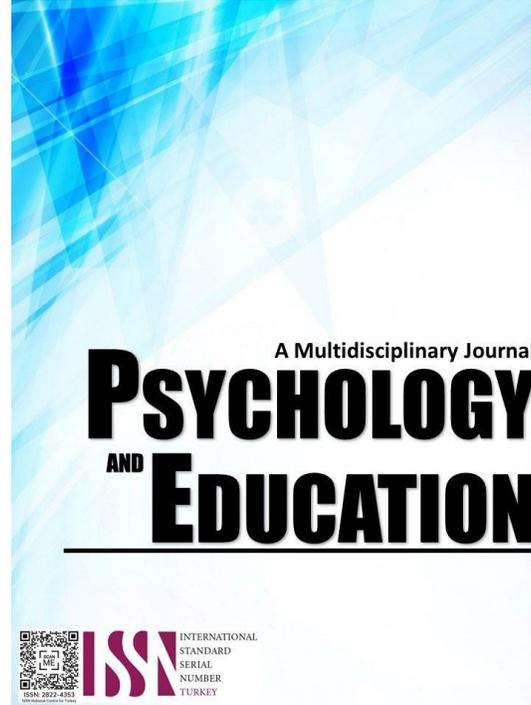


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An Assessment of Student-Researcher Satisfaction with the Use of Artificial Intelligence in Thesis Writing

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Abstract

The rapid advancement of artificial intelligence (AI) and its increasing integration into academic workflows necessitate a deeper understanding of its impact on student learning and experience. This research explores the use of AI tools in undergraduate thesis writing, focusing on student satisfaction and the factors influencing student perceptions. By examining the experiences of 121 students (83 BSIT, 38 BTVTed) at Sultan Kudarat State University, this research contributes to the growing body of knowledge on the role of AI in higher education. Overall satisfaction with AI tools was generally high. However, a more nuanced analysis revealed no significant differences between BSIT and BTVTed students across various satisfaction measures (overall satisfaction, ease of use, enjoyable experience), as indicated by Mann-Whitney U tests. Lower ratings for reliability, interface, and validity/plagiarism, however, suggest areas for tool improvement, despite high ratings for usability, functionality, features, and performance. A linear regression analysis, exploring the correlation between satisfaction and thesis outcomes, yielded a low R-squared (0.0512), indicating limited explanatory power. Surprisingly, a significant negative correlation emerged between thesis organization and overall satisfaction, warranting further investigation. Other thesis outcome measures showed no significant relationship with satisfaction. These findings highlight the need for further research to identify additional factors influencing satisfaction and to explore the unexpected negative correlation, potentially through qualitative methods. This research contributes valuable insights into student experiences with AI in thesis writing, informing future tool development and pedagogical approaches.

Keywords: *AI in education, student satisfaction, thesis writing, AI tool usability, and undergraduate research*

Introduction

Artificial intelligence (AI) is rapidly transforming various sectors, including education (Sheikh et al., 2023). The integration of AI tools in academic writing, especially in the demanding process of thesis preparation, is a subject of growing interest and debate. While AI offers potential benefits in enhancing efficiency and improving writing quality, research on student experiences, particularly in undergraduate settings, remains limited (Kurniati & Fithriani, 2022; Kumar & Raman, 2022). Studies showing positive student responses to AI writing tools like Quillbot (Kurniati & Fithriani, 2022) underscore the need for broader, context-specific research, particularly regarding the responsible use of AI in academic workflows (CNN, 2023).

This study addresses this gap by assessing student perceptions of AI tools used in thesis writing. The focus is on fourth-year BSIT and third-year BTVTed students at Sultan Kudarat State University who have completed relevant coursework. This research employs a five-point Likert scale (Kusmaryono et al., 2022) to measure students' overall satisfaction with AI tools and their perceptions of specific tool attributes. Further, it examines the relationship between student perceptions of AI tools and various aspects of their thesis projects.

