FUDMA Journal of Sciences (FJS)
ISSN online: 2616-1370
ISSN print: 2645 - 2944
Vol. 9 No. 5, May, 2025, pp 345 – 350
DOI: https://doi.org/10.33003/fjs-2025-0905-3467

CHATGPT'S IMPACT ON THE UNIQUENESS OF LAUTECH UNDERGRADUATE FINAL-YEAR STUDENTS' PROJECTS

***[1]Abiola Timothy Owolabi, [1]Oluwabukunmi Isaiah Adewole, [2]Victor Olajide Akinsola, [1]Olasunkanmi James Oladapo and [1]Janet Iyabo Idowu**

[1]Department of Statistics, Ladoke Akintola University of Technology, Ogbomoso, Oyo State, Nigeria.
[2]Department of Mathematical Sciences, Adeleke University, Ede, Osun State, Nigeria.

*Corresponding authors' email: atowolabi@lautech.edu.ng Phone: +2348062956731

ABSTRACT

The emergence of artificial intelligence (AI) tools like OpenAI's ChatGPT has brought about challenges for academic researchers and higher education institutions, especially when drafting final-year projects for students. Assessing traditional human contributions and differentiating between human and AI authorship have surfaced as significant academic issues. This study investigates the prevalence and potential effects of ChatGPT on the originality and creativity of final-year student projects in a higher education institution in south-west Nigeria. A total of one hundred and fifty-two students (152) participated in the survey, and descriptive analysis, along with an independent chi-squared test, was employed for the study. Approximately half of the students in the survey involved ChatGPT to varying degrees in writing different aspects of their project. Among the different parts of the project, data analysis garnered the least attention, while the Abstract attracted the most attention. ChatGPT awareness was not affected by the age group but was influenced by gender. According to the study's results, there were significant gender-based disparities in students' awareness of ChatGPT (p-value < 0.05), with 44.1% indicating a moderate level of familiarity and 58.6% utilizing it for educational purposes. Higher education institutions should not only caution students about the perils of excessively relying on tools like ChatGPT for academic writing but also cultivate a research culture that highly values originality and innovation.

Keywords: Artificial Intelligence, ChatGPT, Higher Education Institution, Student Project, Originality

INTRODUCTION

ChatGPT (Chat Generative Pre-trained Transformer), developed by OpenAI, produces a sophisticated language model (Kirmani, 2022). The system can hold conversations in normal language and provide helpful responses. ChatGPT helps users with information retrieval, problem-solving, and meaningful dialogue on various subject topics (Liu et al., 2023).

The recent widespread and international adoption of ChatGPT has highlighted its enormous diversity of use cases, including software development and testing, poetry, essay writing, business communications, and contracts (Metz, 2022; Reed, 2022; Tung, 2023). It took ChatGPT only two months to reach one hundred million users, a feat no other consumer internet app has achieved in over twenty years (Danmilmo & Agency, 2023). On a global scale, ChatGPT has disrupted conventional teaching strategies, and it has sparked discussions among educators in Nigeria about whether it might support or undermine academic integrity. It is a powerful chatbot that can fulfill a wide range of text-based requests with coherent and contextually relevant responses. However, it has also raised numerous concerns about the difficulty in differentiating human versus AI authorship within academic and educational communities and renewed debate on the role of traditional human endeavors(Else, 2023; Stokel-Walker, 2023). In addition to these challenges, the extensive use of ChatGPT for Natural Language Processing (NLP) tasks, such as language translation, text production, and generating answers, has had both beneficial and detrimental effects. For example, while ChatGPT excels in demythologizing difficult ideas and providing insights into domain-specific knowledge (Owolabi et al., 2024), its effectiveness is limited without the involvement of skilled professionals such as statistical analysts, to interpret and convey complex findings. This highlights a key shortcoming of ChatGPT, particularly for users unfamiliar with advanced statistical concepts, while emphasizing the enduring importance of human analysts in clearly and effectively communicating results to non-technical stakeholders.

