STUDENT'S PERCEPTION OF THE IMPACT OF AI WRITING TOOLS ON LEARNING, CONFIDENCE & WRITING INDEPENDENCE- A STUDY IN KARIMNAGAR

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Abstract

The rising trend of using AI writing tools has affected the writing habits of undergraduate students. This paper investigates the impact of AI writing tools on students' confidence and writing autonomy in the Karimnagar region. The descriptive research design was employed to gather data from 137 undergraduate students using a structured questionnaire. The results revealed that 62% of students are familiar with AI writing tools, with ChatGPT being the most popular tool. Students use AI writing tools for grammar correction, idea development, and organizing assignments. Although students reported increased understanding and confidence, there were concerns about the impact of overdependence on AI writing tools on their autonomy.

The thematic analysis revealed that the students perceive AI as a supplement to their learning process and not as a replacement for creative thinking. In conclusion, this study finds that AI writing tools have the potential to improve learning and boost confidence if used judiciously with proper policies and integration.

Keywords: Artificial Intelligence, AI Writing Tools, Student Perception, Academic Writing, Higher Education

Introduction

Artificial Intelligence (AI) writing tools such as ChatGPT, Grammarly, and Google AI tools are increasingly influencing the undergraduate academic landscape. Students are using these tools for grammar correction, idea generation, and assignment organization, acquiring academic support along with the growing concerns of independent thinking, learning, and overdependence. In the Indian higher education scenario, AI tool adoption is increasing without any institutional direction in semi-urban and rural areas. This study aims to explore the awareness, usage patterns, benefits, concerns, and expectations of undergraduate students in the Karimnagar district regarding AI writing tools.

Objectives of the Study

- To study the level of awareness and usage of AI writing tools among undergraduate students.

- To examine students' perceptions of the impact of AI writing tools on learning and understanding.
- To analyse the influence of AI writing tools on students' writing confidence and anxiety.
- To assess students' views on writing independence and over-reliance on AI tools.
- To understand students' opinions on ethical use and institutional guidance related to AI writing tools.

Research Methodology

The study used a descriptive research design and collected primary data from 137 undergraduate students across Arts, Science, and Commerce & Management streams in Karimnagar district. A structured questionnaire was administered, and data were analysed using SPSS through frequency, percentage, and thematic analysis, focusing on students' perceptions rather than academic performance.

Review of Literature

Gupta and Sharma (2021) highlighted that digital learning tools improve student engagement but require guided usage.

Rao (2022) found that AI-based tools help students improve language skills, especially among non-English backgrounds.

Kumar and Singh (2023) reported that students perceive AI writing tools as helpful for grammar and idea generation but expressed concerns about originality and ethics.

Patil (2024) emphasized the importance of AI literacy and ethical awareness in Indian higher education institutions.

Limitations of the Study

- The study is limited to 137 undergraduate students from one district.
- The findings are based on self-reported perceptions, which may involve personal bias.
- The study does not measure actual academic performance or writing quality.
- Results may not be generalised to all regions or postgraduate students.

Table 1 showing Demographic Profile of Respondents

Demographic Variable	Category	Frequency	Percent	Valid Percent	Cumulative Percent
Gender	Female	39	28.5	28.5	28.5
	Male	98	71.5	71.5	100.0
Age Group (Years)	≤18 years	39	28.46	28.46	28.46
	19–23 years	98	71.54	71.54	100.0
Stream	Arts	46	33.6	33.6	33.6
	Commerce and Management	60	43.8	43.8	77.4
	Science	31	22.6	22.6	100.0
Medium of Instruction	English	133	97.1	97.1	97.1
	Telugu	4	2.9	2.9	100.0
Year of Study	I Year	68	49.6	49.6	49.6
	II Year	38	27.7	27.7	77.4
	III Year	31	22.6	22.6	100.0
Place of Residence	Rural	92	67.2	67.2	67.2
	Semi-Urban	10	7.3	7.3	74.5
	Urban	35	25.5	25.5	100.0

The sample was predominantly male (71.5%), mostly aged 19–23 years and first-year undergraduates, with Commerce and Management students forming the largest group, English as the main medium of instruction, and a majority (67.2%) from rural areas.