This research is timely given the potential benefits and challenges associated with AI adoption in academic settings. While AI tools can improve efficiency and writing quality, concerns exist regarding over-reliance, ethical implications, and potential biases. Understanding student perceptions is crucial for optimizing AI integration and ensuring a positive learning experience. This study aims to provide a comprehensive understanding of how students perceive AI tools in their thesis writing, considering both positive and negative aspects. The findings will inform the development of better support systems, training programs, and AI tool design, maximizing the benefits of AI while mitigating potential risks.

Research Questions

Generally, this study aimed to assess the overall level of satisfaction among student-researchers using artificial intelligence in their thesis writing. Specifically, it aimed to answer the following questions:

1. Overall AI Tool Satisfaction: What is the overall level of student satisfaction with AI tools used in thesis writing, considering:
 - 1.1. overall satisfaction;
 - 1.2. ease of use; and
 - 1.3. enjoyable experience?
2. Factors Influencing Satisfaction: What factors significantly influence student satisfaction with AI tools, considering:
 - 2.1. usability;
 - 2.2. interface design;
 - 2.3. functionality;



- 2.4. features;
- 2.5. reliability;
- 2.6. performance; and
- 2.7. perceived validity and absence of plagiarism concerns?
3. Correlation with Thesis Outcomes: Is there a significant correlation between student satisfaction with AI tools and the perceived quality and efficiency of their thesis projects, as measured by:
 - 3.1. overall thesis quality;
 - 3.2. thesis clarity and organization;
 - 3.3. time saved;
 - 3.4. efficiency of the research process; and
 - 3.5. panelists'/supervisors' assessment?

Methodology

Research Design

The study employed a quantitative research design using a descriptive-correlational approach to determine the level of satisfaction of student-researchers using AI tools in their thesis writing and to identify the factors that significantly influenced their satisfaction. The study also explored the correlation between student satisfaction and the quality/efficiency of their thesis projects.

Respondents

The respondents consisted of 121 student-researchers from the third and fourth years of the BSIT and BTVTEd programs at SKSU, comprising 83 from BSIT and 38 from BTVTEd.

Instrument

The study utilized a survey method to gather quantitative data. The adopted research instrument was a questionnaire adapted from Domingo et al. (2023) and Vagias and Wade (2006), and validated for the specific context of this study. The questionnaire utilized a five-point Likert scale to measure student satisfaction and related factors. The primary research instrument was a validated questionnaire adapted from Domingo et al. (2023) and Vagias and Wade (2006), focusing specifically on tool-related factors: usability, interface, functionality, features, reliability, and performance.

Procedure

Ethical clearance was obtained from SKSU's Institutional Review Board (IRB) prior to commencing data collection. Questionnaires were then distributed to the student-researchers, and completed questionnaires were collected from the participants. Finally, the collected data were cleaned and organized in preparation for analysis.

Results and Discussion

The increasing accessibility and sophistication of Artificial Intelligence (AI) tools have significantly impacted various aspects of academic research, including thesis writing. These tools offer a range of functionalities, from grammar and style checking to advanced capabilities like literature review assistance, data analysis, and even automated writing suggestions. While offering potential benefits in terms of efficiency and quality, the impact of AI tools on student satisfaction and thesis outcomes remains a subject of ongoing investigation. This study explores student experiences with AI tools in thesis writing, aiming to understand their satisfaction levels and identify factors influencing their perception of these technologies.

This study assessed student satisfaction with AI tools used in thesis writing among 121 students at Sultan Kudarat State University (38 BTVTEd and 83 BSIT). The overall aim was to gauge satisfaction and identify influential factors.

