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The Technical Influence In Chat Generative Pre-Trained Among Students For Modern Learning Traits

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Abstract

Introduction: *The introduction section investigates the technical influences of chat generative pre-trained models on students' modern learning traits that aim to contribute nuanced insights to the evolving landscape of educational technology. The introduction highlights the factors related to the statistical data and contextualizes the prevalence of these models.*

Literature Review: *The literature review critically examines the existing research delving into the multifaceted dimensions of chat generative pre-trained models in education. From the analysis, explores the historical evolution, emphasizing the increasing integration of technology in modern learning technology. It has been estimated that the synthesis of key findings have laid the foundation for subsequent empirical investigation.*

Methodology: *The methodology section outlines a primary quantitative approach that engages 65 participants through structured survey. By leveraging the SPSS tool, the study employees the descriptive analysis, correlation approaches, ANOVA and the tests of reliability and validity that are accustomed with the interconnectedness of engagement frequency. Furthermore, regression analysis has found out the substantial influences on students' engagement and perceived impact.*

Findings and Analysis: *This portion of the study has presented a comprehensive examination of participants' responses. The correlation analysis has revealed a significant positive relationship that focuses on students' engagement and perceived impacts.*

Discussion: *The discussion interprets results withi[1]n the broader approaches that have highlighted the significance of active engagement and the motive of personalized learning experiences. From the analysis, it has been found out that educators and policymakers are underscored and has emphasized the need for prolonged pedagogical alignments.*

Conclusion: *The conclusion section summarizes the key findings that have reinforced a substantial contribution to the existing body of knowledge. The research delineates the foundation for optimizing the innovative technologies in education. The functional approaches of the study have shaped the modern learning experiences in understanding the role of ChatGPT in students' learning process.*

Introduction

In modern education, an imperative pursuit of technical possibilities has emerged, generating a significant rate among students. This exploration assumes Chat Generative Pre-Trained

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among Students for Modern Learning traits. The level of significance has risen with increasing interlace based on the educational qualification of the students and their level of engagement in the use of Chat GPT. As stated by Ansari et al. (2024), the technical influence of GPTs on students' development of modern learning traits has maximized the benefits ensuring an effective integration into educational practices. The development of artificial intelligence has evolved as a captivator in understanding the potential of the students as well as increasing the credibility of educational practices.

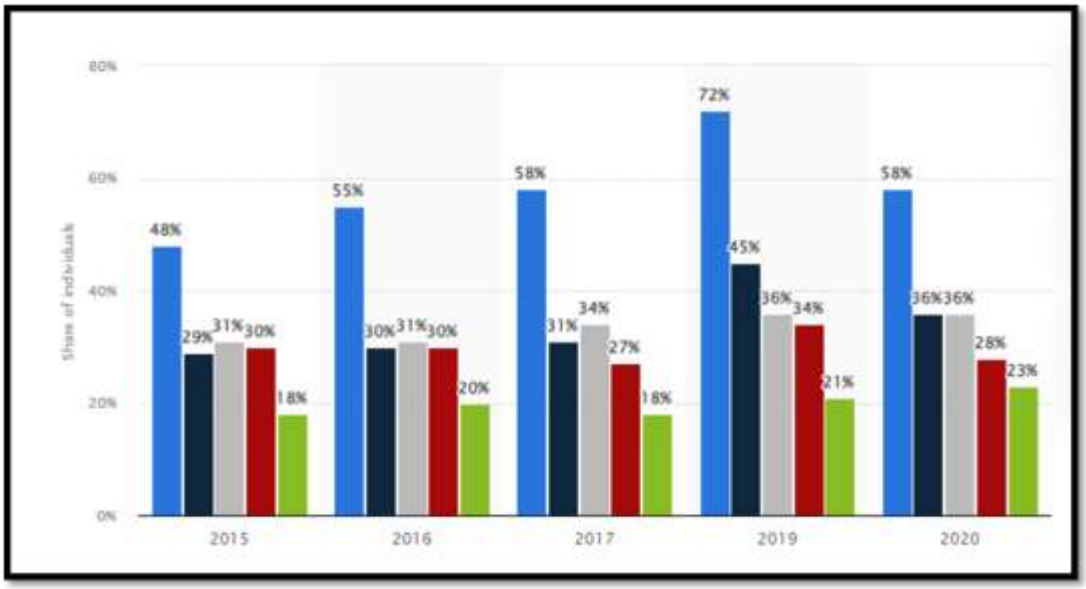


Figure 1: Share of online learning participants in the United Kingdom (UK) from 2015 to 2020
(Source: Statista, 2024)

From the above diagram, it has been estimated that as compared to the educators, students' perception of how GPTs affect various learning aspects. In the year 2019, A higher bar for improved writing fluency which is 72% reflects that students believe that GPTs distinctively enhance writing skills (Statista, 2024). In comparison, a lower bar for independent learning skills which was 31% in the year 2017 and 45% in the year 2019 has perceived a decrease in the independent exploration due to GPTs. Understanding the technical commodities and ensuring the proximity of learning of students have ensured effective educational practices in a significant manner.