Generally, it has been observed by researchers that the impact of technology on education systems around the world is enormous (Harahap et al., 2023). Also, the introduction of ChatGPT to academic and educational communities has been a major bone of contention among academic scholars, whereby it was discovered that ChatGPT had been used to pass a law school exam successfully (Choi et al., 2023) and a Master of Business Administration (MBA) exam (Terwiesch, 2023). Thus, the integrity of online exams is threatened by ChatGPT, especially in tertiary education settings, where such exams are becoming more common. This makes the educational system face further difficulties and dangers with the use of ChatGPT. There are concerns about AI-assisted cheating because it can be used to produce written assignments and exams on behalf of students and can respond precisely to user questions.

Lecturers and educators are also afraid that the use of ChatGPT may promote plagiarism and propagate academic dishonesty, which could have a detrimental impact on academic integrity; thus, it is crucial to control ChatGPT usage to avoid any potential adverse effects, especially for students (Cotton et al., 2023). In addition, ChatGPT may create fake references, which could affect the validity of academic studies (Dale, 2021). For instance, if ChatGPT creates a research paper, it could reference and create nonexistent sources or articles, as citing sources is a means to honor other academics' contributions and demonstrate appreciation for their work (Hyland, 1999).

Owing to its potential to radically alter how academia and research are conducted, ChatGPT can be seen as a disruptive technology that can produce individualized learning resources

and case studies, enhancing the standard of instruction for students. However, using ChatGPT in academic and scientific settings has adverse effects. There is a chance that using ChatGPT will cause researchers to rely too much on generated information, which could result in a loss of originality and critical thinking abilities. Additionally, there are issues with the precision and dependability of ChatGPT responses, particularly when rules or equations that do not exist are created.

It is evident that ChatGPT, as a disruptive technology, has already started to have a considerable impact on academia with the ability to fundamentally change how academia and research are conducted and is expected to continue to do so in the years to come, although its use may have both advantages and disadvantages. This study investigates the prevalence and potential impacts of ChatGPT's advent on the creativity and originality of final-year students' projects at Ladoke Akintola University of Technology (LAUTECH), Ogbomoso, South-West Nigeria.

MATERIALS AND METHODS

Data Collection

The study was conducted at Ladoke Akintola University of Technology, Ogbomoso, a higher institution in South-West Nigeria. Ladoke Akintola University of Technology was chosen to represent the impact of ChatGPT in a technologically oriented educational institution due to its prominent emphasis on technology and research, and one hundred and fifty-two (152) graduating students were involved. A questionnaire was used to gather qualitative data from these students to ensure clarity and reliability, and was divided into four major sections which are: Demographic information, awareness of ChatGPT, Students' involvement in the use of ChatGPT and Academic Integrity. Data collection was carried out electronically to enhance a rapid response and accessibility of information. Participation was voluntary and confidentiality of responses was assured.

Descriptive statistics were used to summarized the data, while the chi-square test of independence was applied to test associations between categorical variables, particularly to examine relationships between students' demographic characteristics and their usage of ChatGPT. The questionnaire was pilot tested with 20 students and reviewed by experts. Ladoke Akintola University of Technology (LAUTECH) is a prestigious Nigerian institution known for higher education. It has twelve (12) faculties and can accommodate around thirty thousand (30,000) students, with over three thousand (3,000) academic, non-teaching, and contract staff members. The main campus in Ogbomoso offers a wide range of degree programs.

RESULTS AND DISCUSSION

The results were analyzed using SPSS 23 and Microsoft Excel 2019. Descriptive and Inferential statistics were used in the study.

Table 1: Respondents' Demographics

Variable	Responses	Frequency	Percentage (%)
Gender	Male	80	52.6
	Female	72	47.4
Age Category	20-22	16	10.5
	23-25	80	52.6
	25+	56	36.8
Faculty	FAG	6	3.9
	FBMS	42	27.6
	FCSM	2	1.3
	FET	46	30.3
	FES	2	1.3
	FMGS	3	2
	FPAS	51	33.6

FAG is Faculty of Agricultural Sciences, FBMS is Faculty of Basic Medical Sciences, FCSM is Faculty of Clinical Sciences and Medicine, FET is Faculty of Engineering and Technology, FES is Faculty of Environmental Sciences, FMGS is Faculty of Management Sciences, FPAS is Faculty of Pure and Applied Sciences.

