

A Study on the Perception of UG and PG Students Towards E-learning Platforms at SKN College of Agriculture (SKNAU), Jobner, Rajasthan

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ABSTRACT

The rapid integration of e-learning in higher education has transformed the teaching-learning process by enhancing accessibility, flexibility, and learner engagement. The present study was undertaken to assess the perception of undergraduate (UG) and postgraduate (PG) students towards e-learning platforms at Sri Karan Narendra College of Agriculture (SKNCOA), Jobner. A total sample of 120 respondents, comprising 60 UG and 60 PG students, was selected through random sampling. Perception towards e-learning was measured using a structured interview schedule based on the Technology Acceptance Model, focusing on perceived ease of use and perceived usefulness. Data were analyzed using descriptive statistics such as mean, standard deviation, percentages, rank correlation, and the Z-test.

The findings revealed that the majority of both UG (65.00%) and PG (71.67%) students belonged to the medium level of perception category. PG students consistently exhibited a higher level of perception compared to UG students for most statements related to accessibility, usefulness, time efficiency, and academic support. A strong positive rank correlation was observed between UG and PG students, indicating similar perception trends. Statistically significant differences were found between UG and PG students for several perception statements. Overall, the study concludes that students possess a positive perception towards e-learning platforms, with PG students showing greater acceptance and adaptability. The findings suggest the need for strengthening digital infrastructure and targeted training to further enhance the effectiveness of e-learning in agricultural education.

Keywords

E-learning Platforms, Student Perception, Technology Acceptance Model

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Received: 16 March 2026

Revised: 02 June 2026

Accepted: 08 June 2026

 <https://doi.org/10.56093/JAEM.v27i1.6>

(TAM), Perceived Ease of Use, Perceived Usefulness, Agricultural Education, Higher Education, Undergraduate and Postgraduate Students

Introduction

The rapid expansion of information and communication technologies (ICTs) has significantly transformed the higher education system in India. E-learning has emerged as an important instructional approach that enhances flexibility, accessibility, and learner engagement. With the increasing use of digital platforms, learning management systems, and online resources, e-learning has become an integral component of mainstream higher education rather than being confined to distance education alone. In India, national initiatives such as SWAYAM, e-PG Pathshala, NPTEL, and various digital learning platforms promoted by the Government of India have substantially accelerated the adoption of e-learning in universities and colleges (MHRD, 2020; UGC, 2020; GoI, 2021).

In the context of agricultural education, e-learning plays a vital role in facilitating timely access to updated scientific information, enhancing skill development, and supporting learner-centered and self-directed learning. Agricultural universities increasingly rely on e-learning platforms to supplement classroom teaching, disseminate extension-related knowledge, and bridge the gap between theory and practical application (ICAR, 2019; Raut et al., 2021). Studies conducted in Indian agricultural institutions have reported that e-learning enhances learning efficiency, academic performance, and independent learning among students (Patil & Chavan, 2018; Meena et al., 2020).

However, the effectiveness and successful adoption of e-learning largely depend on students' perception of its ease of use and usefulness. According to the Technology Acceptance Model (TAM), perceived ease of use and perceived usefulness are the primary determinants influencing users' acceptance and continued use of technology (Davis, 1989). Indian studies have consistently highlighted that students' perception, attitude, and readiness towards e-learning significantly affect learning outcomes and adoption behavior in higher education institutions (Kumar & Sharma, 2016; Bansal & Pandey, 2017; Mishra et al., 2020; Gupta & Singh, 2021).

Understanding the perception of undergraduate (UG) and postgraduate (PG) students towards e-learning is therefore essential for improving online teaching strategies and policy formulation in agricultural universities. In this context, the present study was undertaken to assess and compare the perception of UG and PG students of SKNCOA, Jobner, regarding e-learning platforms, with special emphasis on perceived ease of use and perceived usefulness, so as to generate

insights for strengthening and optimizing e-learning practices in agricultural higher education.

Material and Methods

The present study was conducted at Sri Karan Narendra College of Agriculture (SKNCOA), Jobner, Rajasthan. The population of the study comprised undergraduate (UG) and postgraduate (PG) students enrolled during the academic year 2024–25. A list of registered students was obtained from the Dean's office. Using random sampling technique, 60 UG and 60 PG students were selected, making a total sample size of 120 respondents.

