from such a sub-corpus would have helped to understand how much requirements set by journals indexed in international databases dictate communication standards for authors from different countries compared to those in national journals, which primarily target domestic readers.

The findings of this study can be used to update academic writing courses for research articles in the field of medicine. The proposed model of moves serves as a means to establish the order of presenting ideas and arguments in the Discussion section. The authors do not claim that the list of analysed moves is exhaustive. Certain rhetorical moves have more stable positions, while others are less stable. However, the presented model of rhetorical organisation in the section is the most detailed and fruitful within the context of academic discourse. It helps non-native speakers fully understand the essence of authors' arguments and realise the place that the presented research results occupy in the existing body of knowledge on the topic.

The results obtained in this study contribute to the understanding of discourse in research articles and emphasise how move analysis provides a deep insight into the formation of a specific section of a research article. It is the rhetorical structure, in its relevant functional and linguistic embodiments, that enhances the readability of the text and ensures clarity in the interpretation of the presented research results. Having an awareness of the structure of moves in each section of a research article is important not only for authors but also for potential readers of scientific articles. The reader knows what to expect and in what sequence while reading, making it easier to orient in the text and to comprehend the authors' motivations for the research. Similarly, the move template serves as a foundation for less experienced authors to write in a way that conforms to the conventions or expectations of the discourse community.

As a further direction of research, a comparison is needed between the corpus of articles by Russian authors published in international publications indexed in

databases, and those published in national publications not indexed in international databases, but highly rated in Russia. Analysing such a corpus would help to specify recommendations for developing academic literacy among medical researchers, which, in turn, will assist in promoting their manuscripts in the international scientific space.

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Appendix. Corpora

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