Table 1 shows the gender distribution of the respondents, with 80 (52.6%) male and 72 (47%) female. The largest age group, 23 to 25, had 80 (52.6%) participants, followed by 25 and older with 56 (36.8%) and 20 to 22 with 16 (10.5%). With 51 (33.6%) respondents, the Faculty of Pure and Applied Sciences had the most representation, followed by the Faculty of Engineering and Technology with 46 (30.4%).

Table 2: Awareness About ChatGPT

Variable	Responses	Frequency	Percentage (%)
Have you heard of ChatGPT?	No	26	17.1
	Yes	126	82.9
How did you get to know about ChatGPT?	Through Friends	69	45.4
	Social Media and Online Communications	46	30.3
	Online Articles and News	15	9.9
	Academic or Industry conferences	10	6.6
	Others	12	7.9
Familiarity with ChatGPT	Moderately Familiar	67	44.1
	Very Familiar	53	34.9
	Not Familiar	32	21.1
ChatGPT Usage	Never	35	23
	Rarely	45	29.6
	Often	58	38.2
	Always	14	9.2
Academic and Research related assignments	No	63	41.4
	Yes	89	58.6

As depicted in Table 2, most respondents (82.9%) were aware of ChatGPT, with friends being the primary source of knowledge (45.4%). Significant contributions to ChatGPT awareness came from online communities and social media (30.3%). The level of familiarity with ChatGPT varied, with moderate familiarity at 44.1%, followed by very familiar at 34.9%, and unfamiliar at 21.1%. The utilization of ChatGPT also displayed variation: frequent usage was reported by 38.2%, infrequent usage by 29.6%, never usage by 23.0%, and always usage by 9.2%. According to data in Table 2, 58.6% of ChatGPT users employed the technology for academic or research-related tasks.

Table 3: Students' Involvement with ChatGPT

Variables	Extremely Involved (%)	Very Involved (%)	Moderately Involved (%)	Minimally Involved (%)	Not at all (%)
Abstract	5 (3.3)	12 (7.9)	30 (19.7)	32 (21.1)	73 (48.0)
Introduction	8 (5.3)	14 (9.2)	28 (18.4)	21 (13.8)	81 (53.3)
Literature Review	7 (4.6)	10 (6.6)	31 (20.4)	25 (16.4)	79 (52.0)
Methodology	7 (4.6)	8 (5.3)	21 (13.8)	20 (13.2)	96 (63.2)
Analysis of data	2 (1.3)	11 (7.2)	19 (12.5)	23 (15.1)	97 (63.8)
Interpretation of analyzed data	4 (2.6)	9 (5.9)	26 (17.1)	21 (13.8)	92 (60.5)
Summary/Conclusion	7 (4.6)	9 (5.9)	34 (22.4)	27 (17.8)	75 (49.3)
Recommendations	6 (3.9)	10 (6.6)	24 (15.8)	27 (17.8)	85 (55.9)
References	7 (4.6)	8 (5.3)	21 (13.8)	25 (16.4)	91 (59.9)

According to Table 3, ChatGPT was utilized in 50.7% of the final-year project components and not in 49.3%. The Abstract and Methodology exhibited the highest and lowest levels of engagement, respectively, at 52% and 36.8%, while the References and Recommendations showed engagement levels of 40.1% and 44.1% respectively.