The perception of students towards e-learning was considered as the dependent variable and was operationalized in terms of perceived ease of use and perceived usefulness, based on the Technology Acceptance Model (Davis, 1989). Data were collected using a structured interview schedule developed specifically for the study. Perception was measured using a five-point Likert scale ranging from "strongly agree" to "strongly disagree."

The collected data were analyzed using descriptive statistics such as mean, standard deviation; mean percent score, rank order correlation, and Z-test to compare the perception levels of UG and PG students.

Result and Discussion

1. Perception levels of UG and PG students regarding e-learning platforms

The perception levels of undergraduate (UG) and postgraduate (PG) students of SKNCOA regarding the e-learning platform were classified into three categories, namely low, medium, and high, based on the mean and standard deviation of their perception scores. The analysis included both UG and PG students.

The results presented in Table 1 and fig 1 revealed that a majority of UG students, 39 (65.00%), belonged to the medium perception category, followed by 12 (20.00%) students with a high level of perception and 9 (15.00%) students with a low level of perception towards the e-learning platform.

Table 1. Distribution of UG and PG students of SKNCOA according to their perception levels regarding e-learning platforms

n=120

S. No.	Perception level	UG (n ₁ =60)		Perception level	PG (n ₂ =60)	
		f	%		f	%
1	Low (less than 94.43)	9	15.00	Low (less than 109.30)	7	11.67
2	Medium (between 94.43 - 117.87)	39	65.00	Medium (between 109.30 - 123.04)	43	71.67
3	High (more than 117.87)	12	20.00	High (more than 123.04)	10	16.66
Total		60	100	Total	60	100

Mean= 106.15

SD= 11.72

Mean= 116.17

SD= 6.87

Table 1 and fig 1 result indicated that the majority of postgraduate (PG) students, 43 (71.67%), exhibited a medium level of perception towards the e-learning platform, followed by 10 (16.66%) students with a high level of perception and only 7 (11.67%) students with a low level of perception. These findings are in agreement with the results reported by Ncube (2015).

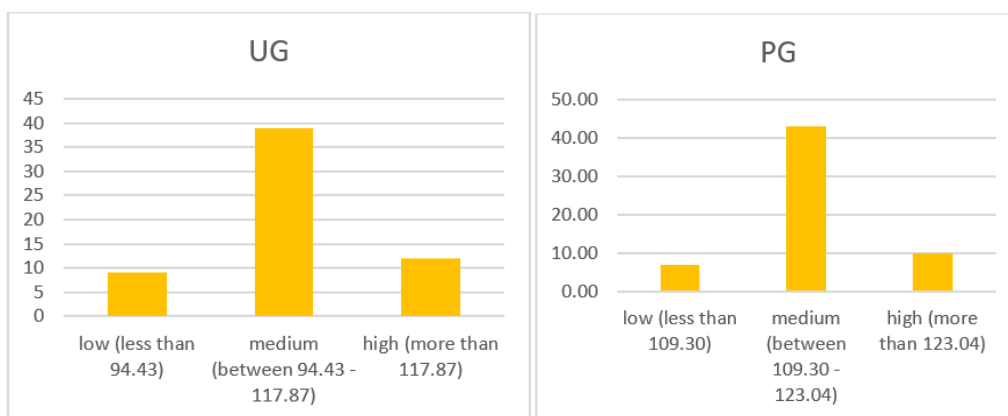


Fig 1. Distribution of UG and PG students of SKNCOA according to their perception levels regarding e-learning platforms

2. Perception level of UG and PG students of SKNCOA regarding the Ease of Use of the e-learning platform

As presented in Table 2 and fig 2, among the UG students, the overall Mean Percent Score (MPS) was found to be 75.56, indicating a moderately favourable perception towards e-learning. The highest-ranked statement was "Access to e-learning tools is possible at any time, from any location" (MPS = 85.00), followed by "e-learning platforms are user-friendly" (84.00) and "e-learning tools help with assignments and presentations" (83.67). This suggests that accessibility, ease of use, and academic support are the major advantages perceived by UG students. On the other hand, the statement "Learning from websites is difficult" received the lowest MPS (31.33), indicating that most UG students do not strongly perceive difficulty in online learning.

