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EXPRESSING UNCERTAINTY ABOUT ARTIFICIAL INTELLIGENCE IN SOCIAL SCIENCE AND EDUCATION: AN ANALYSIS OF HEDGING DEVICES AND SOCIAL IMPACT

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Abstract. As Artificial Intelligence (AI) I is increasingly becoming an inherent part of a large number of disciplines, including the social sciences, researchers are frequently relying on cautious language in their evaluation of its role and impact. This study focuses on how this uncertainty is expressed using hedging devices in recent research papers discussing the integration of AI into social science and education. Relying on Salager-Meyer's taxonomy of hedges and Hurst & Johnston's definitional approach to the framework of social impact, this study analyzes conclusion sections of ten research papers published in 2025 in top-tier Western journals. Using a qualitative, interpretive approach, this study discusses the types, frequency, and contextual nature of hedging devices, with special attention paid to their co-occurrence with social impact-expressing phrases. The findings show that hedging is a consistently used feature of this research discourse, which is most commonly expressed through the use of modal verbs, probability markers, compound hedges, and implicit shields. Together with social impact-related phrases, these hedges are used to frame AI in this field as a socially significant phenomenon that is still largely context-dependent. This study contributes to ongoing research on academic discourse because it shows how developing technologies help construct evaluative language in fields like social science and education. Furthermore, this study offers insights for academic writing instruction and other studies focusing on AI using discourse analysis frameworks.

Keywords: social sciences, linguistics, education, Artificial Intelligence, hedging, social impact, society, taxonomy

Introduction

When approaching the phenomenon of AI in general, authors of research papers tend to show uncertainty in order to avoid making strong claims about it that might not be supported by the broader research community or that might not prove true in the course of further development of AI technologies [1] and the improvement of the methodologies of their integration into education [2]. In presenting their findings, researchers express varying degrees of confidence in their claims. To do so, they often use linguistic devices such as hedges to soften their statements [3].

Hedging devices can be used in academic writing to avoid overgeneralization, making claims more context-dependent than universal [4]. They enable scientific caution because overstated claims can negatively affect credibility and be met with explicit opposition.

In social science research writing, hedges may be used for the same reason noted above, especially when it comes to such complex topics as the integration of contemporary AI technologies into social science and education. Identifying the nature of hedging devices and their application in this specific research context can help to learn more about how researchers position AI within the current state of the art in the social science and education. This is particularly important when taking into account that social science and education focus on exploring social phenomena and using hedging devices to have multiple explanations, thus avoiding absolute claims. Thus, the purpose of this study is to examine how hedging devices are used to express uncertainty in research papers on the integration of AI technologies into social science and education. Specifically, it aims to identify the most commonly used types of hedges, explore the motivations behind their use, and show how they contribute to shaping the discourse of a developing field influenced by the integration of computational technologies. Additionally, the research focuses on the expression of social impact connected with the integration of AI by way of using hedging devices and phrases that have been selected as expressions of social impact concepts.

Therefore, the current study focuses on answering the following research questions:

RQ1: What types of hedging devices are most commonly used in recent (2025) open-access top-tier Western academic journal articles focusing on the integration of AI into social science and education?

RQ2: How do hedging devices expressing uncertainty in academic conclusions and social impact-related phrases cooperate to construct the emerging discourse of integrating AI into social science and education?

Social impact is often defined in connection to how research activities bring effect and changes not only to the field of academia, but also to various areas of life, such as society, culture, public health, and others [5]. Specifically, in social science research, social impact is closely connected with policy impact, social change, and wider engagement within social communities. Therefore, research in this field is conducted with various types of participants that enable researchers to embrace a notion of co-creation of knowledge that directly reflects the lived experiences, views and needs of all stakeholders involved [6]. This way, social impact is clearly visible via research procedures and can therefore be contextualized within the written aspect of research papers.

In research writing, different types of hedges have various consequences for persuasiveness of communication, both probabilistic or likelihood hedges and personal or general hedging perspective play an important role in driving persuasion.

By examining hedges and their important role in persuasion, researchers can better understand how language can shape attitudes and behavior. This understanding can also help communicators and researchers to reflect on and assess their own use of hedging devices in research writing and overall communication [7]. In addition, Livytska claims that use of hedges helps the writers of the research to mitigate the force of their claims, negotiate the precision of their claims, while providing a certain degree of reliability of the statements [9].