Table 1. Overall Satisfaction Result

	Program	Overall Satisfaction	Ease of use	Enjoyable Experience
N	BSIT	78	78	78
	BTVTE	43	43	43
Missing	BSIT	0	0	0
	BTVTE	0	0	0
Mean	BSIT	4.27	4.18	4.06
	BTVTE	4.28	4.14	4.14
Median	BSIT	4.00	4.00	4.00
	BTVTE	4	4	4
Standard deviation	BSIT	0.750	0.769	0.827
	BTVTE	0.630	0.743	0.710
Minimum	BSIT	2	2	1
	BTVTE	3	3	3

Maximum	BSIT	5	5	5
	BTVTE	5	5	5
Shapiro-Wilk W	BSIT	0.787	0.815	0.817
	BTVTE	0.768	0.804	0.803
Shapiro-Wilk p	BSIT BTVTE	< .001	< .001	< .001
		< .001	< .001	< .001

Frequencies

Overall Satisfaction	Program	Counts	% of Total	Cumulative %
2	BSIT	2	1.7%	1.7%
	BTVTE	0	0.0%	1.7%
3	BSIT	8	6.6%	8.3%
	BTVTE	4	3.3%	11.6%
4	BSIT	35	28.9%	40.5%
	BTVTE	23	19.0%	59.5%
5	BSIT	33	27.3%	86.8%
	BTVTE	16	13.2%	100.0%

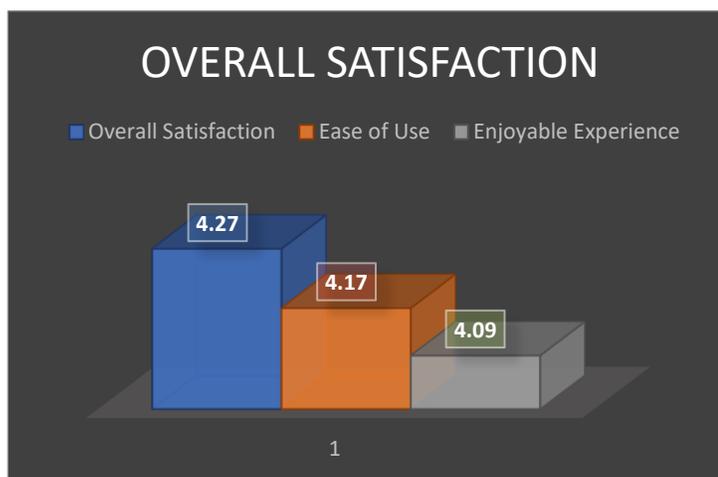


Figure 1. Frequencies of Overall Satisfaction

Descriptive statistics (Table 1) reveal generally high levels of student satisfaction with AI tools for thesis writing, with mean scores above the midpoint of the scale for overall satisfaction (4.27), ease of use (4.18), and enjoyable experience (4.06). Low standard deviations (0.750, 0.769, and 0.827, respectively) suggest consistent satisfaction levels across the student population. However, these overall means may mask differences between BSIT and BTVTEd students. To investigate this, Mann-Whitney U tests (Table 2) were conducted to compare satisfaction levels between the two programs for each satisfaction measure. These non-parametric tests were appropriate given the non-normal distribution of the data (Shapiro-Wilk test, $p < .001$ for all three variables).

Table 2. Mann-Whitney Test result for Overall Satisfaction of Students among BTVTE and BSIT

Variable	Test	Statistic	p-value
Overall Satisfaction	Mann-Whitney U	1641	0.830
Ease of use	Mann-Whitney U	1616	0.722
Enjoyable Experience	Mann-Whitney U	1634	0.800

$H_0: \mu_{BSIT} = \mu_{BTVTE}$

The results (Table 2) show no statistically significant differences between BSIT and BTVTEd students in overall satisfaction ($U = 1641, p = 0.830$), ease of use ($U = 1616, p = 0.722$), or enjoyable experience ($U = 1634, p = 0.800$). These findings suggest that the high overall satisfaction observed in the descriptive statistics is consistent across both programs. There is no evidence to suggest that one program's students experienced significantly different levels of satisfaction with the AI tools compared to the other program's students.