Table 2. Perception of UG and PG Students Regarding the Ease of Use of E-learning Platforms n=120

S.N.	Statements	UG (n ₁ =60)		PG (n ₂ =60)	
		MPS	Rank	MPS	Rank
1	E-learning platforms are user-friendly.	84.00	2	92.67	2
2	E-learning systems are clear and easy to understand.	80.00	6	88.33	5
3	The dissemination of information through e-learning systems is fast.	83.00	4	92.33	3
4	E-learning is an effective way of learning.	81.00	5	87.33	7
5	I can easily find the required information on e-learning platforms.	76.00	10	84.67	10
6	E-learning tools are free from physical effort.	71.67	12	79.33	12
7	E-learning systems enhance the learner's interest in learning.	72.33	11	81.00	11
8	It is convenient and flexible platform.	77.00	9	86.67	9
9	E-learning tools help with assignments and presentations.	83.67	3	93.33	1
10	It is a time-saving platform.	79.00	7	87.67	6
11	It is cost-effective.	78.33	8	87.00	8
12	Access to e-learning tools is possible at any time, from any location.	85.00	1	92.00	4

13	Learning from websites is difficult.	31.33	13	20.67	13
		75.56		82.54	

rs= Rank correlation

rs = 0.95**

** Significant at 1% level of significance

t =14.45

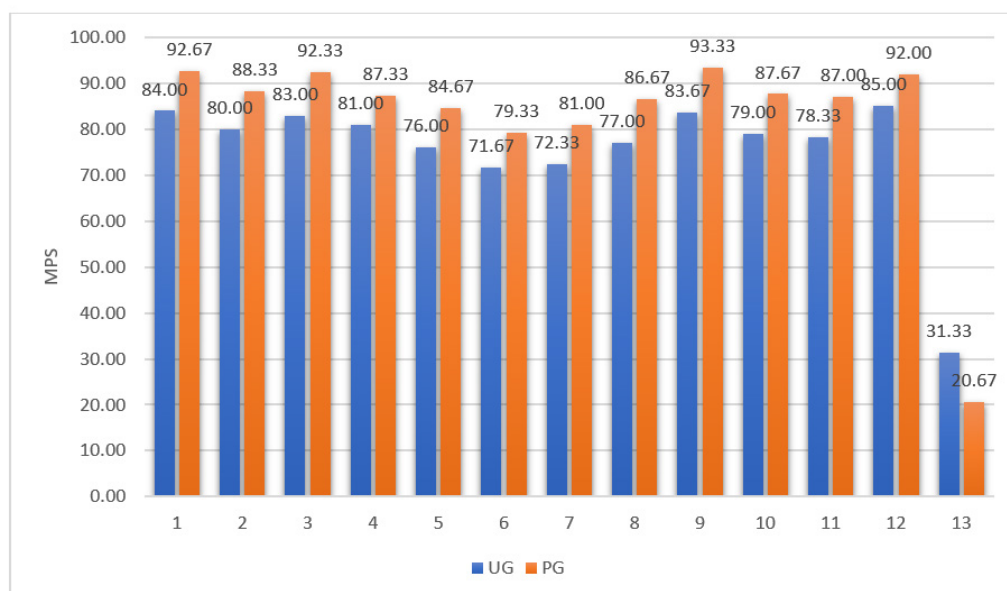


Fig 2. Perception level of UG and PG students of SKNCOA regarding the Ease of use of the e-learning platform

Similarly, among PG students, the overall MPS was higher (82.54), reflecting a more positive perception towards e-learning as compared to UG students. The top-ranked statement was “E-learning tools help with assignments and presentations” (MPS = 93.33), followed by “E-learning platforms are user-friendly” (92.67) and “The dissemination of information through e-learning systems is fast” (92.33). This indicates that PG students highly value efficiency, usability, and academic assistance provided by e-learning platforms. Similar to UG students, the statement “Learning from websites is difficult” was ranked lowest (MPS = 20.67), showing minimal difficulty experienced by PG students.

A comparison between UG and PG students clearly shows that PG students have a more favorable perception of e-learning, as evidenced by their higher MPS across most statements. Furthermore, the rank correlation ($rs = 0.95^{**}$) indicates a very high degree of agreement between UG and PG students in ranking the statements, and it is statistically significant at the 1% level.

3. Comparison of perception level of UG and PG students of SKNCOA regarding Ease of Use of the e-learning platforms

The comparison of perception towards e-learning between UG and PG students reveals clear differences across multiple aspects. PG students show a more favourable perception towards e-learning than UG students. Significant differences were observed in most statements based on Z-values at both 5% and 1% levels of significance. PG students found e-learning platforms more user-friendly and easier to understand (significant at 5%). They also believed that information dissemination through e-learning is faster (significant at 1%) and more effective (significant at 5%).