Despite the generally positive evaluations of AI in education found in the literature, recent reviews suggest that its application remains uneven across disciplines, as there are notable gaps in some fields. For instance, in reviewing empirical studies it was found that AI tools have a huge positive impact on personalized learning, enhancing academic outcomes and advancing effective teaching practices [8]. However, certain fields including social sciences, services, and humanities (excluding language learning) remain underrepresented in applying AI tools in education. Thus, these gaps could lead to possible missed opportunities for innovation, for instance, in social sciences, AI could support discourse analysis, critical thinking, and simulations of societal dynamics [8].

Materials and methods

This paper employs a methodological approach that is similar to previous study [4]. The selected research approach does not only methodologically strengthen this kind of work, but also makes it correspond to existing research practices, while also extending the body of knowledge on the researched topic. A contextual grounding of the analysis is also ensured, making this study methodologically sound. In doing so, the current study replicates some aspects of previous studies, but goes beyond mere duplication. Instead, it aims to improve upon previous approaches through a synthesis of multiple perspectives, which helps this study to provide a more comprehensive interpretation of the phenomenon in question.

The study focuses on scholarly articles about AI in social science and education.

The list includes the research articles analyzed in terms of the given study:

1 Aggarwal, K., Ravi R., Yerraguntla K. Use of artificial intelligence tools by audiologists and speech-language therapists: an international survey of academicians // Journal of Otology. – 2025. – №20. – Pp. 20-25. https://doi.org/10.26599/JOTO.2025.9540004

2 Islam M. Z., Wang G. Avatars in the educational metaverse // Visual Computing for Industry, Biomedicine, and Art. – 2025. – № 8. – Pp. 1-10. https://doi.org/10.1186/s42492-025-00196-9

3 Adhikari D. P., Pandey G. P. Integrating AI in higher education: transforming teachers' roles in boosting student agency // Educational Technology Quarterly. – 2025. – № 2. – Pp. 151–168. https://doi.org/10.55056/etq.943

4 Chamorro-Mera A., Miranda-González F. J. Gen-AI tools in Academia: A Cluster Analysis of University Faculty Adoption // Multidisciplinary Journal for Education, Social and Technological Sciences. – 2025. – №12(2). – Pp. 1-22. https://doi.org/10.4995/muse.2025.23908

5 Seco D., Groesser S.N., Pedrosa A.M. Use of Generative Artificial Intelligence tools in university environments // Multidisciplinary Journal for Education, Social and Technological Sciences. – 2025. – №12(1). – Pp. 156-175. https://doi.org/10.4995/muse.2025.23623

6 Mills J., Beynen T., May I, C. S., Fitzgerald R., Hall K. A., Lai E., Mason J., Newell S. Re-thinking SoTL for the age of GenAI: Diffracted, Entangled, and Human // Teaching and Learning Inquiry. – 2025. – № 13. – Pp. 1-19. https://doi.org/10.20343/teachlearninqu.13.49

7 Wessels B. Developing an AI framework for learning in higher education: a humanities perspective from English Literature // International Journal of Educational Technology in Higher Education. – 2025. – № 22. – Pp. 1-14. https://doi.org/10.1186/s41239-025-00562-w

8 Pireci Sejdiu N., Sejdiu S. The quiet transformation of higher education in the AI era // Open Research Europe. – № 5. – Pp. 1-9. https://doi.org/10.12688/openreseurope.20715.1

9 Liu X., XiaoY., Li D. Assessing strategic use of artificial intelligence in self-regulated learning: Instrument development and evidence from Chinese university students // International Journal of Educational Technology in Higher Education. – 2025. – №22. – Pp. 1-29. https://doi.org/10.1186/s41239-025-00567-5

10 Nyamwange B.C. Assessing the Extent of Integration of Artificial Intelligence in Teaching and Learning at Kenyan Universities // Pan-African Journal of Education and Social Sciences. – 2025. – №6(1). – Pp. 76-87. https://doi.org/10.56893/pajes2025v06i01.06

The articles were collected using the Lens platform (lens.org). To generate the initial dataset, the following key words were used in the search: *AI, education, teaching, learning*, and *social science*. The search and article selection criteria were as follows. The search was limited to journal articles published in 2025. Only articles with full-text open-access were included, specifically those marked with the following open access colors: gold, hybrid, bronze, and green. Additionally, only articles published in non-APC journals were selected. The search settings applied are also shown in Figure #1 below. Based on these parameters, a preliminary search was conducted, which identified 44 journal articles available in this database to work with further. The application of these search settings and article selection criteria contributed to the construction of a small-scale dataset related to social science and education for further analyses.