Modern learning necessitates the cultivation of a diverse set of skills incorporating critical thinking ensuring the use of critical thinkers for effective communicators, and adapting better research forums to build lifelong learners. As per the critical analysis by Baber et al. (2024), GPTs can process and generate vast amounts of information that offer a unique quality of learning and educational facilities for effective integration services. One of the significant practice areas has helped in summarizing complex texts and has developed personalized learning guides to provide instant feedback on grammar and sentence structure. This can free up the students' cognitive load in terms of allowing them to focus on deeper understanding and analysis. As stated by Camilleri (2024), brainstorming has helped in stigmatizing the learning models in terms of inculcating approaches towards various solutions and possibilities. This has helped in figuring out the diverse perspectives on learning which has promoted critical thinking skills significantly.

GPTs have the potential to foster creativity and to make certain innovations which are led by facilitating effective group work by aiding information organization and structuring various project arguments relatively. As opined by Hakiki et al. (2023), the influence of GPTs is not without challenges, from which overreliance is one of the most prevalent models that might hinder independent learning and research skills. Features such as real-time co-creation documents enhance the learning experiences in a significant manner. Furthermore, the instant access to GPT-generated solutions has formulated the research questions in terms of navigating complex information independently.

Aim

The study aims to investigate the technical influence of chat-generative pre-trained models on students for the development of modern learning traits.

Research objectives

RO1: To examine the student's familiarity with chat generative pre-trained models and their integration into modern learning environments

RO2: To assess the frequency of students' engagement with Chat GPT in their academic pursuits to identify learning patterns

RO3: To investigate the impact of chat generative pre-trained models on students' preferences for personalized learning experiences

RO4: To explore the potential influence of chat generative pre-trained models in collaborating with critical thinking within the educational context

Research questions

RQ1: What is the student's familiarity with chat generative pre-trained models and their integration into modern learning environments?

RQ2: What is the frequency of students' engagement with Chat GPT in their academic pursuits to identify learning patterns?

RQ3: What is the impact of chat generative pre-trained models on students' preferences for personalized learning experiences?

RQ4: What are the potential influences of chat generative pre-trained models in collaborating with critical thinking within the educational context?

Research hypothesis

H1: There is a positive relationship between students' familiarity with ChatGPT and their frequency in modern learning.

H2: There is a significant relationship between ChatGPT and their impact on student engagement.

H3: There is a relevant linkage between ChatGPT and improved critical learning experiences

Literature review

Examining student's familiarity with chat generative pre-trained models and their integration into modern learning environments

The accumulation of modern technology has scrutinised the degree of familiarity among the students regarding chat generative pre-trained models and their seamless integration into the contemporary learning environment. The evolving educational landscapes have understood the extent of students' acquaintances with these models becoming imperative. As per the views by Hou et al. (2024), the use of ChatGPT delves into the intricate nuances of how students perceive and interact with modern approaches to learning effectively. This has the familiarity to uncover the various insights that are adaptable in the context of evolving educational technologies.

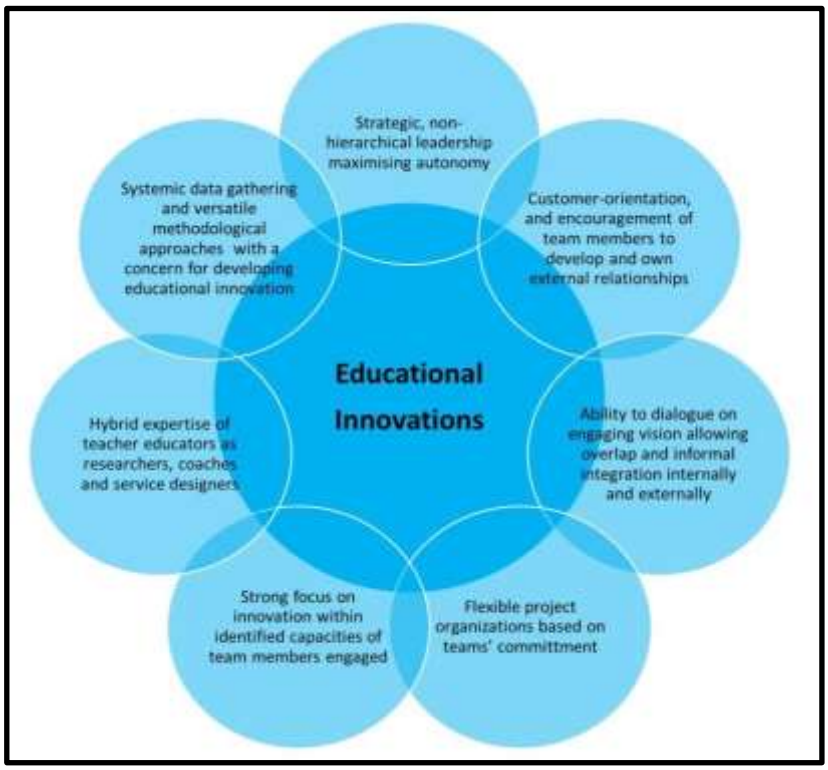


Figure 2: Student's familiarity with chat generative pre-trained models
(Source: Jauhiainen & Guerra, 2023)

From the above figure, it can be illustrated that ChatGPT has played an influential role in measuring strategic practices that develop external relationships. There is a strong focus on innovation in programming functional practices to embrace qualitative opportunities as well. As opined by Jauhiainen & Guerra (2023), the examination of familiarity with the predictability of modern education aims to uncover insights into the students' technological engagements and adaptability in the context of evolving educational practices. This exploration encompasses the analysis of educational models and students' life-changing activities to contribute valuable insights to the ongoing discourse that endeavors a symbiotic relationship between students and chat generative pre-trained educational landscapes of contemporary education.