Are you aware of AI-powered writing tools?					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Can't say	4	2.9	2.9	2.9
	No	48	35.0	35.0	38.0
	Yes	85	62.0	62.0	100.0
	Total	137	100.0	100.0	

The sample was predominantly male, mostly aged 19–23 years and first-year undergraduates, with Commerce and Management students forming the largest group, English as the primary medium of instruction, and a majority from rural areas.

Which AI writing tools have you used?

AI Writing Tool	Frequency	Percent	Valid Percent	Cumulative Percent
ChatGPT	111	81.0	81.0	81.0
Google AI Tools	51	37.2	37.2	118.2
Grammarly	11	8.0	8.0	126.2
QuillBot	6	4.4	4.4	130.6

The table indicates that ChatGPT is the most widely used AI writing assistant (81.0%), followed by Google AI tools (37.2%), while Grammarly (8.0%) and QuillBot (4.4%) have limited use, reflecting a preference for general-purpose AI tools over specialized writing assistants.

How often do you use AI writing tools for academic work?					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Never	27	19.7	19.7	19.7
	Often	9	6.6	6.6	26.3
	Rarely	21	15.3	15.3	41.6
	Sometimes	71	51.8	51.8	93.4
	Very often	9	6.6	6.6	100.0
	Total	137	100.0	100.0	

The findings indicate that most students (51.8%) use AI writing tools occasionally as supplementary aids, while 19.7% never use them and smaller proportions use them rarely or frequently, reflecting a moderate and selective level of adoption.

For which academic purposes do you mostly use AI tools?					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Completing full drafts	11	8.0	8.0	8.0
	Generating ideas	40	29.2	29.2	37.2
	Improving grammar and language	57	41.6	41.6	78.8
	Paraphrasing content	5	3.6	3.6	82.5
	Structuring assignments	24	17.5	17.5	100.0
	Total	137	100.0	100.0	

The results show that AI is mainly used for grammar and language improvement (41.6%), followed by idea generation (29.2%) and assignment organization (17.5%), while very few students use it for full drafts or paraphrasing, indicating that AI is largely used as a supplementary learning aid.

AI writing tools help me understand academic topics better.					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly disagree	33	24.1	24.1	24.1
	Disagree	26	19.0	19.0	43.1
	Neutral	23	16.8	16.8	59.9
	Agree	18	13.1	13.1	73.0
	Strongly Agree	37	27.0	27.0	100.0
	Total	137	100.0	100.0	

The responses show mixed perceptions of AI writing tools in improving understanding of academic topics, with similar proportions agreeing (40.1%) and disagreeing (43.1%). Overall, the findings highlight scepticism among many students and emphasize the need for guided and purposeful AI use to support genuine academic understanding.

Using AI tools improves my ability to organize ideas logically.					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly disagree	29	21.2	21.2	21.2
	Disagree	26	19.0	19.0	40.1
	Neutral	25	18.2	18.2	58.4
	Agree	23	16.8	16.8	75.2
	Strongly Agree	34	24.8	24.8	100.0
	Total	137	100.0	100.0	

The results indicate divided opinions on whether AI tools help students organize ideas logically, with nearly equal proportions agreeing (41.6%) and disagreeing (40.1%). Overall, the findings suggest that AI supports idea organization for some students, but its effectiveness varies, underscoring the need for guided use to strengthen logical thinking.

AI tools support my learning when faculty guidance is limited.					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly disagree	29	21.2	21.2	21.2
	Disagree	29	21.2	21.2	42.3
	Neutral	28	20.4	20.4	62.8
	Agree	23	16.8	16.8	79.6
	Strongly Agree	28	20.4	20.4	100.0
	Total	137	100.0	100.0	

The responses show mixed views on the usefulness of AI tools when faculty guidance is limited, with similar proportions agreeing (37.2%) and disagreeing (42.4%). Overall, the findings indicate that AI may provide supplementary support for some students but is not seen as a reliable substitute for direct faculty interaction.

	I feel that AI tools encourage surface learning rather than deep understanding.				
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly disagree	24	17.5	17.5	17.5
	Disagree	27	19.7	19.7	37.2
	Neutral	36	26.3	26.3	63.5
	Agree	17	12.4	12.4	75.9
	Strongly Agree	33	24.1	24.1	100.0
	Total	137	100.0	100.0	

The results indicate divided opinions on whether AI tools promote surface learning, with nearly equal proportions agreeing (36.5%) and disagreeing (37.2%). Overall, the findings reflect a cautious attitude toward AI use and highlight the need for proper use to support deep rather than surface learning.