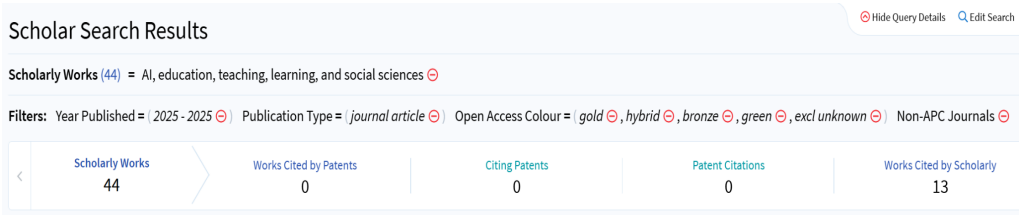

Figure 1 – Lens.org search settings and preliminary results

Having collected the preliminary list of articles, I did a further review and cleaning procedure in order to delete the unnecessary results. I looked at

key words provided by the Lens database to see if they mentioned terms like sociology, social science, education, and AI. Because some of the articles could be about sociology and social science and education without mentioning these terms in the key words, I also looked at the abstracts to ensure the final list of articles contained only relevant items.

For the data collection process to be more precise, I had to open article documents from the list and look for the title, abstract, keywords and also used the search mechanism within the article files. As a result of this cleaning procedure, I obtained a total of ten articles written in English to analyze further. One other article was about language teaching and learning, though containing a discussion about AI, so it was decided to delete it from the constructed database. Furthermore, a number of articles were related to medicine. Overall, my clear-cut search instructions were followed precisely, which resulted in a total of ten articles that mentioned AI in education from journals which are multi-disciplinary and are mostly related to social science.

The text of these ten articles will be analyzed using corpus linguistic software and the search mechanisms of dedicated PDF format reader software to find examples of hedges and provide information on their meaning and use. Salager-Meyer's approach will be applied to analyze examples of hedging [10].

According to Salager-Meyer the taxonomy of hedging includes three common types, such as shields, approximators, and compound hedges that are used based on the purpose of discourse, the level of claim that the writer pursues and the degree to which the writer strives to convey universality and generalization [11]. While, based on Varttala's framework [12], hedging devices in lexical items are broadly divided into five-word classes, such as modal auxiliaries, main verbs, adverbs, adjectives, and nouns [13], as illustrated in Figure 2 below.

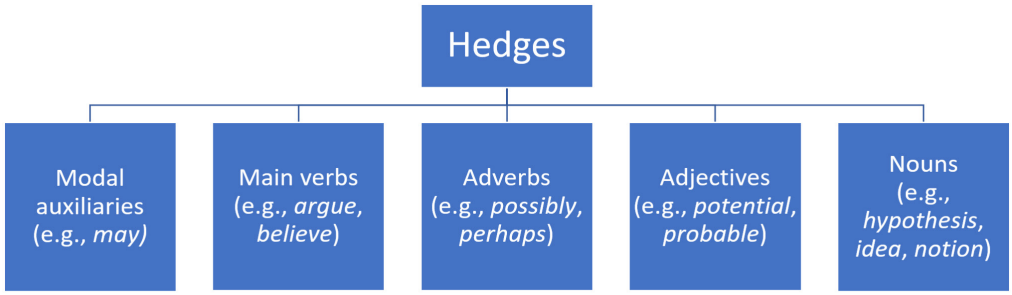

Figure 2 – Types of hedges based on word classes, adapted from Varttala's (1998) and Wang and Khunkhenova (2016)

Salager-Meyer argues that hedges are first and foremost the product of mental attitude which considers various linguistic forms (e.g. modals, epistemic verbs, approximators and etc) though these linguistic forms do not always reflect a hedging nuance [10]. Similarly, the use of hedging devices in academic writing

is connected with expression of writer's position and attitude on a particular topic and not purely serve the function of linguistic device [14]. That is why, Salager-Meyer's study aimed to fill the gap between the writer's mental, intentional, processes and linguistic realizations by performing a rigorous contextual analysis through suggesting a set of taxonomy of hedging devices [10]. This study is going to use the taxonomy of Salager-Meyer to look at the articles and identify various hedges mentioned in these articles, illustrated in Figure 3 below.