Additionally, PG students reported greater ease in finding required information and felt that e-learning increases their interest in learning (both significant at 5%). They rated e-learning as more flexible (5%) and highly useful for completing assignments and presentations (1%). PG students also perceived it as time-saving (5%) and cost-effective (5%). Accessibility of e-learning anytime and anywhere was also significant at the 5% level.

However, no significant difference was found regarding physical effort involved in using e-learning tools. UG students perceived learning from websites as more difficult, and this difference was highly significant at the 1% level. Overall, PG students appear more comfortable and adaptable to e-learning, possibly due to their higher academic exposure and familiarity with digital learning environments.

Table 3. Comparison of perception level of UG and PG students of SKNCOA regarding Ease of Use of the e-learning platforms **n=120**

S.N.	Statements	UG (n ₁ =60)		PG (n ₂ =60)		Z value
		Mean	SD	Mean	SD	
1	E-learning platforms are user-friendly.	4.20	1.10	4.63	0.55	2.72**
2	E-learning systems are clear and easy to understand.	4.00	0.92	4.42	0.81	2.63**
3	The dissemination of information through e-learning systems is fast.	4.15	0.97	4.62	0.64	3.11**
4	E-learning is an effective way of learning.	4.05	0.96	4.37	0.55	2.21*
5	I can easily find the required information on e-learning platforms.	3.80	1.23	4.23	0.83	2.26*

6	E-learning tools are free from physical effort.	3.58	1.24	3.97	0.90	1.94 ^{NS}
7	E-learning systems enhance the learner's interest in learning.	3.62	1.24	4.05	0.79	2.29*
8	It is convenient and flexible platform.	3.85	1.01	4.33	1.00	2.64**
9	E-learning tools help with assignments and presentations.	4.18	1.02	4.67	0.54	3.25**
10	It is a time-saving platform.	3.95	1.16	4.38	0.90	2.29*
11	It is cost-effective.	3.92	1.18	4.35	0.78	2.37*
12	Access to e-learning tools is possible at any time, from any location.	4.25	0.91	4.60	0.56	2.53*
13	Learning from websites is difficult.	1.57	1.09	1.03	0.64	3.26**

* Significant at 5% level of significance, NS= non-significant

** Significant at 1% level of significance

Based on the findings presented in Tables 1, 2, and 3, it can be concluded that the majority of both undergraduate (UG) and postgraduate (PG) students belonged to the medium perception category, with a higher proportion of PG students (71.67%) compared to UG students (65.00%). PG students exhibited the highest perception towards the statement "e-learning tools help with assignments and presentations", whereas UG students showed the highest perception for "access to e-learning tools at any time and from any location". Both UG and PG students reported the lowest perception for the statement "learning from websites is difficult".

A strong positive rank order correlation was observed between UG and PG students, indicating a similar pattern of relative perception across various e-learning statements. However, statistically significant differences were observed between UG and PG students both at the statement-wise and overall levels, with PG students consistently demonstrating higher perception levels. This higher perception among PG students may be attributed to their greater academic maturity and frequent use of e-learning platforms, which they perceived as more effective, accessible, creative, time-saving, and supportive for academic tasks. Overall, the findings indicate a more favorable perception of e-learning platforms among PG students compared to UG students.

4. Perception level of UG and PG students of SKNCOA regarding the perceived usefulness of the e-learning platform

As presented in Table 4 and fig 3, undergraduate (UG) students reported the

highest perception for the statement “e-learning improves performance” with a Mean Percent Score (MPS) of 85.00, ranking first, followed by “e-learning helps in better time management” (84.00 MPS). Other highly perceived statements included access to additional study materials for personal development, efficient management of time and space, flexibility in learning, learner independence, increased efficiency in daily tasks, and motivation to learn, with MPS values ranging from 83.67 to 76.00, ranking up to the eighth position. Moderate levels of perception were observed for statements related to interactivity, conceptual clarity, productivity, self-confidence, self-paced learning, and enjoyment in learning, with MPS values ranging from 75.67 to 74.00. The lowest perception among UG students was recorded for the statement “e-learning results in deterioration of health” (47.33 MPS).