Frequency of students' engagement with ChatGPT in their academic pursuits to identify learning patterns

The frequency of student engagement in the learning process based on ChatGPT in their academic pursuits has identified discernible patterns in learning behaviour. The implication of ChatGPT has enhanced academic skills as well as unraveled academic settings by providing valuable insights into the student's preferences, and habits, thereby shaping their learning experiences. As explained by Kapsali et al. (2024), the understanding of students' behaviour through the application of ChatGPT is well-versed in shaping their future. The comprehensive analysis focuses on understanding the broader context of modern education and evaluating the various ranges of possibilities to identify learning patterns.

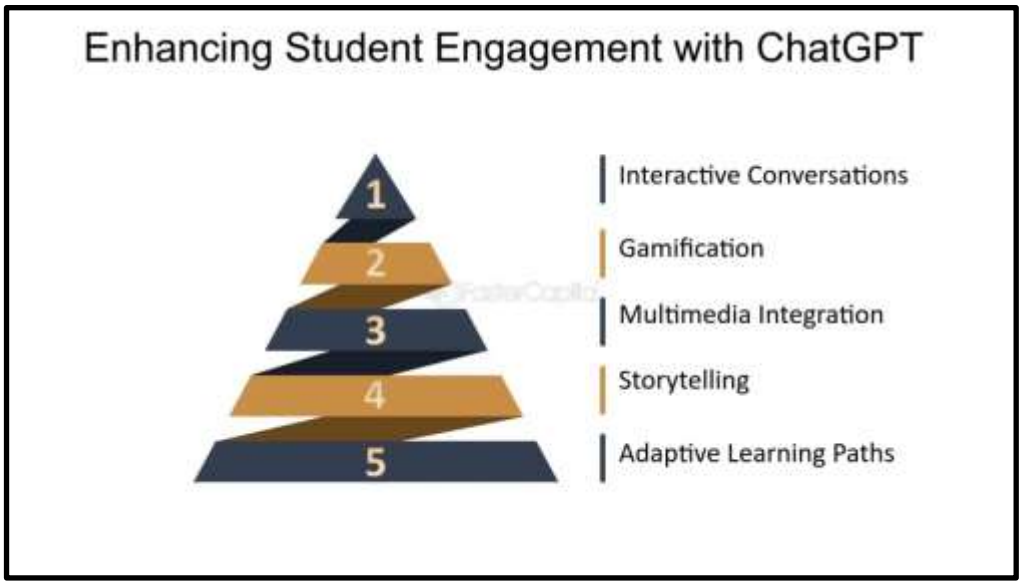


Figure 3: Frequency of students' engagement with ChatGPT in their academic pursuits
(Source: Khennouche et al. 2024)

The above figure showcases the pyramid of students' engagement practices that builds up the altitude of learning practices. The comprehensive expression of ChatGPT has induced interactive conversation to address the fundamental course of actions limiting the fact that learning is possible by adapting the chat generative pre-trained models to gain academic pursuits. As per the critical analysis by Khennouche et al. (2024), chat generative pre-trained models have established gamification as a significant source of learning that integrates the reliable use of multimedia factors. In addition to that, the use of adaptive learning paths and graffiti to collect various educational tools has become possible by the usage of this AI tool.

Impact of chat generative pre-trained models on students' preferences for personalized learning experiences

The investigation of the impact of chat generative pre-trained models on students' preferences has influenced the individualization of learning is paramount. By delving into the repercussions of incorporating ChatGPT, the model seeks to tailor learning environments. As per the views by Kolade et al. (2024), the usage of the AI tool is centered on discerning the learning models which eventually contributes to a heightened desire among students. This expresses a critical yet significant potential transformation of learning preferences within the digital paradigm. This has a major impact on developing a better and wider scope for the students to inculcate valuable insights into students' preferences.

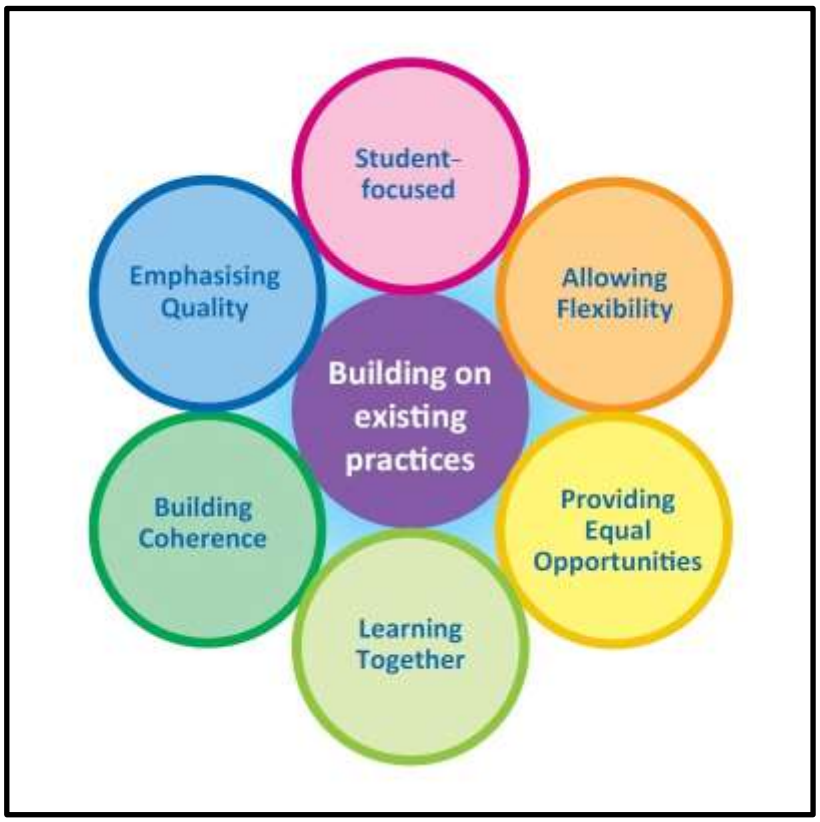


Figure 4: Impact of chat generative pre-trained models on students' preferences
(Source: Lee et al. 2023)