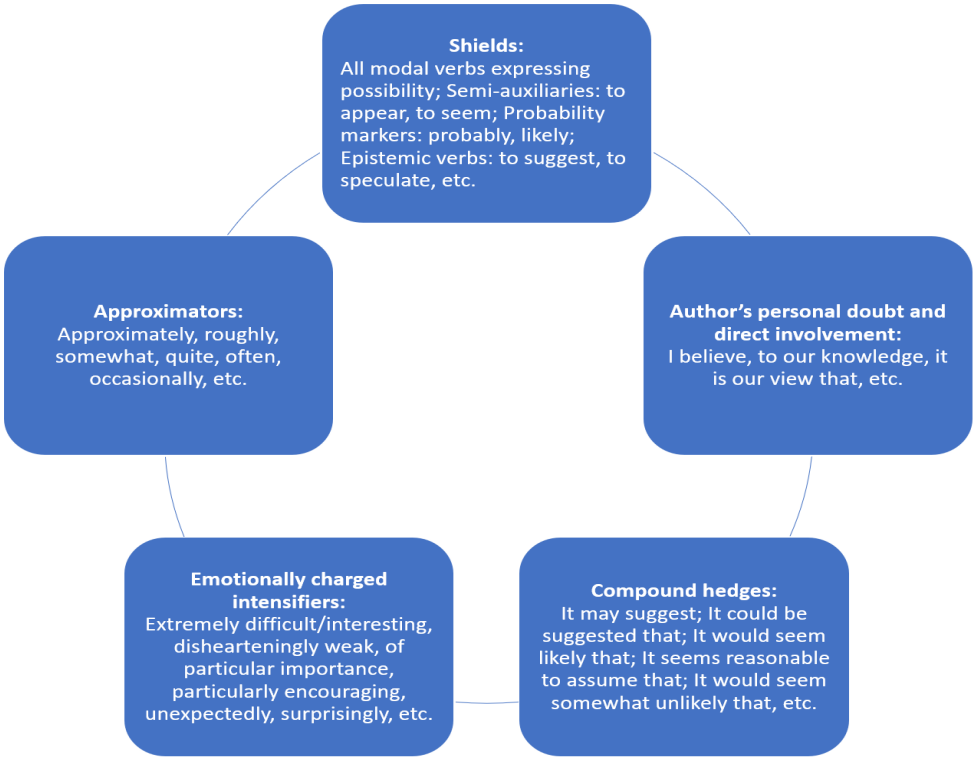

Figure 3 – Taxonomy of hedges according to Salager-Meyer (1994)

A secondary methodological aspect of this work is the focus on the notion of social impact. The aim is to analyze the ways in which hedges are used in the article text together with words and phrases that signify impact (e.g., *influence*, *contribute*, *affect*) in order to understand how the impact of integrating AI technologies into social science and education is framed within the academic discourse of research paper writing. In order to identify with which social impact-related terms to work, Hurst & Johnston's definitional approach to the taxonomy of how social impact is followed in the given study [15], depicted in Table #1 below.

Table 1. Taxonomy of How of the Social Impact by Hurst & Johnston's (2025)

Property	**Descriptors**
Positive	Empowerment/empowers; furthers
Negative	Retards; limits
Neutral	Change/s; consequence/s; affect/s/effect/s; alter/s; results; occur; influence/ influenced/influenced by; generated; brought about; invoke/invoked; concerns; impacted; adaptation; arises; reflect; respect

To analyze examples of hedges in relation to social impact phrases, the following four steps are going to be completed. First, each article's content will be scanned for the examples of use of hedges and for use of examples related to the social impact taxonomy. Hedging devices in the articles are going to be analyzed with the aim to understand the claim(s), while the social impact phrases will be analyzed based on the level of impact being implied (positive, neutral, or negative). Second, the contextual relationship will be examined by looking at how the hedging devices modify the claim related to social impact phrase(s). Third, the scope of hedging devices will be determined to see whether it applies to the presence, level, degree and causal relationship of the social impact phrases. The final step is to explore the use of hedging devices in conjunction with social impact phrases in order to understand the author's own concluding position in the article(s).

