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(REVIEW ARTICLE)

A study on the attitude towards digital learning of Malda district graduate students

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Abstract

In the era of pervasive digital technology, the educational landscape is undergoing a profound transformation. This study investigates the attitudes of graduate students in Malda District towards digital learning, focusing on how these attitudes vary with gender and locality. The study aims to estimate the attitudes of Malda District graduate students towards digital learning and to compare these attitudes with reference to gender and locality. The null hypothesis (Ho.1) posits no significant mean difference in attitudes towards digital learning based on gender and locality. To achieve this, a proportionate stratified random sampling technique was employed to select 200 college students and 100 university students, further stratified by gender and locality. Data were collected via questionnaires and analyzed using appropriate statistical techniques. The results indicated a moderate attitude towards digital learning among the students. The data distribution was normal, with low standard deviation values and slight differences between mean and median values. The analysis revealed no significant mean difference in attitudes between male and female students. However, a significant mean difference was found between urban and rural students, indicating that locality plays a crucial role in shaping attitudes towards digital learning. Gender does not significantly influence attitudes towards digital learning, while locality does. Urban students show different attitudes compared to their rural counterparts. Interventions to improve digital learning attitudes should consider locality-specific challenges and perceptions to be more effective. This study contributes to the understanding of the opportunities and challenges in digital learning, informing pedagogical practices and policy-making in the digital age.

Keywords: Digital learning; Attitudes; Attitudes towards digital learning; Digital technology

1. Introduction

In an era where digital technology pervades every aspect of our lives, the realm of education stands as no exception. As traditional classrooms make way for virtual environments, the dynamics of learning are undergoing a profound transformation. Amidst this shift, understanding the attitudes of graduate students towards digital learning emerges as a crucial endeavour *(S. P. Akyuz, F. Yavuz, F, 2015)*. This study embarks on a journey to delve deep into the intricate tapestry of opinions, perceptions, and preferences that shape the digital learning landscape for graduate students.

At the heart of this exploration lies the recognition of digital learning as a multifaceted phenomenon. It encompasses a myriad of platforms, tools, and methodologies, each bearing the potential to revolutionize the educational experience. From online lectures and virtual classrooms to interactive simulations and collaborative projects, the spectrum of digital learning modalities is as diverse as it is dynamic *(S. Bayne, 2004)*. Yet, within this diversity lies a common thread of inquiry: how do graduate students perceive and engage with these digital tools and environments?

Beyond mere technological proficiency, this study seeks to unravel the underlying attitudes that influence graduate students' acceptance, adoption, and utilization of digital learning resources. It acknowledges the role of individual predispositions, educational backgrounds, and institutional contexts in shaping these attitudes. Moreover, it recognizes

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the intricate interplay between socio-cultural factors, pedagogical approaches, and technological affordances that underpin the digital learning ecosystem *(H. Blake, H, 2020).*

By illuminating the nuances of graduate students' attitudes towards digital learning, this study aims to inform pedagogical practices, institutional policies, and technological innovations. It endeavours to empower educators, administrators, and edtech developers with insights that can enhance the efficacy, accessibility, and inclusivity of digital learning initiatives *(B. McClelland, 2001)*. Ultimately, it aspires to contribute to the ongoing discourse on the future of education in the digital age, fostering a more nuanced understanding of the opportunities and challenges that lie ahead.

Objectives of the study

- To estimate the attitudes of Malda District graduate students towards Digital Learning.
- To compare attitude of Malda District graduate students towards Digital Learning with reference to their gender and locality.

1.1. Hypothesis

Ho.1: There is no significant mean difference in the attitude of graduate students towards Digital Learning with reference to gender and locality.

2. Methodology

Initially, the researcher identified the research problem, followed by defining the objectives and formulating the hypotheses. The target population was determined to be college and university students from Malda District. To ensure representative sampling, a proportionate stratified random sampling technique was employed. This method led to the selection of 200 college students and 100 university students. The sample was further stratified based on gender (male and female) and locality (urban and rural).

Data collection was carried out through the administration of questionnaires to the selected students. The collected data was then subjected to rigorous analysis to draw meaningful conclusions. The analysis involved statistical techniques appropriate for evaluating the hypotheses and objectives set forth at the beginning of the study.