	AI writing tools help me learn correct academic writing formats.				
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly disagree	25	18.2	18.2	18.2
	Disagree	24	17.5	17.5	35.8
	Neutral	35	25.5	25.5	61.3
	Agree	20	14.6	14.6	75.9
	Strongly Agree	33	24.1	24.1	100.0
	Total	137	100.0	100.0	

The results show mixed perceptions of AI writing tools in learning correct academic formats, with similar proportions agreeing (38.7%) and disagreeing (35.7%). Overall, the findings suggest that AI can support learning academic formats for some students, but its effectiveness depends on purposeful and guided use.

	AI writing tools increase my confidence in writing assignments.				
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly disagree	35	25.5	25.5	25.5
	Disagree	23	16.8	16.8	42.3
	Neutral	24	17.5	17.5	59.9
	Agree	22	16.1	16.1	75.9
	Strongly Agree	33	24.1	24.1	100.0
	Total	137	100.0	100.0	

The results show mixed perceptions of the impact of AI writing tools on students' confidence, with similar proportions agreeing (40.2%) and disagreeing (42.3%). Overall, the findings indicate that AI tools enhance writing confidence for some students, but the effect varies across individuals.

	I feel less anxious while writing academic work due to AI support.				
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly disagree	23	16.8	16.8	16.8
	Disagree	31	22.6	22.6	39.4
	Neutral	34	24.8	24.8	64.2
	Agree	21	15.3	15.3	79.6
	Strongly Agree	28	20.4	20.4	100.0
	Total	137	100.0	100.0	

The responses show mixed perceptions about AI support in reducing writing anxiety, with 35.7% agreeing and 39.4% disagreeing. Overall, the findings suggest that AI may help reduce anxiety for some students, but its effect is not consistent across the student population.

AI tools help me express my ideas more clearly in writing.				
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly disagree	21	15.3	15.3	15.3
	Disagree	22	16.1	16.1	31.4
	Neutral	38	27.7	27.7	59.1
	Agree	23	16.8	16.8	75.9
	Strongly Agree	33	24.1	24.1	100.0
	Total	137	100.0	100.0	

AI tools reduce students' fear of making grammatical mistakes				
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly disagree	22	16.1	16.1	16.1
	Disagree	27	19.7	19.7	35.8
	Neutral	34	24.8	24.8	60.6
	Agree	23	16.8	16.8	77.4
	Strongly Agree	31	22.6	22.6	100.0
	Total	137	100.0	100.0	

The responses show divided views on whether AI tools improve clarity of expression, with 40.9% agreeing, 31.4% disagreeing, and 27.7% remaining neutral. Overall, the findings suggest that AI can enhance writing clarity for some students, but its effectiveness varies by individual needs and usage.

The analysis shows mixed perceptions of AI tools in reducing fear of grammatical errors, with 39.4% agreeing and 35.8% disagreeing, while nearly one-quarter of respondents remained neutral.

I feel more confident submitting assignments prepared with AI assistance.				
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly disagree	29	21.2	21.2	21.2
	Disagree	22	16.1	16.1	37.2
	Neutral	23	16.8	16.8	54.0
	Agree	25	18.2	18.2	72.3
	Strongly Agree	38	27.7	27.7	100.0
	Total	137	100.0	100.0	

The findings show mixed confidence levels in submitting assignments with AI assistance, with 45.9% agreeing that AI increases confidence and 37.2% disagreeing, indicating cautious attitudes among many students.

I can write academic assignments independently without using AI tools.				
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly disagree	36	26.3	26.3	26.3
	Disagree	17	12.4	12.4	38.7
	Neutral	40	29.2	29.2	67.9
	Agree	18	13.1	13.1	81.0

	Strongly Agree	26	19.0	19.0	100.0
	Total	137	100.0	100.0	

The results show mixed confidence in students' ability to write independently without AI, with fewer students agreeing (32.1%) than disagreeing (38.7%), and many remaining neutral (29.2%). Overall, the findings indicate that while some students are confident writing independently, others rely on AI assistance.