Table 4: Academic Integrity & Originality

Variable	Responses	Frequency	Percentage (%)
Adopting ChatGPT for research projects by students	No, it doesn't affect the originality	17	11.2
	Not Sure	31	20.4
	Yes, it somewhat affects the originality	48	31.6
	Yes, it has a significant impact on the originality	56	36.8
Study findings using ChatGPT	No, it's inappropriate	48	31.6
	Yes, it is appropriate	39	25.7
	Not sure	31	20.4
Steps to alleviate worries of originality	Strict guidelines should be put in place	31	20.4
	Some guidelines should be put in place	92	60.5
	No guidelines are necessary	7	4.6
	Not Sure	22	14.5

Precautions for using ChatGPT	Engage in critical thinking to develop original insight	28	18.4
	Implement reliable plagiarism-checking tools	36	23.7
	Presenting information in your own words	31	20.4
	Verifying the credibility of sources used	57	37.5
Guidance on the uniqueness of the research project	Accept peer feedback	10	6.6
	Nurture a research value	54	35.5
	Provide examples of original research	21	13.8
	Seek guidance from supervisors	67	44.1

Presented in Table 4 are the distinct ways in which various respondents' utilization of ChatGPT impacts their research endeavors. A significant portion of respondents (64.8%) agree that ChatGPT influences project originality. On the other hand, a notable fraction (31.6%) sees ChatGPT as unsuitable for academic research. Additionally, most respondents (60.5%) advocate for implementing guidelines to mitigate ChatGPT's adverse effects on the originality of final-year projects. Furthermore, a significant number of respondents (44.1%) propose that guidance from supervisors should be sought to maintain the authenticity and integrity of final-year projects.

Table 5: Reliability Statistic

Cronbach's Alpha	No of Items
0.883	23

As demonstrated in Table 5, the internal consistency reliability of the questionnaire is presented through a statistical measure. The recorded Cronbach's alpha value of 0.883 indicates a substantial degree of internal consistency reliability. This value strongly suggests that the questionnaire items maintain high consistency and reliability in measuring the targeted construct.

Table 6: Pearson Chi-square test

Are you familiar with ChatGPT?	Value	df	Asymptotic Sig
Gender	6.013	1	0.014
Age category	0.322	1	0.57

Table 6 shows the Pearson Chi-square test value of (df=1, N=152) =6.013, p-value= 0.014, which stands below the significance threshold of 0.05. This outcome signals that the gender of the respondents significantly influences their familiarity with ChatGPT. Conversely, with respect to the age category, the Pearson Chi-square test value of (df=1, N=152) =0.322, p-value=0.570, surpasses the significance value of 0.05. This particular result suggests that the age category of the respondents does not have a notable impact on their familiarity with ChatGPT.

Table 7: Pearson Chi-Square Test

Student's level of Involvement	Value	df	Asymptotic Sig
ChatGPT usage	18.312	2	0.000

Table 7 displays the Pearson Chi-square test value with asymptotic significance (0.000), which is less than the significance value of 0.05. This suggests that the student's involvement significantly affects their usage of ChatGPT.

Discussion

The primary objective of this research is to explore the potential consequences of ChatGPT's emergence on the creativity and originality of undergraduate final-year projects undertaken by students at LAUTECH in Ogbomoso, located in South-west Nigeria. Analyzing the demographic characteristics, it was observed that the survey garnered a higher participation rate from male respondents compared to their female counterparts. Notably, a trend emerged wherein male students were more familiar with ChatGPT than female students. This observation aligns with the findings of previous studies. For instance, according to (Atuahene & Owusu-Ansah, 2013), males tend to be more prevalent in higher education, as substantiated similarly in (Atuahene, 2014). Additional research (Tawiah, 2012) indicated that male students are more inclined toward utilizing the Internet and other technologies in the context of their higher education than their female peers. Within the scope of this survey, a considerable portion of participants fell within the age range of 23 to 25. This age bracket points to the dominance of Generation Z (Gen Z) students. This generation is known for their acute awareness of their environment and propensity to stay abreast of technological advancements. As supported by (Zhang et al., 2021), they demonstrate a strong affinity for using the Internet and exhibit a profound competence in technological skills. While being distinct individuals, they simultaneously desire to stand out while remaining integrated within their peer group (Smith, 2012). According to (Shin & Lee, 2021), these age cohorts comprise individuals born and raised in the era of digital technology, making them inherently inclined towards adopting technological innovations. This upbringing further underscores their reliance on friends as a primary source of awareness, aligning well with the findings of this study, where a significant proportion of students acquired knowledge of ChatGPT through their friends.