3. Analysis and Interpretation

The acquired dataset has been subjected to analytical processing, and the resultant findings have been subsequently interpreted as detailed below.

Table 1 Descriptive Analysis of Attitude Towards Digital Learning of College Students of Malda District

	ATDLMCS	**ATDLFCS**	**ATDLUCS**	**ATDLRCS**
N	100	100	100	100
Mean	97.03	96.48	75.12	94.93
Std. Error of Mean	1.37	1.68	2.05	1.29
Median	97.5	96.5	75	95
Std. Deviation	13.69	16.77	20.45	12.92
Skewness	0.156	0.109	0.064	0.171
Std. Error of Skewness	0.241	0.241	0.241	0.241
Kurtosis	0.477	0.681	0.726	0.292
Std. Error of Kurtosis	0.478	0.478	0.478	0.478

By observing this table, it has specifically observed that Attitude Towards Digital Learning of College Students of Malda District (ATDL) have been measured. Moderate level of attitude regarding this has also been found in this case (*as per data interpretation index of the same scale*). At the same time corresponding distribution has been observed as normal due to the lower-level deviation *(ATDLMCS, SD=13.69, ATDLFCS, SD=16.77, ATDLUCS, SD=20.45, ATDLRCS, SD=12.92)* of the responses and also the median position (*slight distance between Mean and Median Value*).

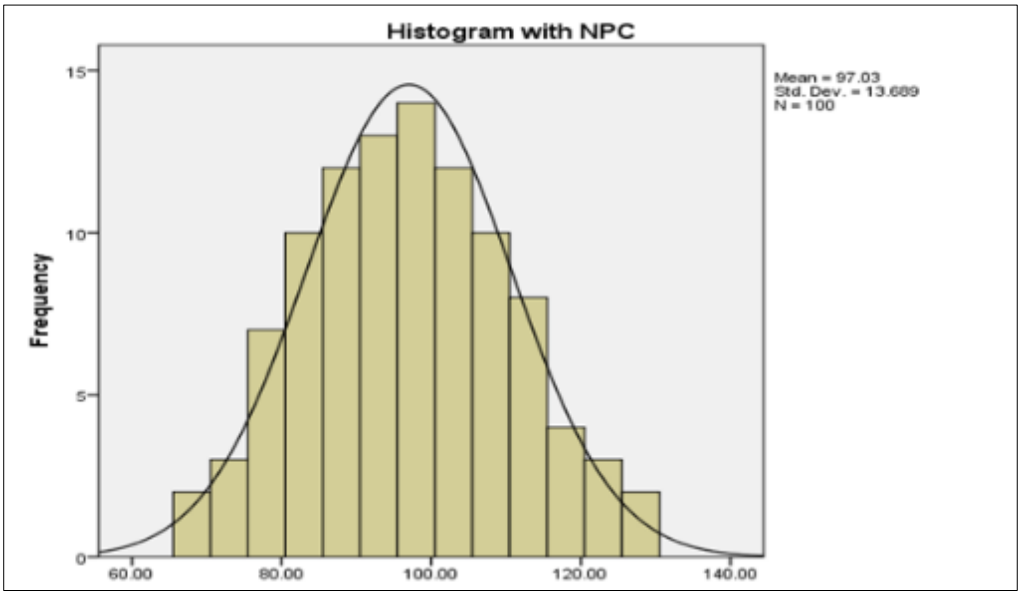

Figure 1 Histogram with NPC of ATDLMCS

Collected data on ATDLMCS (*Attitude Towards Digital Learning of Male College Students*) have presented in the Histogram with NPC (Normal Probability Curve) to represent the normality of the distribution on the said segment of the study. Through observing the figure, it has been found that the corresponding distribution has the characteristics of NPC that specifies the appropriate reflection of normality of the distribution. Therefore, the nature of the related distribution is found as Normal in nature that has also specify the applicability of statistical analysis of parametric statistics.