Excessive use of AI tools reduces my independent thinking ability.					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly disagree	25	18.2	18.2	18.2
	Disagree	25	18.2	18.2	36.5
	Neutral	40	29.2	29.2	65.7
	Agree	20	14.6	14.6	80.3
	Strongly Agree	27	19.7	19.7	100.0
	Total	137	100.0	100.0	

The results show balanced views on the impact of excessive AI use on independent thinking, with similar proportions agreeing (34.3%) and disagreeing (36.4%), and many remaining neutral (29.2%). Overall, the findings reflect awareness of potential risks and highlight the need for balanced AI use in academic work.

I depend on AI tools to start my assignments.					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly disagree	35	25.5	25.5	25.5
	Disagree	29	21.2	21.2	46.7
	Neutral	31	22.6	22.6	69.3
	Agree	24	17.5	17.5	86.9
	Strongly Agree	18	13.1	13.1	100.0
	Total	137	100.0	100.0	

The findings show that most students do not heavily rely on AI tools to start assignments, with 46.7% disagreeing, while 30.6% use AI as a starting aid and 22.6% report situational use.

AI writing tools sometimes replace my own effort in writing.					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly disagree	24	17.5	17.5	17.5
	Disagree	24	17.5	17.5	35.0
	Neutral	35	25.5	25.5	60.6
	Agree	28	20.4	20.4	81.0
	Strongly Agree	26	19.0	19.0	100.0
	Total	137	100.0	100.0	

The results show ambivalent attitudes toward whether AI writing tools replace students' effort, with similar proportions agreeing (39.4%) and disagreeing (35.0%), and 25.5% remaining neutral. Overall, the findings suggest that although some students feel AI reduces their writing effort, many continue to view it as a supplementary aid rather than a substitute.

I feel confident in writing exams or in-class tasks without AI support.		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly disagree	21	15.3	15.3	15.3
	Disagree	27	19.7	19.7	35.0
	Neutral	30	21.9	21.9	56.9
	Agree	29	21.2	21.2	78.1
	Strongly Agree	30	21.9	21.9	100.0
	Total	137	100.0	100.0	

The results show balanced confidence in students' ability to write exams or class assignments without AI support, with 43.1% agreeing, 35.0% disagreeing, and 21.9% remaining neutral. Overall, the findings suggest that while many students feel capable of writing independently, others still rely on AI, indicating a need for further academic writing training.

I am aware of ethical guidelines related to AI use in academics.		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly disagree	30	21.9	21.9	21.9
	Disagree	32	23.4	23.4	45.3
	Neutral	29	21.2	21.2	66.4
	Agree	21	15.3	15.3	81.8
	Strongly Agree	25	18.2	18.2	100.0
	Total	137	100.0	100.0	

The analysis indicates a low level of awareness of ethical guidelines for AI use in academics, with 45.3% of respondents disagreeing or strongly disagreeing that they are aware of such guidelines, while 21.2% remained neutral.

Using AI tools without proper acknowledgment feels unethical.		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly disagree	20	14.6	14.6	14.6
	Disagree	31	22.6	22.6	37.2
	Neutral	38	27.7	27.7	65.0
	Agree	24	17.5	17.5	82.5
	Strongly Agree	24	17.5	17.5	100.0
	Total	137	100.0	100.0	

The findings reveal mixed ethical perceptions regarding unacknowledged AI use, with 35.0% viewing it as unethical, 37.2% disagreeing, and 27.7% remaining neutral. Overall, the results indicate uneven ethical awareness among students, underscoring the need for clearer institutional guidelines and awareness programmes on responsible AI use.

Faculty members clearly guide students on acceptable AI usage.		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly disagree	23	16.8	16.8	16.8
	Disagree	29	21.2	21.2	38.0

	Neutral	39	28.5	28.5	66.4
	Agree	20	14.6	14.6	81.0
	Strongly Agree	26	19.0	19.0	100.0
	Total	137	100.0	100.0	

The data suggest that many students perceive faculty guidance on acceptable AI use as limited, with 38.0% disagreeing or strongly disagreeing that they receive clear guidance and 28.5% remaining neutral.