Results and discussion

This section presents a qualitative analysis of selected conclusion-related samples from ten recent articles on AI in social science and education. Each excerpt is analyzed with a focus on hedging devices and social impact-related expressions. The analysis aims to understand how hedges are used in relation to social impact-framing phrases. What is more, it shows how authors use cautious language in their evaluative statements about the integration of AI tools in social science and education.

ANALYSIS OF SAMPLE #1:

"Although many engage with AI tools in their practice, only a few have received formal training. This knowledge gap increases challenges, resulting in inconsistent responses and a lack of proficiency which ***restricts*** *academic activities. The vast majority of academicians* ***suggested*** *a pressing need for comprehensive training to unlock the full potential of AI in academia. Despite the modernity of AI, there* ***appears to be*** *a crucial question of whether AI can develop as an impartial learning assistant for students and aid for academicians. This study highlights the necessity of identifying the potential benefits of AI tools that* ***may*** *encourage academicians to continue AI adoption".*

These excerpts from the paper contain various hedging devices, shields

(*suggest; appears to be and may*), and negative social impact descriptor (*restricts*). These shields are used to signal uncertainty of the claim about possibility of the development and benefits of AI tools that reflect the cautious aspect of the claims. While, negative social impact descriptor *restricts* can be interpreted as evidence of AI implications that have a limiting effect on academic activities. Overall, these examples show a presence of negative descriptors of social impact based on the use of hedges.

ANALYSIS OF SAMPLE #2:

*"Examining the **role**, **impact**, and future directions of avatars within the educational metaverse **suggests** many possibilities for continued research and development"*.

This excerpt from the paper contains a hedge, specifically, a shield (*suggest*), and two social impact-related expressions (*role* and *impact*). The shield is used in order to avoid making a strong claim that the examination of the role and impact of the phenomenon under study will definitely lead to continued research and growth. The shield is also used with the combination *many possibilities* here, which can be interpreted as the potential presence of an indefinite number of opportunities to study this phenomenon. Overall, this example illustrates a clear presence of positive social impact framing based on the use of hedging devices.

ANALYSIS OF SAMPLE #3:

"*AI **might** deskill teachers, **shifting** their **roles** from active facilitators to passive overseers of algorithm-driven learning. Without proper training, policy support, and clear pedagogical frameworks, AI integration **may** create confusion rather than clarity in **role redefinition** for educators*".

This sample contains the use of both hedging devices and social impact-related terms. The hedges highlight a certain lack of confidence in making the claims about AI and its role and future in the system of education. The social impact-expressing phrases can be considered both positive and negative. While such phrases used in this excerpt directly have a positive meaning, their surrounding contexts, especially ones that contain hedges, contribute to a more negative interpretation of the meanings provided in this text.

ANALYSIS OF SAMPLE #4:

*"These findings **suggest** that although institutional readiness and faculty segmentation **may** differ by country, the need for differentiated support, ethical frameworks, and strategic alignment is a **global imperative**. Our results **contribute** to this broader conversation by offering a culturally specific case that **complements** emerging international perspectives"*.

This excerpt contains hedges that pertain to the shields category. Both *may* and *suggest* help the authors to avoid making strong claims about the topic in the concluding part of their article. Ideas related to social impact are positive and

indirectly expressed by words and phrases that signify a global need for change, the contribution of ongoing research to the global conversation on the topic, and the suggestion to introduce a case that would complement global perspectives on the phenomenon in question. Most of the social impact that the authors want to frame in this text is global, which can be reflected in the very title of their paper, which aims to discuss the integration of AI tools in academia. Overall, it can be concluded that the authors are cautious about their conclusions, which is visible through their use of hedging devices, and at the same time aware that any discussion on their topic must be global and international due to its significance.

ANALYSIS OF SAMPLE #5:

"*Looking ahead, future research* should *prioritize empirical studies that evaluate the effectiveness of GenAI applications in real academic settings, beyond theoretical or descriptive analyses. Longitudinal studies* ***could provide insights*** *into the long-term impacts of AI integration on student learning outcomes, motivation, and ethical behavior"*.