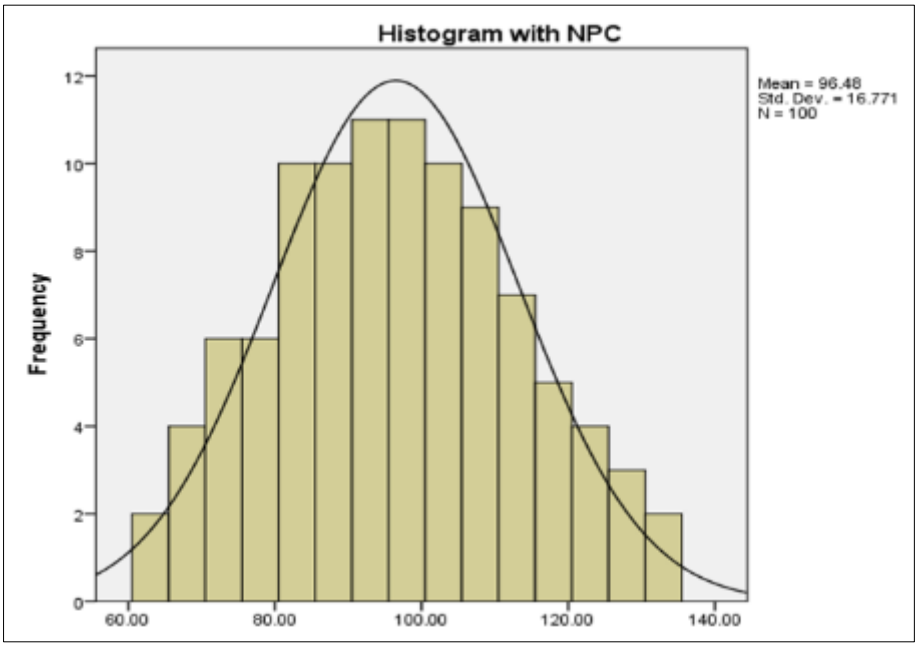

Figure 2 Histogram with NPC of ATDLFCS

Collected data on ATDLFCS (*Attitude Towards Digital Learning of Female College Students*) have presented in the Histogram with NPC (Normal Probability Curve) to represent the normality of the distribution on the said segment of the study. Through observing the figure, it has been found that the corresponding distribution has the characteristics of NPC that specifies the appropriate reflection of normality of the distribution. Therefore, the nature of the related distribution is found as Normal in nature that has also specify the applicability of statistical analysis of parametric statistics.

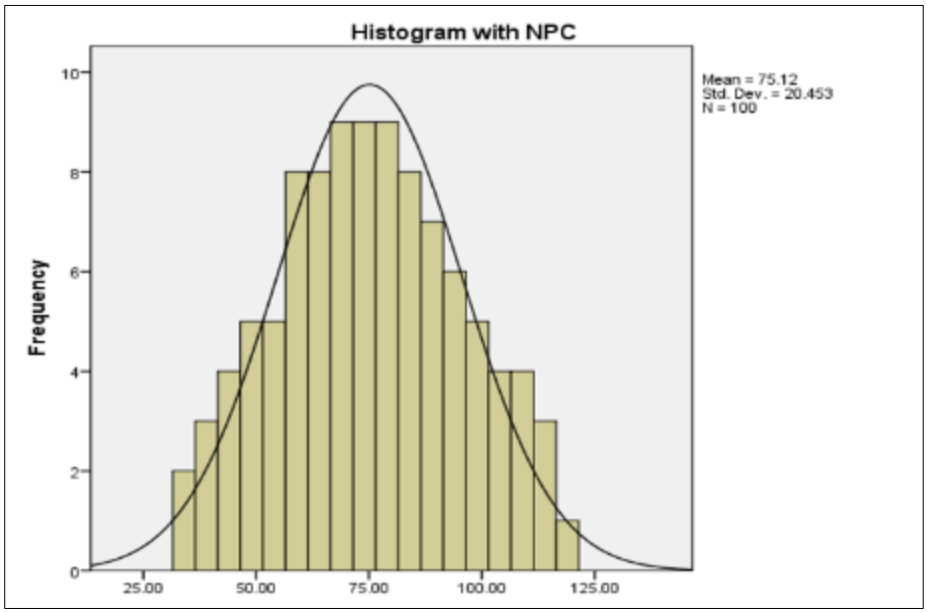

Figure 3 Histogram with NPC of ATDLUCS

Collected data on ATDLUCS (*Attitude Towards Digital Learning of Urban College Students*) have presented in the Histogram with NPC (Normal Probability Curve) to represent the normality of the distribution on the said segment of the study. Through observing the figure, it has been found that the corresponding distribution has the characteristics of NPC that specifies the appropriate reflection of normality of the distribution.