In the case of postgraduate (PG) students, the highest perception was observed for the statement “students can access additional study materials from e-learning for personal development” (92.33 MPS), followed by “e-learning improves performance” (91.00 MPS). Other highly ranked statements included efficient management of time and space, increased efficiency in daily tasks, better time management, flexible learning opportunities, improved conceptual understanding, and learner independence, with MPS values ranging from 90.67 to 85.00. Moderate perception levels were noted for statements related to self-confidence, motivation, interactivity, productivity, self-paced learning, and enjoyment, with MPS values ranging from 84.67 to 82.67. Similar to UG students, the lowest perception among PG students was observed for “e-learning results in deterioration of health” (34.67 MPS).

Table 4. Perception level of UG and PG students of SKNCOA regarding the perceived usefulness of the e-learning platform **n=120**

S.N.	Statements	UG (n ₁ =60)		PG (n ₂ =60)	
		MPS	Rank	MPS	Rank
1	E-learning improves performance.	85.00	1	91.00	2
2	E-learning provides motivation to learn.	76.00	8	84.33	10
3	E-learning increases productivity.	75.00	11	83.67	12
4	E-learning helps to manage time and space efficiently.	82.67	4	90.67	3
5	E-learning increases the efficiency of performing daily tasks.	76.67	7	90.33	4

6	E-learning helps to be more independent in learning.	77.00	6	85.00	8
7	E-learning is an active and Interactive way of learning.	75.67	9	84.00	11
8	E-learning makes learning more enjoyable.	74.00	14	82.67	14
9	E-learning tools help to understand the concepts more clearly.	75.33	10	86.00	7
10	E-learning is self-paced and give students a chance to speed up/slow down if necessary.	74.33	13	83.00	13
11	Students can access additional study materials from e-learning for personal development.	83.67	3	92.33	1
12	E-learning helps to improve self confidence in expressing ideas and opinions.	74.67	12	84.67	9
13	E-learning provides highly flexible learning opportunities	79.33	5	88.33	6
14	E-learning helps in better time management.	84.00	2	89.67	5
15	E-learning results in deterioration of health.	47.33	15	34.67	15
Overall		78.11		85.56	

rs= Rank correlation

rs = 0.90**

** Significant at 1% level of significance

t =7.44

An attempt was made to examine the rank order correlation between the perception levels of undergraduate (UG) and postgraduate (PG) students with respect to the perceived usefulness of the e-learning platform. The rank correlation coefficient (rs) was found to be 0.90, indicating a strong positive correlation between UG and PG students. The significance of the correlation was tested using the t-test, and the calculated t value (7.44) exceeded the corresponding table value, confirming that the correlation was statistically significant. This indicates a similar pattern in the ranking of perception among UG and PG students regarding the e-learning platform. These findings agree with those reported by Ncube (2015).

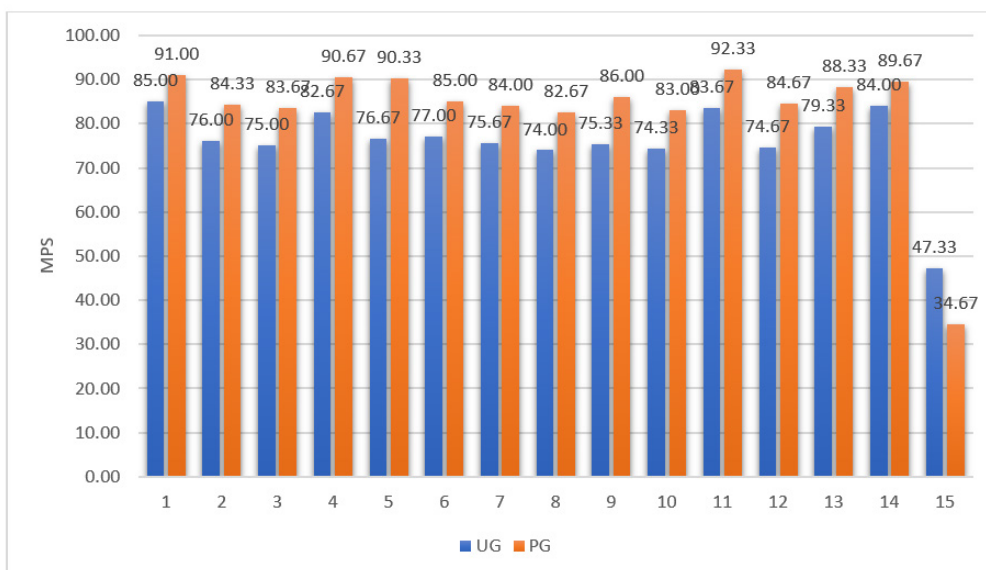


Fig 3. Perception level of UG and PG students of SKNCOA regarding the Perceived usefulness of the e-learning platform