The above figure shows the predominance of learning opportunities that are developed based on students' preferences. The inclusion of student-focused establishes a turning point with the use of ChatGPT which has got better opportunities and allows flexibility in educational practices. As examined by Lee et al. (2023), technology such as ChatGPT has unveiled the course of learning probabilities to acknowledge the pre-trained models to bring in a significant approach that builds coherence among the students. Therefore, modern technology has been successful in emphasizing the quality of education in terms of measuring qualitative approaches based on critical demonstrations.

Exploring the potential influences of chat generative pre-trained models in collaborating with critical thinking within the educational context

The exploration of chat generative pre-trained activities has put forward various collaborative approaches in fostering collaboration as well as enhancing critical thinking within the educational context. As education continues to evolve various innovative developments have been put forth which have helped students to find easier ways for search engines and libraries. As stated by Liu et al. (2023), materials and chemical components are easier to find to process the course of actions in software and instruments. The application of ChatGPT has enlightened the heightened the various ways of critical thinking within the educational context.

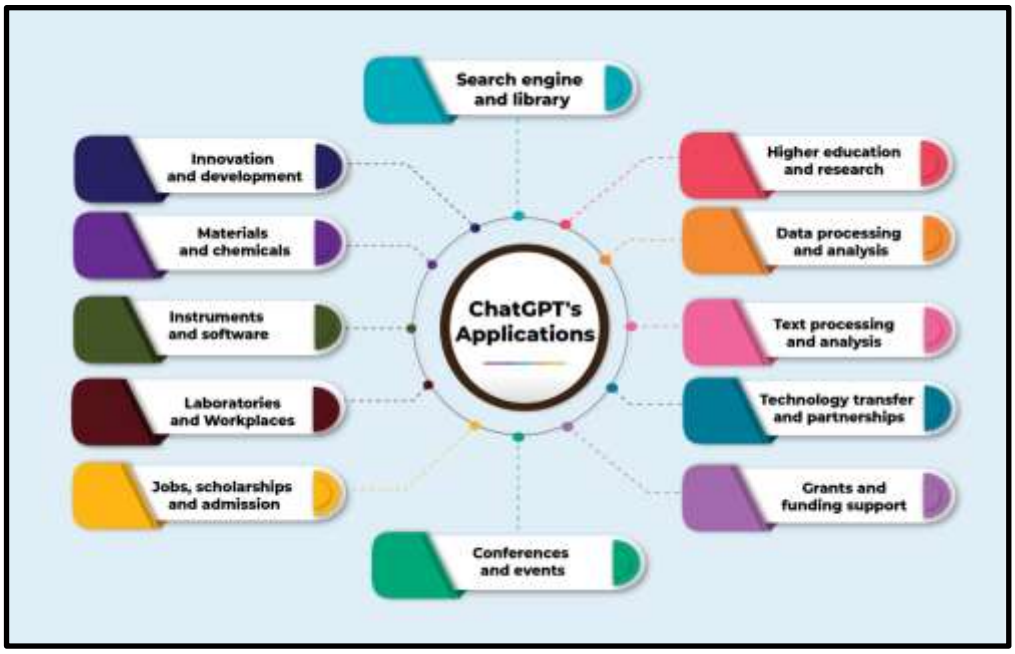


Figure 5: Potential influences of chat generative pre-trained models
(Source: Michel-Villarreal et al. 2023)

The above figure signifies the various potential influences of the application of ChatGPT that ensures the fundamental course of actions which are the facilities of data processing and analysis as well. By examining the potential influences, a heightened level of critical thinking within the educational prospects has been gained to illuminate the dynamic interplay between technological tools and cognitive skills development. As stated by Michel-Villarreal et al. (2023), technology and transfer partnerships have been approved for trained models for the role of chat generative pre-trained models in collaborative and critical thinking for educators as well as policymakers. Therefore, the course of possibilities is high in terms of fostering adaptive learning in contemporary education.

Methodology

In this research Endeavour, the primary quantitative method has been employed to investigate the technical influence in educational settings comprehensively. The study encompasses a participant pool of 65 students, who have been chosen to represent a diverse student demographic. As stated by Putra & Ciptaningrum (2024), the survey instruments are meticulously crafted to align with the research objectives reflecting aspects of chat generative or trained models. The responses are measured on the Likert scale which allows for the quantification of participants' attitudes and preferences that facilitate the nuances of understanding their experiences.

The collected data has been subjected towards rigorous analysis by using the SPSS tool that conveys descriptive analysis followed by correlation and ANOVA respectively. As stated by Setiawati et al. (2024), descriptive statistics provides a comprehensive overview of the participants' responses whereas correlation is employed in exploring the potential relationships that unravel the potential relationships based on familiar actions. To discern variations among different groups, the research has employed ANOVA analysis which has enabled a distinctive examination of the factors based on reliability and validity analysis. This comprehensive analysis has extracted meaningful insights into contemporary education.