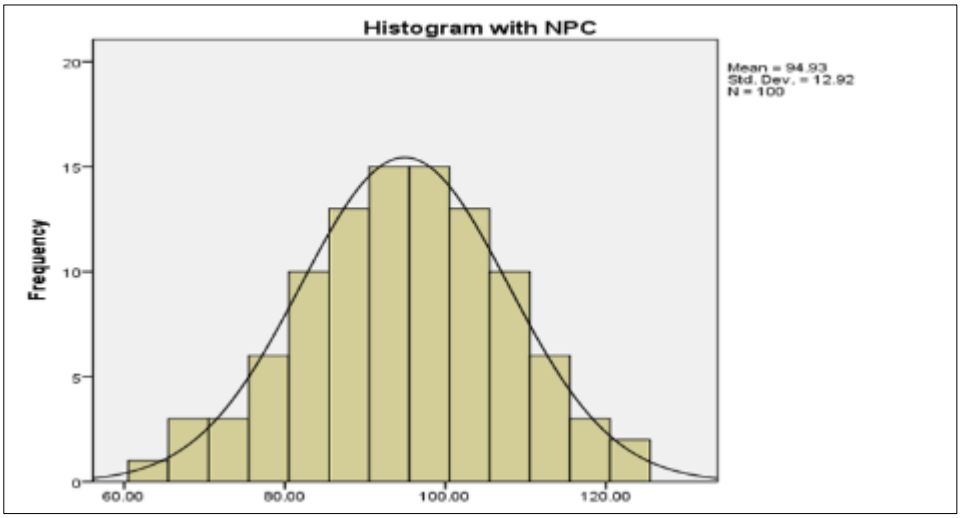

Figure 4 Histogram with NPC of ATDLRCS

Collected data on ATDLRCS (*Attitude Towards Digital Learning of Rural College Students*) have presented in the Histogram with NPC (Normal Probability Curve) to represent the normality of the distribution on the said segment of the study. Through observing the figure, it has been found that the corresponding distribution has the characteristics of NPC that specifies the appropriate reflection of normality of the distribution.

Table 2 Descriptive Analysis of Attitude Towards Digital Learning of University Students of Malda District

	ATDLMUS	ATDLFUS	ATDLUUS	ATDLRUS
N	50	50	50	50
Mean	80.84	93.98	93.3	78.92
Std. Error of Mean	2.36	1.92	1.06	1.92
Median	80.5	94	93	78.5
Std. Deviation	16.72	13.59	7.46	13.55
Skewness	0.031	0.023	0.037	0.111
Std. Error of Skewness	0.337	0.337	0.337	0.337
Kurtosis	0.633	0.477	0.592	0.347
Std. Error of Kurtosis	0.662	0.662	0.662	0.662

By observing this table, it has specifically observed that Attitude Towards Digital Learning of University Students of Malda District (ATDL) have been measured. Moderate level of attitude regarding this has also been found in this case (*as per data interpretation index of the same scale*). At the same time corresponding distribution has been observed as normal due to the lower-level deviation *(ATDLMUS, SD=16.72, ATDLFUS, SD=13.59, ATDLUUS, SD=7.46, ATDLRUS, SD=13.55)* of the responses and also the median position (*slight distance between Mean and Median Value*).