This aligns with the findings of Yuskovych-Zhukovska et al. (2022), who highlight the potential benefits of AI in education while also acknowledging the need for further research to understand the diverse experiences and perspectives of students across different educational contexts. While our study found no significant differences between BSIT and BTVTEd students, future research could explore factors that might influence student satisfaction with AI tools in more detail, considering variables such as prior experience with technology, individual learning styles, and the specific nature of the AI tools employed.

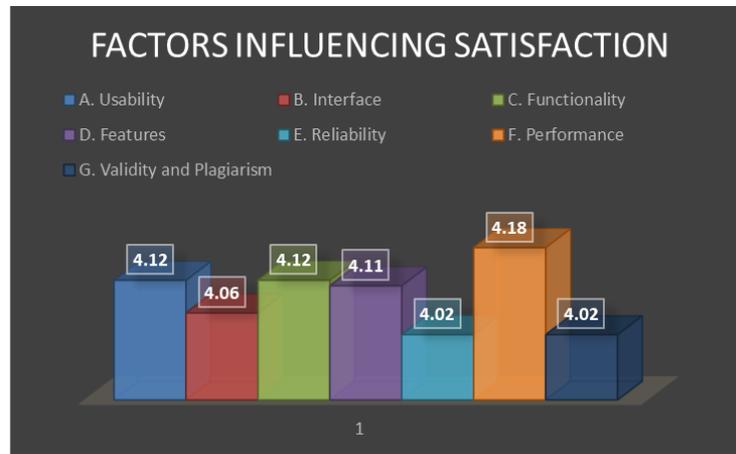


Figure 2. Factors Influencing Satisfaction of Students among BTVTE and BSIT

The study by Chatterjee, Khorana, and Kizgin (2022) highlights the growing importance of understanding citizen satisfaction with the use of artificial intelligence (AI) in public services, emphasizing the need for a citizen-centric design to maximize the potential of AI. Our study also examines satisfaction with AI tools, identifying several factors that significantly impact satisfaction levels. High ratings were observed for usability (4.12), functionality (4.12), features (4.11), and performance (4.18), suggesting these aspects of the AI tools were effective and well-received. Lower ratings were found for reliability (4.02), interface (4.06), and validity and plagiarism (4.02). These areas represent potential weaknesses requiring improvement, possibly indicating issues with tool consistency, user-friendliness, and the accuracy or originality of the generated content. To determine the statistical significance of these observed differences and to compare the satisfaction levels of fourth-year BSIT and third-year BTVTEd students, Mann-Whitney U tests were conducted. The results of these tests, however, indicated no statistically significant differences between the two groups across any of the factors (all p-values > 0.05). This suggests that, based on this analysis, BSIT and BTVTEd students did not differ significantly in their satisfaction levels regarding the usability, interface, functionality, features, reliability, performance, or validity and plagiarism of the AI tools.