Furthermore, the innovative nature of ChatGPT currently presents a substantial challenge to conventional educational systems. Despite these potential risks, the survey reveals that students' engagement with ChatGPT for their final-year projects varies moderately. Further research is necessary to provide robust support for integrating this technology within higher education, particularly in the context of final-year projects (Bennett et al., 2017; Deeley, 2017).

The research outcomes suggest no statistically significant disparity exists among different age groups concerning

students' familiarity with ChatGPT. However, a statistical distinction does emerge when considering gender and students' acquaintance with ChatGPT. Furthermore, the study emphasizes that the degree to which students incorporate ChatGPT into their final-year project composition is closely linked to the frequency of their utilization of the Chatbot.

CONCLUSION

The emergence of the ChatGPT as a sophisticated AI-powered writing assistant has significantly reshaped the academic landscape within a remarkably short period. Introduced in November 2022 and with this study conducted only seven months later, the findings underscore how swift technology can permeate educational settings. At the Ladoke Akintola University of Technology (LAUTECH), a notable proportion of final-year students have already adopted ChatGPT for various stages of their project work, ranging from abstract to data interpretation, thereby reflecting the increasing reliance on AI tools in academic research.

However, this widespread use brings to the forefront important concerns regarding academic originality and intellectual integrity. The study reveals that over 60% of respondents believe that ChatGPT impacts the authenticity of student research outputs, with many acknowledging a diminished role of personal creativity when AI tools are excessively used. Particularly striking is the discovery that gender plays a significant role in the level of awareness and utilization of ChatGPT, whereas age does not. This suggests that cultural or social dynamics may be more influential than generational factors in driving the adoption than generational factors.

Furthermore, the analysis highlights the pressing need for institutions to redefine their approaches to academic supervision and project assessment. Supervisors must be equipped to identify AI-generated content and mentor students in ways that encourage critical thinking, originality, and ethical research practice. There is also a clear call from students for institutional support in navigating the ethical boundaries of AI usage, with over 60% recommending the implementation of formal guidelines to regulate how tools such as ChatGPT are used in academic work.

Therefore, this study serves not only as an early documentation of ChatGPT's influence on student research but also as a wake-up call for higher education stakeholders. Universities must develop comprehensive AI literacy programs, invest in effective plagiarism detection systems, and foster a research environment that values creativity, analytical reasoning, and the responsible use of technology.

As artificial intelligence continues to evolve, it will become increasingly vital for educational systems to strike a careful balance between embracing technological innovation and preserving the fundamental values of academic integrity. Future research should extend beyond a single institution to include a more diverse and representative sample of universities across Nigeria and other regions. Such studies could further explore the nuanced impacts of AI on different academic disciplines and help shape sustainable forward-thinking policies for integrating AI in higher education.

REFERENCES

Atuahene, F. (2014). Charting higher education development in Ghana: Growth, transformations, and challenges. *The development of higher education in Africa: Prospects and challenges* (pp. 215–263). Emerald Group Publishing Limited. http://doi.org/10.1108/S1479-3679(2013)0000021011

Atuahene, F., & Owusu-Ansah, A. (2013). A descriptive assessment of higher education access, participation, equity, and disparity in Ghana. *SAGE Open, 3*(3), 2158244013490704. https://doi.org/10.1177/2158244013490704

Bennett, S., Dawson, P., Bearman, M., Molloy, E., & Boud, D. (2017). How technology shapes assessment design: Findings from a study of university teachers. *British Journal of Educational Technology, 48*(2), 672–682. https://doi.org/10.1111/bjet.12439

Choi, J. H., Hickman, K. E., Monahan, A., & Schwarcz, D. (2023). ChatGPT goes to law school. *Journal of Legal Education*. http://jle.aals.org/home/vol71/iss3/2/

Cotton, D. R. E., Cotton, P. A., & Shipway, J. R. (2023). Chatting and cheating: Ensuring academic integrity in the era of ChatGPT. *Innovations in Education and Teaching International*. https://doi.org/10.1080/14703297.2023.2190148