The most obvious hedge in this sample is the compound "*could* provide insights," which can also be considered a shield that weakens the author's commitment to a particular outcome. Rather than asserting confidently that longitudinal studies will reveal certain effects, the authors present the findings as possible, which is typical of cautious academic language. This hedge is also directly connected to positive social impact expressions, such as *impact* on *student learning outcomes*, *motivation*, and *ethical behavior*. This wording frames the integration of AI as something that may influence important educational processes. Overall, this sample relies on one central hedge directly connected to social impact.

ANALYSIS OF SAMPLE #6:

"Diffractive thinking ***offers a way forward****, enabling us to reconceptualize SoTL in order to* ***meet the imperatives of our current context*** *as a* ***GenAI-enabled world****"*.

The most important hedge in this sample is implicit. "*Offers a way forward*" functions as a shield. Instead of claiming that this way of thinking provides or guarantees a solution, the authors present their findings as possible, softening their commitment to this conclusion. This hedge is also connected to positive social impact, which can be expressed through the phrasing "*meet the imperatives of our context*" and "*GenAI-enabled world*." These expressions focus on general social change that can be brought about by promoting the phenomenon discussed in this paper.

ANALYSIS OF SAMPLE #7:

"The research found that active learning plays a crucial ***role*** *in integrating AI into Chaucer Studies. This paper offers the following recommendation for*

guiding the use of AI in Chaucer Studies: recognise that active learning is essential in shaping how AI ***can*** *be meaningfully integrated into academic study".*

This sample shows the use of modal verb *can* that belongs to the shields category of hedging devices and the social impact-related expression (*role*). The hedge highlights the possibility of making a claim that AI has a potential under the condition of active learning. The social impact phrase of *role* can be considered positive, as it points to the importance of active learning in integration of AI. Overall, this research concludes that active learning plays an important role and shapes the use of AI, since how well AI performs depends on it and use of a hedging device shows the possibility, not certainty of the claim.

ANALYSIS OF SAMPLE #8:

"As we look ahead to the next decade, the integration of AI in higher education will ***likely*** *necessitate a* ***re-evaluation*** *of institutional accreditation processes, ensuring they align with the evolving landscape of technology-enhanced learning. Accreditation bodies* ***may*** *need to establish new criteria that not only assess traditional academic rigor but also* ***evaluate*** *how effectively institutions are incorporating AI into their curricula and fostering ethical practices among students and educators alike. This shift* ***could promote*** *a more holistic view of educational quality, encouraging institutions to prioritize innovative teaching methods and ethical considerations in technology use".*

This excerpt contains hedges that belong to the shields category, mainly the probability marker *likely* and modal verbs *may* and *could* expressing possibility. These hedges signal that the author is being careful about making absolute claims, suggesting possibility of change brought about by AI integration and also discussing the potential actions by accreditation bodies. The social impact-expressing phrases can be considered both neutral and positive, *re-evaluation* entails that possible changes are required to be made since AI shapes how education works. The verbs *evaluate* and *promote* signal how authors are focusing on measuring how well AI is being used in teaching practices and also indicating possible positive outcomes of understanding the quality of education, rather than providing a definite one. Overall, hedging devices show that authors are carefully pointing to the possibilities connected with AI and acknowledging that AI integration may have different effects depending on the context, which is why its impact is uncertain. In addition, social impact phrases enable authors to show the influence of the AI in a careful and peculiar way.

ANALYSIS OF SAMPLE #9:

"By synthesizing extant evidence on strategy use and analyzing empirical data, this study ***makes*** *significant* ***contributions*** *to extending our knowledge of Self-Regulated Learning (SRL) in the context of AI, providing a foundation for future research on AI integrated learning process. Moreover, the validated inventory* ***can*** *serve as a valuable tool for key educational stakeholders. Particularly, teachers and learners* ***can*** *employ this instrument to diagnose*

AI strategy usage in formative assessment, enabling identification of gaps and informing targeted interventions".

This sample shows the use of the modal verb *can* that refers to the shields category of hedging devices and the social impact-related expression *make contributions*. By using the hedging device, the authors point to the possibility of AI bringing positive outcomes, instead of indicating the certainty of the claim. The social impact phrase *make contributions* could be considered as positive, as it positions the importance and impactful role of AI in the frame of SRL knowledge. Overall, the use of the modal verb and the social impact expression signal the possibility and importance of the discussed phenomena in this passage.