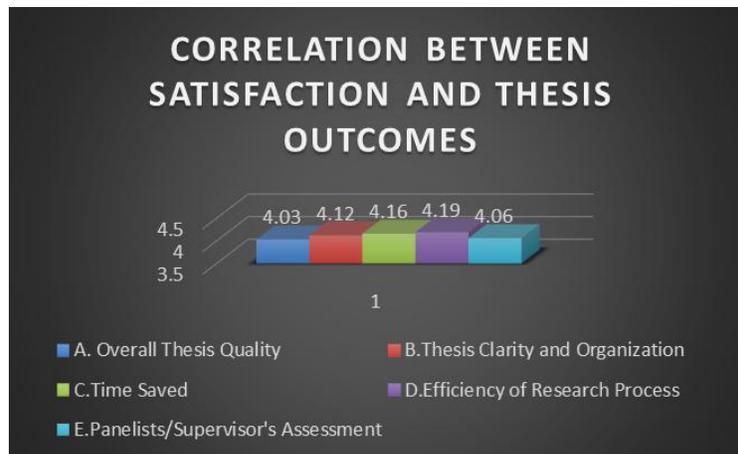


Figure 3. Test result for Overall Satisfaction of Students among BTVTE and BSIT

Linear Regressions Model Fit Measures

Model	R	R ²
1	0.226	0.0512

Predictor	Estimate	SE	t	p
Intercept	4.17392	0.533	7.8348	< .001
STUDENTS: BTVTE - BSIT	0.05182	0.159	0.3257	0.745
OVERALL THESIS QUALITY	0.10411	0.197	0.5292	0.598
THESIS QUALITY AND ORGANIZATION	-0.38728	0.183	-2.1174	0.036
TIME SAVED	-0.11793	0.169	-0.6974	0.487
EFFECIENCY OF THE RESEARCH PROCESS	0.36388	0.197	1.8454	0.068
PANELISTS/SUPERVISORS ASSESSMENT	-0.00942	0.187	-0.0503	0.960

A linear regression model was employed to investigate the relationship between overall student satisfaction with AI tools and various thesis outcome measures. The model's R-squared value of 0.0512 indicates that only 5.12% of the variance in overall satisfaction is explained by the included predictors. While a positive correlation was observed between satisfaction and thesis outcomes, the regression analysis revealed a statistically significant negative relationship between 'Thesis Quality and Organization' and overall satisfaction ($\beta = -0.38728$, $p = 0.036$). This is unexpected and requires further investigation. The remaining predictors (student group, overall thesis quality, time saved, efficiency of the research process, and panelists/supervisors assessment) were not significantly associated with overall satisfaction (all $p > 0.05$). The low R-squared value suggests that other factors not included in this model may also significantly influence student satisfaction. Further analysis, including the calculation of effect sizes, is warranted to understand the strength and practical significance of these relationships fully and to explore potential confounding variables.

Unexpected Results and Theoretical Linkage

The unexpected negative correlation between student satisfaction with AI tools and the perceived organization of their thesis warrants further investigation. One possible explanation is that over-reliance on AI-generated content may have led some students to neglect the structural and organizational aspects of their writing. Students might have prioritized the ease and speed of AI-assisted writing, sacrificing careful planning and structuring of their arguments. This aligns with concerns about the potential for AI tools to hinder the development of crucial critical thinking and organizational skills. Further research could explore this hypothesis by incorporating qualitative data, such as interviews or focus groups, to gain a deeper understanding of students' writing processes and their use of AI tools. This would allow for more robust theoretical grounding, potentially linking the findings to theories such as the Technology Acceptance Model (TAM), which explores the factors influencing technology adoption and use.

Effect Sizes and Practical Significance

While statistical significance is reported, the practical significance of the findings needs further elaboration. Effect sizes (R-squared for regression) should be calculated and reported to quantify the magnitude of the observed effects. For instance, a small effect size for the negative correlation between satisfaction and thesis organization may suggest that, while statistically significant, the practical impact of this relationship is limited. Similarly, the practical significance of the R-squared value from the regression analysis should be discussed in terms of how much variance in student satisfaction is explained by the model, and whether this amount is meaningful in a real-world context.

Implications

This study investigated student satisfaction with AI tools in thesis writing at Sultan Kudarat State University, comparing students from the BSIT and BTVTED programs. While overall satisfaction was high and did not differ significantly between programs, a nuanced analysis revealed important areas for improvement and unexpected findings. Integrating relevant educational theories, such as the Technology Acceptance Model (TAM) and Cognitive Load Theory (CLT), provides a framework for interpreting these results.

High Overall Satisfaction (TAM Perspective)

The generally high overall satisfaction, ease of use, and enjoyment scores align with the Technology Acceptance Model (TAM). Students likely perceived the AI tools as useful for assisting with their thesis writing (perceived usefulness), and the tools were relatively easy to use (perceived ease of use). This suggests that the basic functionality and user interface of the tools were largely successful in meeting students' needs.