5. Comparison of perception level of UG and PG students of SKNCOA regarding perceived usefulness of the e-learning platforms

The data presented in Table 5 indicate that statistically significant differences existed between undergraduate (UG) and postgraduate (PG) students regarding perceived usefulness of the e-learning platform. The calculated Z values were significant at the 1 per cent level for statements related to efficient management of time and space, improved efficiency in daily tasks, learner independence, better conceptual understanding, access to additional study materials for personal development, and flexibility of learning. Further, significant differences at the 5 per cent level were observed for statements related to performance improvement, learner motivation, productivity, interactivity, enjoyment of learning, self-paced learning, self-confidence, time management, and perceived health impact.

Table 5. Comparison of perception level of UG and PG students of SKNCOA regarding perceived usefulness of the e-learning platforms n=120

S.N.	Statements	UG (n ₁ =60)		PG (n ₂ =60)		Z value
		Mean	SD	Mean	SD	
1	e-learning improves performance	4.25	0.82	4.55	0.59	2.30*
2	e-learning provides motivation to learn	3.80	1.16	4.22	0.85	2.25*

3	e-learning increases productivity	3.75	1.23	4.18	0.95	2.16*
4	e-learning helps to manage time and space efficiently	4.13	0.98	4.53	0.68	2.60**
5	e-learning increases the efficiency of performing daily tasks	3.83	1.17	4.52	0.72	3.85**
6	e-learning helps to be more independent in learning	3.85	0.86	4.25	0.82	2.61**
7	e-learning is an active and Interactive way of learning	3.78	1.14	4.20	0.80	2.32*
8	e-learning makes learning more enjoyable	3.70	1.18	4.13	1.16	2.03*
9	e-learning tools help to understand the concepts more clearly	3.77	1.05	4.30	0.72	3.25**
10	e-learning is self-paced and give students a chance to speed up/slow down if necessary	3.72	1.25	4.15	0.88	2.20*
11	Students can access additional study materials from e-learning for personal development	4.18	0.85	4.62	0.58	3.24**
12	e-learning helps to improve self confidence in expressing ideas and opinions	3.73	1.22	4.23	0.91	2.55*
13	e-learning provides highly flexible learning opportunities	3.97	0.92	4.42	0.81	2.85**
14	e-learning helps in better time management	4.20	0.68	4.48	0.60	2.42*
15	e-learning results in deterioration of health	2.37	1.55	1.73	1.36	2.38*
	health					

* Significant at 5% level of significance

** Significant at 1% level of significance

Based on the findings presented in Tables 4 and 5, it can be concluded that postgraduate (PG) students exhibited the highest perception for the statement “students can access additional study materials from e-learning for personal development”, whereas undergraduate (UG) students showed the highest perception for “e-learning improves performance”. Both UG and PG students reported the lowest perception for the statement “e-learning results in deterioration of health”.

A strong positive rank order correlation was observed between UG and PG students, indicating a similar pattern in the relative ranking of perceptions across various e-learning statements. However, statistically significant differences were observed between UG and PG students at both the statement-wise and overall levels, with PG students consistently demonstrating higher perception levels. The higher perception among PG students may be attributed to their more favorable views of e-learning in terms of academic performance, motivation, productivity, and effective time management, along with stronger disagreement toward negative perceptions related to health impacts.

Conclusion

1. The findings of the study indicate that both undergraduate (UG) and postgraduate (PG) students exhibited an overall positive perception towards e-learning platforms in terms of perceived ease of use as well as perceived usefulness.
2. With respect to perceived ease of use, UG students reported the highest perception for the statement “access to e-learning tools is possible at any time and from any location” (MPS = 85.00), whereas PG students showed the highest perception for “e-learning tools help with assignments and presentations” (MPS = 93.33).
3. Regarding perceived usefulness, the highest perception among UG students was observed for “e-learning improves performance” (MPS = 85.00), while PG students reported the highest perception for “students can access additional study materials from e-learning for personal development” (MPS = 92.33).
4. A significant positive rank order correlation was observed between UG and PG students, indicating similar trends in the relative ranking of perception across various e-learning statements.
5. Statistically significant differences were found between UG and PG students both at the statement-wise and overall levels, with PG students consistently demonstrating higher perception levels compared to UG students.

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