Dale, R. (2021). GPT-3: What's it good for? *Natural Language Engineering, 27*(1), 113–118. https://doi.org/10.1017/S1351324920000601

Danmilmo, & Agency. (2023, February 2). ChatGPT reaches 100 million users two months after launch. *The Guardian*. https://www.theguardian.com/profile/danmilmo

Deeley, S. (2017). "Using technology to facilitate effective assessment for learning and feedback in higher education," *Assessment & Evaluation in Higher Education,* pp. 43(3), 439-448. http://doi.org/10.1080/02602938.2017.1356906

Else, H. (2023). Abstracts written by ChatGPT fool scientists. *Nature, 613*(7945), 423. https://doi.org/10.1038/d41586-023-00107-z

Harahap, M. A. K., Sutrisno, S., Fauzi, F., Jusman, I. A., & Ausat, A. M. A. (2023). The impact of digital technology on employee job stress: A business psychology review. *Jurnal Pendidikan Tambusai, 7*(1), 3635–3638. http://doi.org/10.31004/jptam.v7i1.5775

Hyland, K. (1999). Academic attribution: Citation and the construction of disciplinary knowledge. *Applied Linguistics, 20*(3), 341–367. https://doi.org/10.1093/applin/20.3.341

Kirmani, A. R. (2022). Artificial intelligence-enabled science poetry. *ACS Energy Letters, 8*, 574–576. https://doi.org/10.1021/acsenergylett.2c00123

Liu, X., Zheng, Y., Du, Z., Ding, M., Qian, Y., Yang, Z., & Tang, J. (2023). GPT understands, too. *arXiv*. http://arxiv.org/abs/2103.10385v2

Metz, A. (2022). 6 exciting ways to use ChatGPT—from coding to poetry. *TechRadar*. https://www.techradar.com/features/6-exciting-ways-to-use-chatgpt-from-coding-to-poetry

Owolabi, A. T., Okunlola, O. O., Adewuyi, E. T., Idowu, J. I., & Oladapo, O. J. (2024). The advent of ChatGPT: Job made easy or job loss to data analysts. *WSEAS Transactions on Computers, 23*, 24–40. http://doi.org/10.37394/23205.2024.23.3.

Reed, L. (2022). ChatGPT for automated testing: From conversation to code. *Sauce Labs*. https://saucelabs.com/blog/chatgpt-automated-testing-conversation-to-code

Shin, J. H., & Lee, J. W. (2021). Athlete brand image influence on the behavioral intentions of Generation Z. *Social Behavior and Personality: An International Journal, 49*(2), 1–13. https://doi.org/10.2224/sbp.9751

Smith, S. K. T. (2012). Longitudinal study of digital marketing strategies targeting millennials. *Journal of Consumer Marketing, 29*(2), 86–92. https://doi.org/10.1108/07363761211206396

Stokel-Walker, C. (2023). ChatGPT listed as author on research papers: Many scientists disapprove. *Nature, 613*(7945), 620–621. https://doi.org/10.1038/d41586-023-00107-z

Tagoe M. (2012). Students' perceptions on incorporating e-learning into teaching and learning at the University of Ghana. *International Journal of Education and Development using ICT, 8*(1), 91–103. http://ijedict.dec.uwi.edu/viewarticle.php?id=1356

Terwiesch, C. (2023). Would Chat GPT3 get a Wharton MBA? A prediction based on its performance in the operations management course. *Mack Institute for Innovation Management at the Wharton School, University of Pennsylvania*.

http://mackinstitute.wharton.upenn.edu/2023/would-chat-gpt3-get-a-wharton-mba-new-white-paper-by-christian-terwiesch/

Tung, L. (2023). ChatGPT can write code. Now researchers say it's good at fixing bugs too. *ZDNet*. https://www.zdnet.com/article/chatgpt-can-write-code-now-researchers-say-its-good-at-fixing-bugs-too

Zhang, Y., Wen, Y., & Hou, M. (2021). The effect of attribute alignability on product purchase: The moderating role of product familiarity and self-construal. *Frontiers in Psychology, 12*, 1–12. https://doi.org/10.3389/fpsyg.2021.631497