I worry that over-reliance on AI may affect my future academic performance.					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly disagree	20	14.6	14.6	14.6
	Disagree	24	17.5	17.5	32.1
	Neutral	46	33.6	33.6	65.7
	Agree	20	14.6	14.6	80.3
	Strongly Agree	27	19.7	19.7	100.0
	Total	137	100.0	100.0	

The findings show a moderate level of concern about the long-term effects of overdependence on AI, with similar proportions agreeing (34.3%) and disagreeing (32.1%), and 33.6% remaining neutral. Overall, the split opinion highlights the need for balanced AI use in academics.

AI writing tools should be formally integrated into college teaching-learning practices.					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly disagree	23	16.8	16.8	16.8
	Disagree	24	17.5	17.5	34.3
	Neutral	27	19.7	19.7	54.0
	Agree	25	18.2	18.2	72.3
	Strongly Agree	38	27.7	27.7	100.0
	Total	137	100.0	100.0	

The results indicate moderate support for integrating AI writing tools into college-level teaching and learning, with 45.9% of respondents agreeing or strongly agreeing, 34.3% disagreeing or strongly disagreeing, and 19.7% remaining neutral.

Overall, AI writing tools are beneficial for my academic development.					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly disagree	25	18.2	18.2	18.2
	Disagree	28	20.4	20.4	38.7
	Neutral	25	18.2	18.2	56.9
	Agree	28	20.4	20.4	77.4
	Strongly Agree	31	22.6	22.6	100.0
	Total	137	100.0	100.0	

The findings show mixed perceptions of the overall academic benefits of AI writing tools, with 43.0% of respondents agreeing or strongly agreeing, 38.6% disagreeing or strongly disagreeing, and a notable neutral group (18.2%).

Table: Thematic Analysis of Open-Ended Responses on AI Guidance

Theme	Description	Frequency	Percent	Valid Percent	Cumulative Percent
C1	AI as a learning aid, not a replacement	34	24.8	24.8	24.8
C2	Need for guidance, training, AI literacy	29	21.2	21.2	46.0
C3	Ethical use and avoiding over-dependence	22	16.1	16.1	62.1
C4	Skill improvement and learning support	18	13.1	13.1	75.2
C5	Institutional integration and support	14	10.2	10.2	85.4
C6	Positive but vague responses	15	10.9	10.9	96.3
C7	No opinion / unclear responses	5	3.7	3.7	100.0

The thematic analysis shows that most students perceive AI as a learning support tool rather than a substitute for their own effort, emphasizing the need for proper guidance and AI literacy. Overall, the findings reflect cautious yet positive attitudes toward AI, highlighting ethical use, skill development, and appropriate academic integration.

Findings of the Study

1. Students are familiar with AI writing tools, but many require basic orientation.
2. ChatGPT is the most used AI writing tool, and specialized tools are of limited use.
3. AI is used occasionally, which indicates supportive but not continuous use.
4. The main uses of AI are grammar correction, idea generation, and work organization.
5. Students have mixed opinions about the use of AI in understanding and organizing concepts.
6. AI is viewed as supplementary support, not a substitute for teachers.
7. There are reservations about surface learning, overdependence, and decreased independent thinking.
8. Benefits of confidence building and anxiety reduction are variable among students.
9. Awareness about ethical guidelines and teacher support is limited.
10. Students are cautious about supporting the guided and ethical use of AI in education.

Suggestions / Recommendations

1. Colleges should conduct orientation programs and workshops for increasing students' awareness about AI writing tools.
2. AI literacy training should be incorporated to encourage ethical, effective, and critical use of AI.
3. Teachers should give proper guidelines about the use of AI in assignments and projects.
4. Assignments should promote originality, reflection, and process-based learning to avoid over-reliance on AI.
5. Students should be advised to use AI for language-related purposes, idea generation, and learning support.
6. Ethical practices, such as proper acknowledgment of AI support, should be promoted in academic tasks.

Policy Implications for Colleges

1. Colleges should formulate institutional policies regarding acceptable and unacceptable use of AI writing tools.
2. Guidelines regarding AI use should be embedded in course syllabi, assignment instructions, and academic integrity policies.
3. Faculty development programs should be organized to enable teachers to handle AI-assisted learning.
4. Institutions should adopt AI tools in a planned and monitored way rather than rejecting or ignoring them.
5. Awareness programs about ethics, academic integrity, and responsible AI use should be held on a regular

basis.

6. AI use should be encouraged as a learning partner while maintaining independent thinking, creativity, and critical abilities.

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