Findings and analysis

Gender

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Female	19	29.2	29.2	29.2
	Male	33	50.8	50.8	80.0
	Prefer not to say	13	20.0	20.0	100.0
	Total	65	100.0	100.0	

Figure 6: Gender
(Source: SPSS)
The above figure depicts the gender analysis of the 65 participants showing that 29.2% of them are female, 50.8% are male and the rest 20% are prefer to not say respectively.

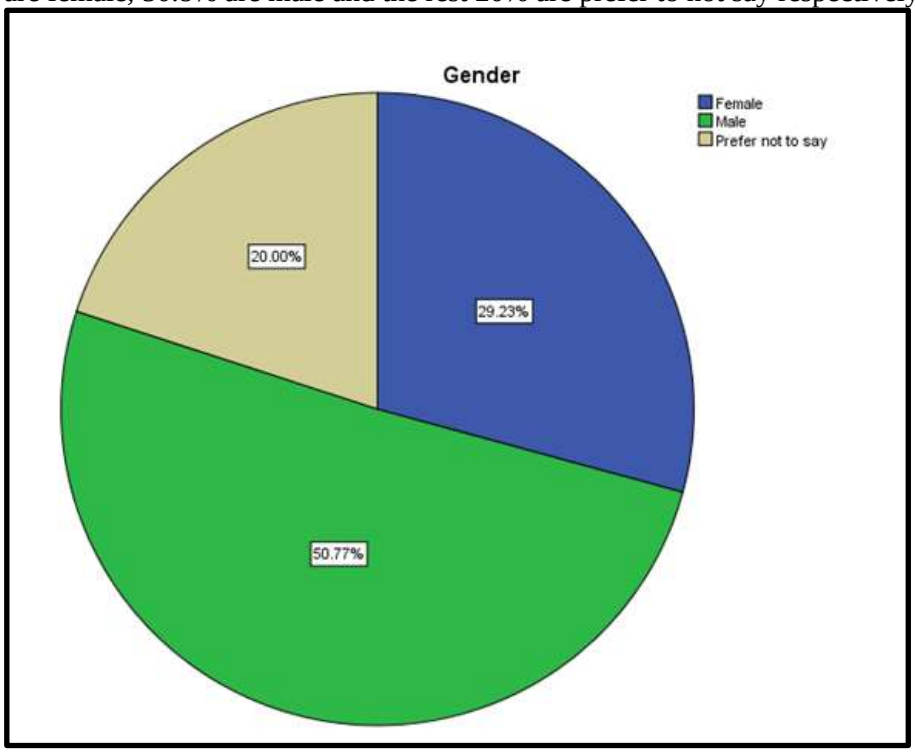


Figure 7: Gender analysis
(Source: SPSS)

The pie chart analysis showcases the gender analysis of the 65 participants illustrating that the majority of the participants are male which is 50.77% and the rest 29.23% and 20% belong to the female and prefer to not say group.

Age

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	15 years to 20 years	13	20.0	20.0	20.0
	21 years to 25 years	13	20.0	20.0	40.0
	26 years to 30 years	20	30.8	30.8	70.8
	31 years to 35 years	19	29.2	29.2	100.0
	Total	65	100.0	100.0	

Figure 8: Age
(Source: SPSS)

The above figure depicts the age analysis of the 65 participants showing that 20% of them belong to the age group between 15 years to 20 years and 21 years to 30 years respectively. Whereas 30.8% belong to the age group between 26 years to 30 years and 29.2% of them are between the age group of 31 years to 40 years significantly.

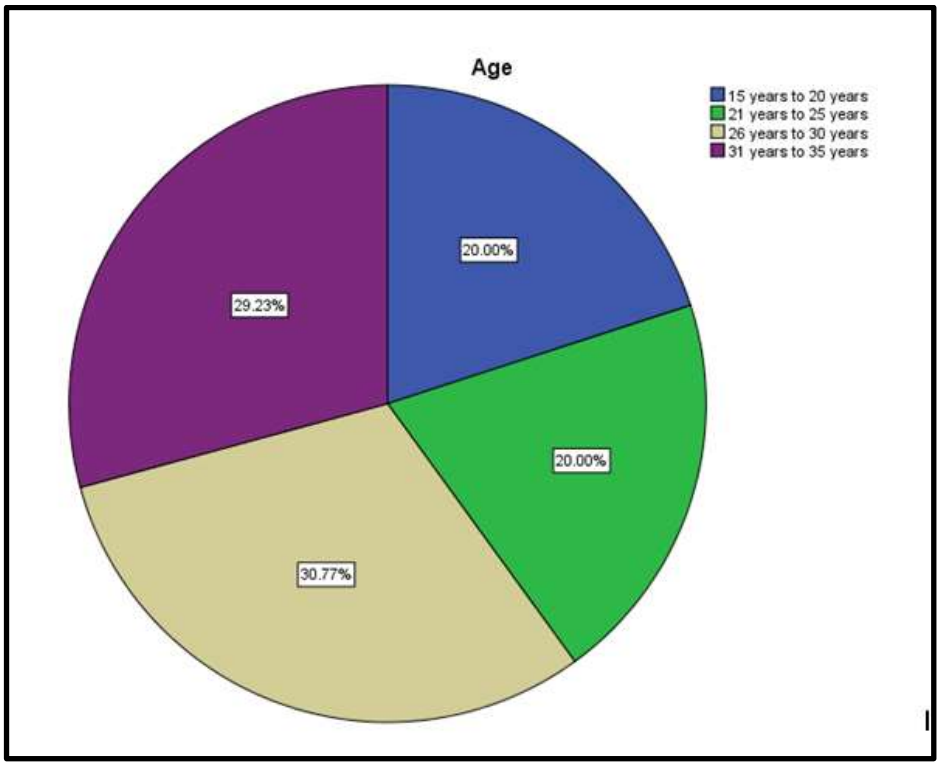


Figure 9: Age analysis
(Source: SPSS)

From the pie chart analysis, it can be depicted that the majority of the participants belong to the age group between 26 years to 30 years and the least which is 20% between the age group 15 years to 20 years and 21 years to 30 years.