ANALYSIS OF SAMPLE #10:

*"This study has several **limitations** that should be acknowledged. First, its findings **may** have **limited** generalizability, as the research **may** have been conducted within a specific institution or region, making it less applicable to other educational contexts. Additionally, the reliance on self-reported data introduces the possibility of response bias, where participants **may** not provide entirely accurate or objective feedback. The study also primarily captures short-term perceptions and engagement, without assessing the long-term **effects** of AI-integrated tools on academic performance or learning retention"*.

This excerpt contains a hedge that pertains to the shields category, the modal verb *may*, which signals the uncertainty of the claim and leaves space for the possibility of further work on the topic, especially in the discussions about limitations of this research. Phrases related to social impact are expressed in terms like *limitations* and *limited* that imply negative connotation, while *effects* present neutral meaning. By revealing that the study does not evaluate the long-term *effects*, the author avoids making a casual conclusion and maintains caution in relation to the claim. Overall, the use of hedging devices in this study points to the fact that its findings must be interpreted with possibility of the claims, while social impact phrases make clear what is still unknown about AI-integrated tools, thus strengthening the credibility of the study.

Conclusion

This study contributes to the body of knowledge on the topic by providing insights about how ten recent qualitative studies are discussing such emergent technologies as AI. In particular, the use of hedging devices in combination with social impact expressions contribute to a better understanding of the role of AI in social and educational contexts, since the key insights of these studies revealed that claims about AI and the level of AI's social impact cannot be expressed definitely and considered in only one direction because it can be positive, negative, or neutral. Contemporary technologies shape scientific discourse. The findings of this study can also inform academic writing instruction by demonstrating the use of hedging in contemporary research contexts. Finally, this approach can be replicated to focus on other fields in which AI is actively being implemented.

One of the gaps encountered during the literature review process was that most of the scientific discussions about hedging devices are related to linguistic studies, rather than social science and education. Thus, the findings of the given study could potentially fill this gap and provide interesting insights into how hedging and social impact expressions are used in the discussion of AI in a specific field of social science and education. To mention the limitations of this study, first of all, only scholarly articles about AI that are full-text open-access were included, while paywalled sources were excluded due to the lack of access. The focus was also only on scholarly articles that researched about AI in the social science and education fields. Second, the analysis covered only 2025 articles that were all written in English, which may differ from studies published earlier and in other languages. Third, the study included only ten qualitative studies which might limit the generalizability of the findings that a larger sample could provide.

The potential implications for future research include the emphasis on analyzing other types of research papers that could be useful in providing insights on the emerging phenomenon of AI, specifically in social science and education as part of a broader scholarly discussion around the globe. While the small size of the dataset is restricting the scope of the study, it also enables an in-depth exploration of the topic. At the same time, future studies could expand these findings by employing different searching platforms, increasing the size of the dataset, including other languages, choosing alternative time periods, and diversifying key words used during the initial searching process. In addition, future studies could explore the role of AI by using hedging devices and social impact expressions related to a particular society or country, while interdisciplinary analysis could be insightful as well.

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ҚОҒАМДЫҚ ҒЫЛЫМ МЕН БІЛІМ БЕРУ САЛАСЫНДАҒЫ ЖАСАНДЫ ИНТЕЛЛЕКТ ТУРАЛЫ БЕЛГІСІЗДІКТІ КӨРСЕТУ: ЖҰМСАҚТАУ ҚҰРАЛДАРЫ ЖӘНЕ ӘЛЕУМЕТТІК ӘСЕРДЕРДІ ТАЛДАУ

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Аңдатпа. Жасанды интеллект (ЖИ) әлеуметтану сияқты әлеуметтік ғылымдарды қоса алғанда, көптеген пәндердің ажырамас бөлігіне айналып келе жатқандықтан, зерттеушілер оның рөлі мен әсерін бағалау кезінде жиі сақтықты білдіретін тілдік құралдарға сүйенеді. Бұл зерттеу әлеуметтік ғылым мен білім саласына ЖИ-ді енгізу туралы соңғы зерттеу мақалаларында осы белгісіздік қалай тілдік сақтық құралдары арқылы көрсетілетінін қарастырады.Салагер-Мейер ұсынған хеджде таксономиясына және Херст пен Джонстонның әлеуметтік ықпал тұжырымдамасына берілген