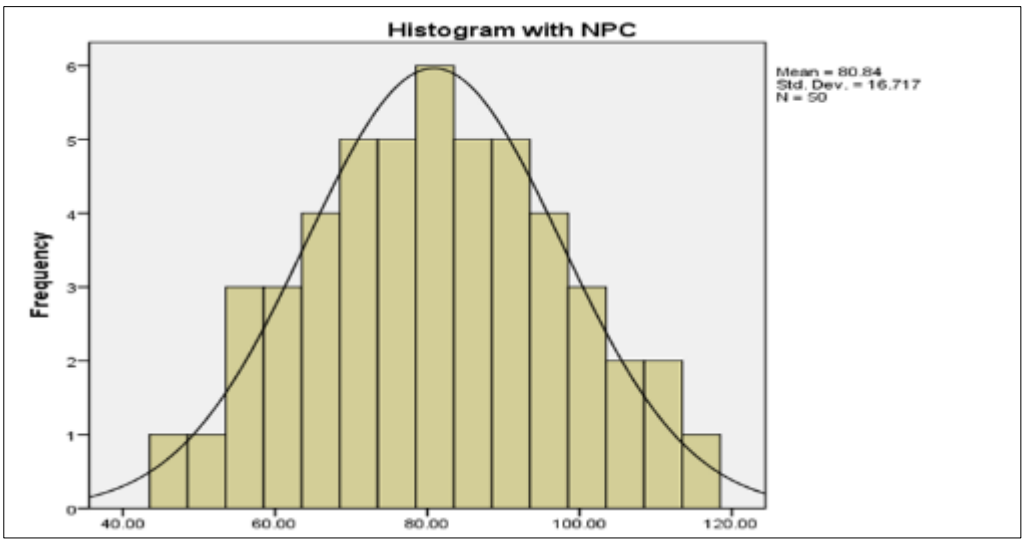

Figure 5 Histogram with NPC of ATDLMUS

Collected data on ATDLMUS (*Attitude Towards Digital Learning of Male University Students*) have presented in the Histogram with NPC (Normal Probability Curve) to represent the normality of the distribution on the said segment of the study. Through observing the figure, it has been found that the corresponding distribution has the characteristics of NPC that specifies the appropriate reflection of normality of the distribution. Therefore, the nature of the related distribution is found as Normal in nature that has also specify the applicability of statistical analysis of parametric statistics.

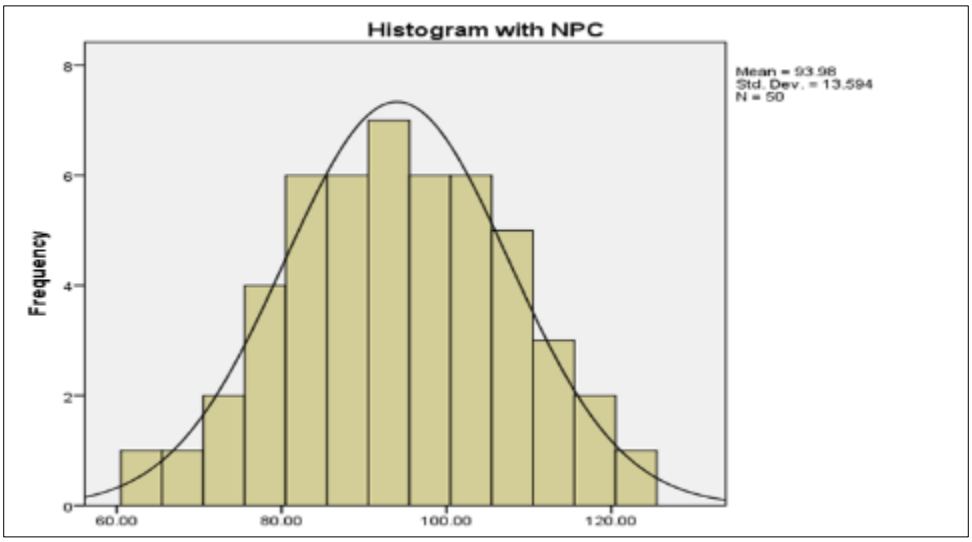

Figure 6 Histogram with NPC of ATDLFUS

Collected data on ATDLFUS (*Attitude Towards Digital Learning of Female University Students*) have presented in the Histogram with NPC (Normal Probability Curve) to represent the normality of the distribution on the said segment of the study. Through observing the figure, it has been found that the corresponding distribution has the characteristics of NPC that specifies the appropriate reflection of normality of the distribution. Therefore, the nature of the related distribution is found as Normal in nature that has also specify the applicability of statistical analysis of parametric statistics.