Educational Qualification

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Graduation	26	40.0	40.0	40.0
	MBA	26	40.0	40.0	80.0
	PhD	6	9.2	9.2	89.2
	Post-graduation	7	10.8	10.8	100.0
	Total	65	100.0	100.0	

Figure 10: Educational qualification
(Source: SPSS)

The above figure depicts the educational qualification of the 65 participants showing that 40% have completed graduation and MBA and the rest 9.2% and 10.8% have completed their PhD and post-graduation significantly.

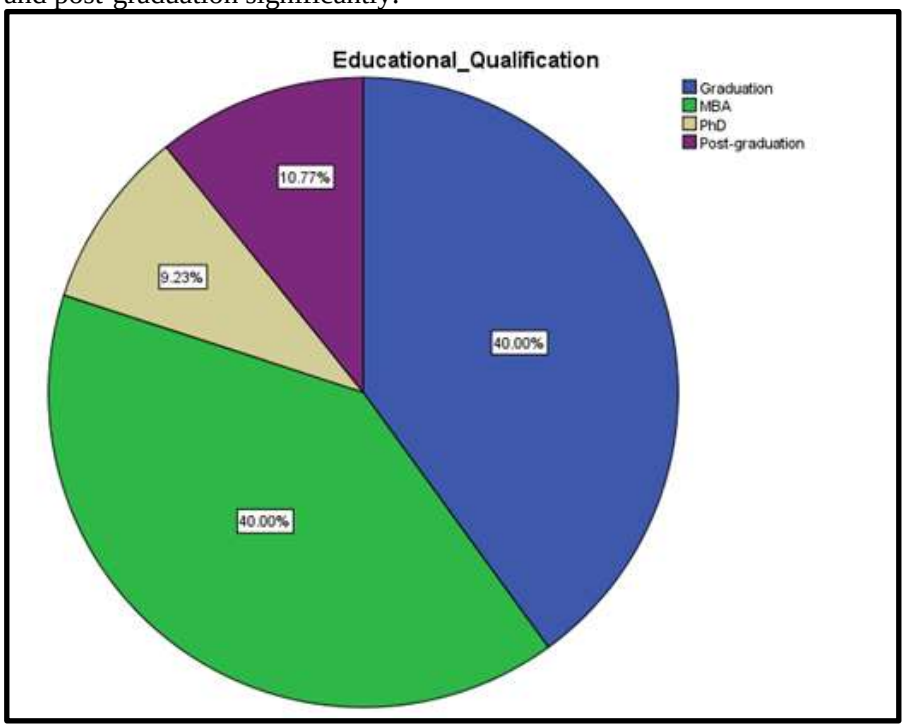


Figure 11: Educational qualification analysis
(Source: SPSS)

From the pie chart analysis, it can be depicted that 40% of the participants are graduate and MBA degree holders while the other 10.77% and 9.23% are post-graduation and PhD holders.

Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation	Skewness	
	Statistic	Statistic	Statistic	Statistic	Statistic	Statistic	Std. Error
DV1	65	1	5	2.97	1.299	-.162	.297
DV2	65	1	5	3.89	1.582	-.989	.297
IV1	65	2.00	10.00	7.5231	2.38555	-.913	.297
IV2	65	3.00	10.00	6.6769	2.35258	-.148	.297
IV3	65	2.00	10.00	6.0769	2.93315	.060	.297
IV4	65	3.00	10.00	6.4923	2.96397	.277	.297
Valid N (listwise)	65						

Figure 12: Descriptive analysis
(Source: SPSS)