анықтамалық тәсіліне сүйене отырып, бұл зерттеу 2025 жылы жетекші батыс ғылыми журналдарында жарияланған он ғылыми мақаланың қорытынды бөлімдерін талдайды. Сапалық, интерпретациялық тәсілді пайдалана отырып, бұл зерттеу тілдік сақтық құралдарының түрін, жиілігін және контекстегі табиғатын талқылайды, әсіресе әлеуметтік әсерді көрсететін фразалармен бірге қолданылуына ерекше мән береді. Нәтижелер көрсеткендей, тілдік сақтық осы зерттеу дискурсының үнемі қолданылатын ерекшелігі болып табылады, ол көбінесе модальды етістіктер, ықтималдық көрсеткіштері, күрделі сақтық конструкциялары және жанама қорғау құралдары арқылы көрініс табады. Әлеуметтік әсерге қатысты тіркестермен бірге, осы сақтандыру құрылымдары осы саладағы ЖИ-ды әлі де контекстке тәуелді әлеуметтік маңызды құбылыс ретінде көрсету үшін қолданылады. Бұл зерттеу академиялық дискурсқа қатысты жүргізіліп жатқан зерттеулерге үлес қосады, өйткені ол дамып келе жатқан технологиялардың әлеуметтік ғылымдар мен білім беру сияқты салаларда бағалау сипатындағы тілдің қалыптасуына қалай әсер ететінін көрсетеді. Сонымен қатар, бұл зерттеу академиялық жазуды оқытуға және дискурс талдауының теориялық негіздерін қолдана отырып, жасанды интеллектке бағытталған басқа да зерттеулерге пайдалы тұжырымдар ұсынады.

Тірек сөздер: әлеуметтік ғылымдар, лингвистика, білім, жасанды интеллект, сақтандыру, әлеуметтік әсер, қоғам, таксономия

ВЫРАЖЕНИЕ НЕОПРЕДЕЛЕННОСТИ ОТНОСИТЕЛЬНО ИСКУССТВЕННОГО ИНТЕЛЛЕКТА В СОЦИАЛЬНЫХ НАУКАХ И ОБРАЗОВАНИИ: АНАЛИЗ СРЕДСТВ СМЯГЧЕНИЯ И СОЦИАЛЬНОГО ВОЗДЕЙСТВИЯ

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Аннотация. Поскольку искусственный интеллект (ИИ) всё больше становится неотъемлемой частью множества дисциплин, включая социальные науки, исследователи часто используют осторожную формулировку при оценке его роли и влияния. Настоящее исследование сосредоточено на том, как эта неопределённость выражается с помощью средств сглаживания в современных научных статьях, обсуждающих интеграцию ИИ в социальные науки и образование. Опираясь на таксономию хеджей, предложенную Салагер-Мейер, а также на определительный подход Херста и Джонстона к понятию социального воздействия, в данном исследовании анализируются заключительные разделы десяти научных статей, опубликованных в 2025 году в ведущих западных научных журналах. Используя качественный интерпретативный подход, исследование рассматривает типы, частоту и контекстуальную природу средств сглаживания, с особым вниманием к их сочетаемости с выражениями,

описывающими социальное воздействие. Полученные результаты показывают, что использование средств сглаживания является постоянной особенностью данного научного дискурса, чаще всего выражающейся через модальные глаголы, показатели вероятности, составные сглаживания и косвенные защитные конструкции. Вместе с фразами, связанными с социальным воздействием, они используются для того, чтобы представить ИИ в этой области как социально значимое явление, которое по-прежнему в значительной степени зависит от контекста. Данное исследование вносит вклад в развитие исследований академического дискурса, поскольку показывает, как развивающиеся технологии способствуют формированию оценочного языка в таких областях, как социальные науки и образование. Кроме того, работа предлагает полезные выводы для преподавания академического письма и для дальнейших исследований, посвящённых ИИ с использованием методов дискурс-анализа.

Ключевые слова: социальные науки, лингвистика, образование, искусственный интеллект, оговорки, социальное воздействие, общество, таксономия

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