Nuances in Specific Factors (TAM and CLT)

The lower ratings for reliability, interface, and validity/plagiarism suggest areas where the perceived usefulness and ease of use were compromised. Reliability issues could increase cognitive load (CLT), as students might experience frustration and uncertainty when the tool malfunctions or produces inconsistent results. A poorly designed interface could also increase cognitive load by making the tool difficult to navigate and use effectively. Concerns about validity and plagiarism highlight a potential disconnect between the perceived usefulness of the tool and its actual contribution to producing high-quality, original work.

Unexpected Negative Correlation (CLT and TAM)

The unexpected negative correlation between thesis organization and overall satisfaction is intriguing. CLT might explain this. Over-reliance on AI tools for generating content, without sufficient planning and structuring, could lead to increased cognitive load during the later stages of thesis writing, when organization and coherence become critical. Students might have experienced frustration when attempting to organize AI-generated content that lacked a clear structure. This could also be related to perceived usefulness; students might have perceived the AI tool as useful for generating content but not for organizing it, leading to a disconnect between their expectations and the actual outcome.

Low R-squared Value and Future Research

The low R-squared value (0.0512) from the regression analysis highlights the limitations of the current model in explaining student satisfaction. This suggests the influence of other unmeasured variables, potentially related to individual student characteristics, learning

styles, or the specific research topic. Future research should incorporate a broader range of variables, including those related to individual differences and contextual factors, to build a more comprehensive model. Qualitative research methods could provide valuable insights into the students' experiences and perspectives.

Conclusions

This study investigated student satisfaction with AI tools used in thesis writing at Sultan Kudarat State University. The findings indicate that, while overall satisfaction was high among both BSIT and BTVTEd students, specific areas for improvement exist within the AI tools themselves. The study revealed a significant need for enhanced reliability, interface design, and content validity to ensure consistent performance, user-friendly interfaces, and the generation of accurate and original content. Furthermore, the unexpected negative correlation between thesis organization and overall satisfaction highlights the need for further research exploring the potential for over-reliance on AI tools to negatively impact the development of crucial organizational skills in thesis writing. The low predictive power of the regression model highlights the complexity of factors influencing student satisfaction and underscores the need for future research that incorporates a wider range of variables.

Enhance AI Tool Development: AI tool developers should prioritize improvements in reliability, interface design, and content validity. Specific improvements should include error-handling mechanisms to ensure consistent performance, intuitive navigation, and clear instructions, as well as safeguards against plagiarism and the generation of biased or inaccurate content.

Investigate the Negative Correlation: Further qualitative research is needed to explore the negative correlation between thesis organization and satisfaction. Methods such as semi-structured interviews and focus groups should be employed to understand how students use AI tools in their writing process and how this impacts their organizational strategies.

Develop Targeted Training Programs: Institutions should implement training programs focused on responsible AI tool use in thesis writing. These programs should include (a) workshops on effective tool integration into the writing process, (b) guidance on ethical considerations such as plagiarism and bias, and (c) strategies for critical evaluation of AI-generated content.

Explore Broader Factors Influencing Satisfaction: Future mixed-methods research should investigate the influence of individual student characteristics (prior experience with technology, learning styles, self-efficacy) and contextual factors (course structure, instructor support) on student satisfaction with AI tools in thesis writing.

Integrate AI ethically and responsibly: Educational institutions should develop clear policies and guidelines for AI tool use in academic writing. These policies should include (a) specific examples of acceptable and unacceptable uses of AI tools, (b) procedures for detecting and addressing plagiarism, and (c) mechanisms for ensuring transparency in the use of AI-assisted writing.