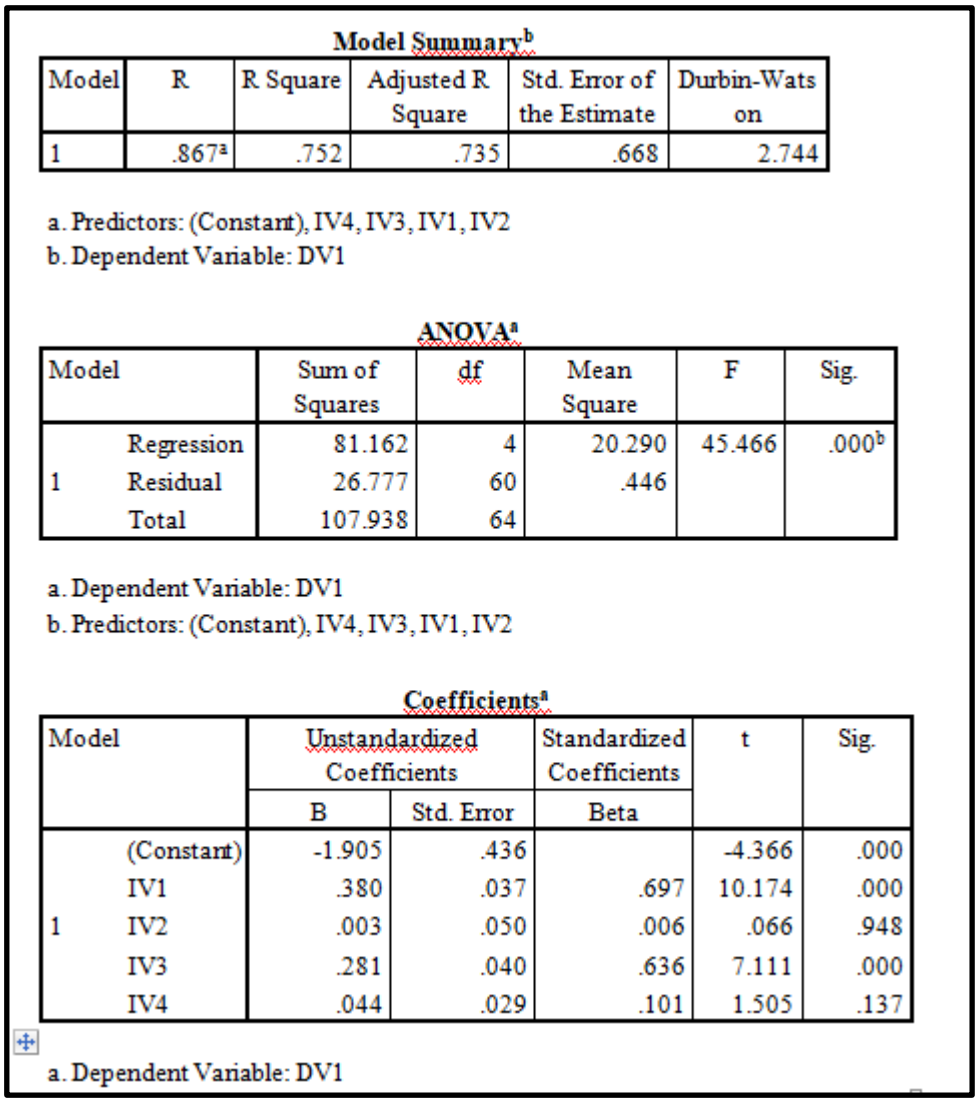
The above figure reveals insights into the participant's responses that show the mean value of dependent variable 1 (DV1) is 2.97 (SD=1.299). Contrary to this, DV2 represents a perceived impact with a mean value of 3.89 and with SD value of 1.582 significantly. Moreover, independent variables have exhibited varied means which include IV1 (familiarity)- 7.52, IV2 (engagement) which is 6.68, IV3 (preferences) which is 6.08 and IV4 (impact) which is 6.49 respectively.

Correlations

		DV1	DV2	IV1	IV2	IV3	IV4
DV1	Pearson Correlation	1	.804**	.585**	.263*	.493**	.288*
	Sig. (2-tailed)		.000	.000	.035	.000	.020
	N	65	65	65	65	65	65
DV2	Pearson Correlation	.804**	1	.156	.356**	.584**	-.002
	Sig. (2-tailed)	.000		.215	.004	.000	.988
	N	65	65	65	65	65	65
IV1	Pearson Correlation	.585**	.156	1	-.242	-.214	.250*
	Sig. (2-tailed)	.000	.215		.052	.088	.044
	N	65	65	65	65	65	65
IV2	Pearson Correlation	.263*	.356**	-.242	1	.685**	-.098
	Sig. (2-tailed)	.035	.004	.052		.000	.438
	N	65	65	65	65	65	65
IV3	Pearson Correlation	.493**	.584**	-.214	.685**	1	.021
	Sig. (2-tailed)	.000	.000	.088	.000		.870
	N	65	65	65	65	65	65
IV4	Pearson Correlation	.288*	-.002	.250*	-.098	.021	1
	Sig. (2-tailed)	.020	.988	.044	.438	.870	
	N	65	65	65	65	65	65

Figure 13: Correlation analysis
(Source: SPSS)

From the above figure, it can be analyzed that there is a strong positive correlation between DV1 (engagement frequency) and DV2 (perceived impact) with r value 0.80 and p<0.001 significantly. Similarly, positive correlations are found between dependent variables and independent variables as well. The outcome shows a definite connection between DV1 and DV2 significantly.



Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.867[a]	.752	.735	.668	2.744

a. Predictors: (Constant), IV4, IV3, IV1, IV2
b. Dependent Variable: DV1

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	81.162	4	20.290	45.466	.000[b]
	Residual	26.777	60	.446		
	Total	107.938	64			

a. Dependent Variable: DV1
b. Predictors: (Constant), IV4, IV3, IV1, IV2

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-1.905	.436		-4.366	.000
	IV1	.380	.037	.697	10.174	.000
	IV2	.003	.050	.006	.066	.948
	IV3	.281	.040	.636	7.111	.000
	IV4	.044	.029	.101	1.505	.137

a. Dependent Variable: DV1

Figure 14: ANOVA analysis of DV1
(Source: SPSS)

From the above analysis, the regression model (DV1) demonstrates a strong predictive power with IV1 (familiarity) and IV3 (preference) which is R=0.86 and R square which is 0.75. The ANOVA analysis indicates a highly significant model of F=45.466 with a p-value less than 0.001. Notably, IV2 and IV4 do not significantly contribute to the model (Putra & Ciptaningrum, 2024). This underscores the substantial impact of familiarity and preferences on students' engagement frequency.