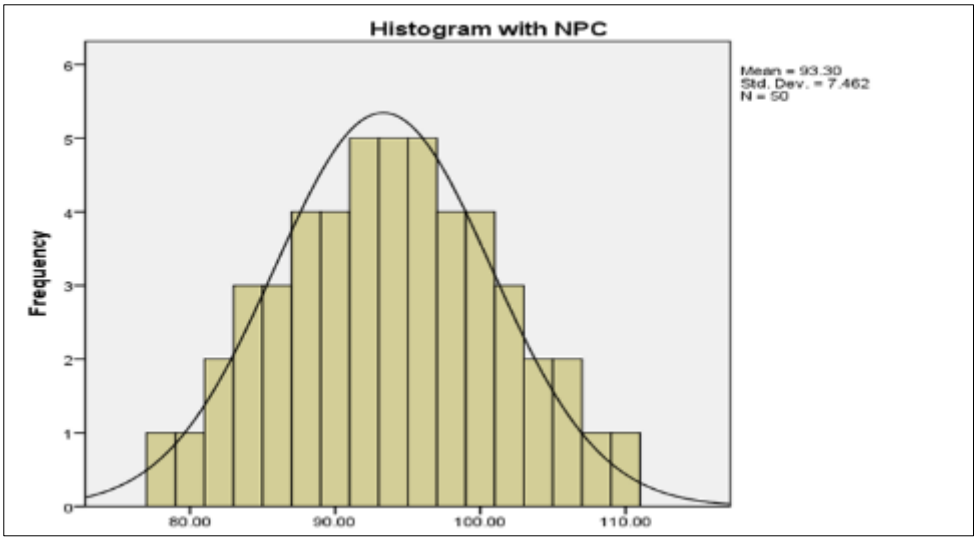

Figure 7 Histogram with NPC of ATDLUUS

Collected data on ATDLUUS (*Attitude Towards Digital Learning of Urban University Students*) have presented in the Histogram with NPC (Normal Probability Curve) to represent the normality of the distribution on the said segment of the study. Through observing the figure, it has been found that the corresponding distribution has the characteristics of NPC that specifies the appropriate reflection of normality of the distribution.

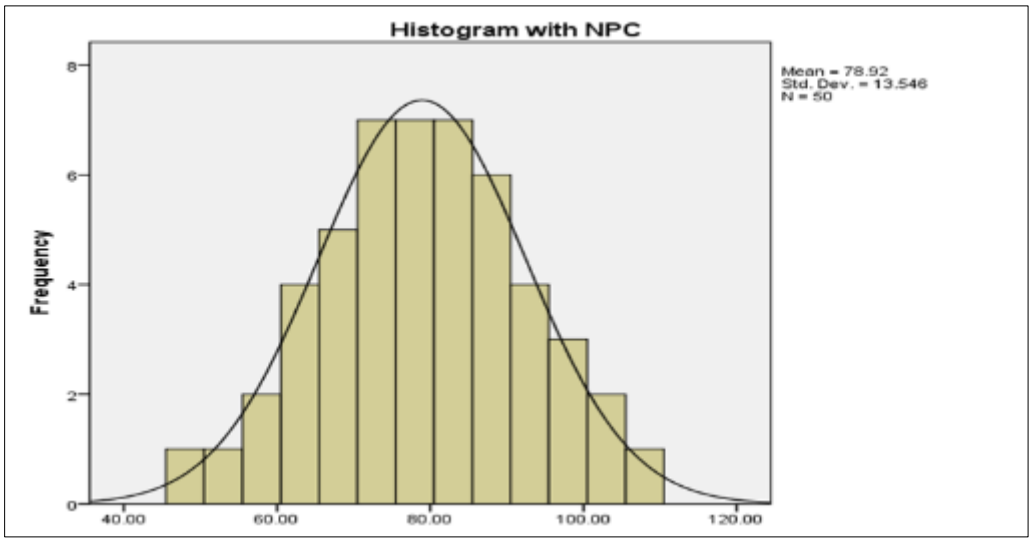

Figure 8 Histogram with NPC of ATDLRUS

Collected data on ATDLRUS (*Attitude Towards Digital Learning of Rural University Students*) have presented in the Histogram with NPC (Normal Probability Curve) to represent the normality of the distribution on the said segment of the study. Through observing the figure, it has been found that the corresponding distribution has the characteristics of NPC that specifies the appropriate reflection of normality of the distribution.