References

- Al-Badi, A., Khan, A., & Eid-Alotaibi. (2022). Perceptions of Learners and Instructors towards Artificial Intelligence in Personalized Learning. *Procedia Computer Science*, 201, 445–451. <https://doi.org/https://doi.org/10.1016/j.procs.2022.03.058>
- Burger, B., Kanbach, D. K., Kraus, S., Breier, M., & Corvello, V. (2023). On the use of AI-based tools like ChatGPT to support management research. *European Journal of Innovation Management*, 26(7), 233–241. <https://doi.org/10.1108/EJIM-02-2023-0156>
- Chan, C. K. Y., & Hu, W. (2023). Students' voices on generative AI: perceptions, benefits, and challenges in higher education. *International Journal of Educational Technology in Higher Education*, 20(1), 43. <https://doi.org/10.1186/s41239-023-00411-8>
- Chubb, J., Cowling, P., & Reed, D. (2022). Speeding up to keep up: exploring the use of AI in the research process. *AI & SOCIETY*, 37(4), 1439–1457. <https://doi.org/10.1007/s00146-021-01259-0>
- Cyril John A. Domingo, Kennedy A. Genon, Therese Niña V. Torres, Yvonne Lynn V. Torres, & Dr. Lorlaine R. Dacanay. (2023). Development and Validation of an Instrument Assessing University Students' Perceptions of the Use of Artificial Intelligence for Research. *International Journal of Mathematics and Physical Sciences Research*, 11(2), 15–25. <https://doi.org/10.5281/zenodo.10409779>
- Elangovan, N., & Sundaravel, E. (2021). Method of preparing a document for survey instrument validation by experts. *Methods X*, 8. <https://doi.org/10.1016/j.mex.2021.101326>
- Holmes, W., & Tuomi, I. (2022). State of the art and practice in AI in education. *European Journal of Education*, 57(4), 542–570. <https://doi.org/https://doi.org/10.1111/ejed.12533>
- Keleş, P. U., & Aydın, S. (2021). University Students' Perceptions About Artificial Intelligence. *Shanlax International Journal of Education*, 9(S1-May), 212–220. <https://doi.org/10.34293/education.v9is1-may.4014>
- Kumar, V. V. R., & Raman, R. (2022). Student Perceptions on Artificial Intelligence (AI) in higher education. 2022 IEEE Integrated STEM Education Conference (ISEC), 450–454. <https://doi.org/10.1109/ISEC54952.2022.10025165>
- Kurniati, E. Y., & Fithriani, R. (2022). Post-Graduate Students' Perceptions of Quillbot Utilization in English Academic Writing Class.



Journal of English Language Teaching and Linguistics, 7(3), 437. <https://doi.org/10.21462/jeltl.v7i3.852>

Kusmaryono, I., Wijayanti, D., & Maharani, H. R. (2022). Number of Response Options, Reliability, Validity, and Potential Bias in the Use of the Likert Scale Education and Social Science Research: A Literature Review. In *International Journal of Educational Methodology* (Vol. 8, Issue 4, pp. 625–637). Eurasian Society of Educational Research. <https://doi.org/10.12973/ijem.8.4.625>

Sheikh, H., Prins, C., & Schrijvers, E. (2023). Artificial Intelligence: Definition and Background. In H. Sheikh, C. Prins, & E. Schrijvers (Eds.), *Mission AI: The New System Technology* (pp. 15–41). Springer International Publishing. https://doi.org/10.1007/978-3-031-21448-6_2

Yuskovych-Zhukovska, V., Poplavska, T., Diachenko, O., Mishenina, T., Topolnyk, Y., & Gurevych, R. (2022). Application of artificial intelligence in education. Problems and opportunities for sustainable development. *BRAIN. Broad Research in Artificial Intelligence and Neuroscience*, 13(1Sup1), 339-356.

Vagias, Wade M. (2006). Likert-type scale response anchors. Clemson International Institute for Tourism & Research Development, Department of Parks, Recreation and Tourism Management. Clemson University.

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