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.658[a]	.433	.396	1.230	2.497

a. Predictors: (Constant), IV4, IV3, IV1, IV2
b. Dependent Variable: DV2

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	69.466	4	17.366	11.478	.000[b]
	Residual	90.780	60	1.513		
	Total	160.246	64			

a. Dependent Variable: DV2
b. Predictors: (Constant), IV4, IV3, IV1, IV2

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.627	.803		.781	.438
	IV1	.210	.069	.316	3.050	.003
	IV2	-.032	.091	-.048	-.355	.724
	IV3	.370	.073	.687	5.084	.000
	IV4	-.053	.054	-.100	-.984	.329

a. Dependent Variable: DV2

ANOVA analysis of DV2
(Source: SPSS)

The above analysis displays moderate predictive efficacy with R-value and R square value of 0.658 and 0.433 respectively. This has a relationship with IV1 (familiarity) and IV3 (preferences) significantly influencing DV2 (Ansari et al. 2024). The ANOVA analysis demonstrates a significant model with an F value of 11.478 and a p-value less than 0.001.

Discussion

The technological impact has resulted in illuminating students' learning process down pouring a large number of opportunities for prospects. The obtained results have presented a nuance on the technical influences of chat generative pre-trained models on students' engagement emphasizing a pivotal role in mobilizing the credibility rate of the cross-sectional practices. As opined by Tam et al. (2023), the correlation between ChatGPT and students' learning programs has helped in shaping positive learning experiences. Similarly, this correlation substantiates the notion of learning that not only has increased interaction with the AI tool but also has provided new sections and areas to heighten perception of the learning outcomes.

Moreover, the regression analysis underscores the significance of familiarity and preferences that have impacted the student in a significant manner. The coefficient correlation has affirmed the relevance of students' familiarity and preferences in shaping the course of possibilities that are worthy enough to develop more significant and factorial relationships among the individuals. As per the views by Tiwari et al. (2023), the implications of these findings are less likely to signify the educational practitioners thereby emphasizing the significance of chat generative pre-trained models. This insight has introduced various technological preferences which have enhanced the engagement and perceived impact predominantly. Nevertheless, it is an essential factor to scrutinize the technical probabilities that are adjoined with the nature of survey responses. Future research has adopted the use of mixed methods for offering a comprehensive way of measuring the credibility of the research programming. As opined by Khennouche et al. (2024), the long-term effects of learning and technology have investigated various potential differences across disciplines and academic levels to enrich the research landscape. This has marginalized the misuse of technology thereby producing a safer zone for the students for learning.

The study navigates the intersection of technology and education and has provided valuable insights in depicting the reliability and validity rate of the independent variables have exhibited varied means which include IV1 (familiarity)- 7.52, IV2 (engagement) which is 6.68, IV3 (preferences) which is 6.08 and IV4 (impact) which is 6.49 respectively (Camilleri, 2024). In addition to that students' familiarity with chat-generative pre-trained models and their integration into modern learning environments have inculcated the varied use of chat-generative pre-trained models to flourish the concept of learning. Therefore, the productivity rate is expected to rise high in a significant manner.

Conclusion

The research has delved into the technical possibilities of chat generative pre-trained models on students' modern learning traits that uncover key insights within the contemporary educational landscape. Moreover, the study revealed a robust and positive correlation between students' engagement frequency that has emphasized the impact of shaping the models to experience more positive learning opportunities. The research contributes to understanding the empirical evidence which has evolved as one of the trained and informed factors which have far-reaching strategies and learning outcomes. Familiarity and preferences have highlighted the pivotal role thereby reinforcing the technological alignment based on existing knowledge and preferences.

The research contributes to delivering strong and static information regarding the empirical knowledge which has influenced the nuanced relationship between students and the use of chat generative pre-trained tools. The study has navigated the dynamics between student and learning outcomes shedding light on the technical influences in the context of modern learning and technologies. However, by reinforcing and optimizing the credibility score of the AI tool, the research scores can contribute to a better and more relevant mechanism that paves the way towards future exploration. Therefore, it can be concluded that the findings have stigmatized the symbiotic relationship between students and emerging technologies for enhancing the efficacy of contemporary education.

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Appendices

Appendix-1- Survey Questions

Survey link:

https://docs.google.com/forms/d/1_sTXj_YnZLIa5MB6boXlH1wpAyStdjdyELMX4gCC3x0/edit

1. What is your gender?
2. What is your age (In years)?
3. What is your educational qualification?
4. Students who are the frequents users of chat generative pre-trained transformers (GPTs) mostly report a stronger grasp of key concepts
5. Students utilize GPTs for brainstorming various research topics that helps them in finding a more creative and diverse results
6. Students who use GPTs are most likely to complain less regarding facing the challenges and feel more confident
7. Students who incorporate the use of chat generative pre-trained experience a significant reduction in research time
8. Feedbacks provided by the GPTs on grammar and problem practice helps students in improving the quality of writing
9. Students who actively engage in the learning practice of GPT have the assurance of managing and solving problems effectively.

10. The ability to personalize the strategy of solving research problems work efficiently with the help of chat GPT
11. Collaboration in group members are well-organized and are productive in organizing the information and structure argument
12. Students who mostly rely on GPTs face difficulties in completing regular routine tasks and express a decrease of interest in learning new ideas
13. The constant availability of GPT-generated answers may lead to various complexities hindering students' development in critical thinking skills