Table 3 Mean difference between Male and Female college students and between Urban and Rural College students of Malda district in respect to Attitude Towards Digital Learning

Pair	Pair Difference of Mean	Pair Difference of Standard Deviation (SD)	Standard Error of Means (Sem)	t	df	Sig. (2-tailed)
ATDLMCS - ATDLFCS	0.550	22.05	2.20474	0.249	198	0.804
ATDLUCS - ATDLRCS	19.810	23.25	2.32534	8.519	198	0.000

Insignificant mean difference has been found as per gender wise responses of college going students of Malda District in connection to ATDL that is Attitude towards Digital Learning. But, in the other side significant mean difference has been recorded on the same variable with special reference to the responses of locality wise participants from the same district. Therefore, the role of locality has been identified in respect to make mean difference rather than the role of gender in the Malda District sample groups in connection to the Attitude towards Digital Learning (ATDL). In the case of gender wise analysis of the data the calculated mean value of mean difference (t) is – 0.249 which has ensured the level of significance as P = 0.804. In this case, corresponding null-hypothesis will be sustained. In the other case of this analytical segment, calculated value of mean difference is (t) = 8.519 that has ensured the level of significance as P= 0.000. This result has specified that there exists significant mean difference between urban college and rural college students of Malda District regarding the responses towards the Attitude towards the Digital Learning.

Table 4 Mean difference between Male and Female University students and between Urban and Rural University students of Malda district in respect to Attitude Towards Digital Learning

Pair	Pair Difference of Mean	Pair Difference of Standard Deviation (SD)	Standard Error of Means (Sem)	t	df	Sig. (2-tailed)
ATDLMUS - ATDLFUS	13.140	21.95172	3.10	4.233	48	0.000
ATDLUUS - ATDLRUS	14.380	16.86427	2.38	6.029	48	0.000

significant mean difference has been found as per gender and locality wise responses of university going students of Malda District in connection to ATDL that is Attitude Towards Digital Learning. Therefore, both gender and locality are significant determinant to make mean difference in connection to Attitude Towards Digital Learning (ATDL). In the case of gender wise analysis of the data the calculated mean value of mean difference (t) is – 4.233 which has ensured the level of significance as P = 0.000. In the other case of this analytical segment, calculated value of mean difference is (t) = 6.029 that has ensured the level of significance as P= 0.000. These results have specified that there exists significant mean difference between male university and female university students and between urban university and rural university students of Malda District regarding the responses towards the Attitude Towards Digital Learning.

4. Findings

- **Overall Attitude:** The attitudes of Malda District graduate students towards digital learning were measured and found to be moderate on the interpretation index. The distribution of attitudes was normal, as indicated by the low standard deviation values and the proximity between mean and median values.
- **Gender Comparison:** The analysis revealed no significant mean difference in attitudes towards digital learning between male and female graduate students. This is supported by the calculated mean difference (t) of -0.249, with a p-value of 0.804, indicating that the null hypothesis (Ho.1) of no significant difference in attitudes by gender is sustained.
- **Locality Comparison:** In contrast, a significant mean difference was observed when comparing the attitudes of urban and rural students. The calculated mean difference (t) was 8.519, with a p-value of 0.000, indicating a substantial difference in attitudes towards digital learning based on locality. This finding suggests that the locality of students plays a significant role in shaping their attitudes towards digital learning.

5. Conclusion

The study concludes that gender does not significantly influence the attitude of Malda District graduate students towards digital learning. However, locality plays a crucial role, with urban students displaying distinct attitudes compared to their rural counterparts. This finding highlights the need for interventions that address locality-specific challenges and perceptions to enhance the effectiveness of digital learning initiatives. Tailoring these efforts to the unique needs of urban and rural students will likely yield better results in fostering positive attitudes and greater adoption of digital learning.

Compliance with ethical standards

Acknowledgements

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