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Article

The Extent to Which Instructors Use Digital Bloom's Taxonomy in Online Courses

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Abstract

Bloom's Taxonomy has been widely used in the learning environment to attain different skills and knowledges. Therefore, this study aimed at identifying the level of implementing digital Bloom's taxonomy in the online instructional design activities. Additionally, the study examines the difference level of digital Bloom's taxonomy usage in the learning environment based on participants gender, experience and other variables. A descriptive-analytical design using a survey method was implemented to collect data from 170 faculty members. The results showed that the respondents fall in the moderate level of using digital Bloom's taxonomy in their online learning activities. Furthermore, no significant differences were shown in using digital Bloom's taxonomy in the online learning activities based on respondent characteristics. Based on the results, the study suggests organizing regular programmes include instruction on digital Bloom's taxonomy, as well as the development of practical guidelines and tools to assist its application in course design.

Keywords

Digital Bloom's Taxonomy, Online Environment, Faculty, Learning.

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Introduction

Recently the technology advancement has been integrated in different level of teaching and learning process (Hussein et al., 2023; Jdaitawi & Kan'an, 2022). Thus, academicians and policy makers directed their concern towards produced digital-age students who characterised to display higher order thinking and creativity (Collins, 2014; Wedlock & Growe, 2017). Adapted to the technology advancements in contemporary learning environments, Bloom's Taxonomy is a preeminent educational framework for categorising learning objectives and cognitive skill levels (Shaik et al., 2023). Th Bloom's digital taxonomy has been developed to teach and assess students understanding, encouraging cooperation across classes, as well as usage the digital tools in the academic context, its hierarchical structure helps faculty create learning outcomes that stimulate critical thinking, problem-solving, and a deeper understanding of the subject (Al-Hujailan, 2024; Amin & Mirza, 2020; Crockett, Jukes, & Churches, 2011). Additionally, it encourages a variety of learner-centred teaching approaches that consider individual differences and improve both in-depth comprehension and the application of knowledge in real-world situations (Al-Saif, 2025). Although Bloom's taxonomy was originally focused on cognitive domain, behavioral and affective domains were also included. However, the taxonomy undergone various revised version with significant changes such as its terminology, structure and emphasis (Amin & Mirza, 2020; Anderson & Krathwohl, 2001). In 2008 Andrew Churches created new model based on Bloom's Taxonomy (Digital Bloom's Taxonomy) to facilitate teaching and learning through using digital methods integrated with Bloom's model levels (Amin & Mirza, 2020; Sneed, 2016) as show in Figure 1. Churches (2008) explained that Bloom's digital taxonomy can be used in cognitive domain as well as a method to improve understanding as well as to achieve proper level of competency.

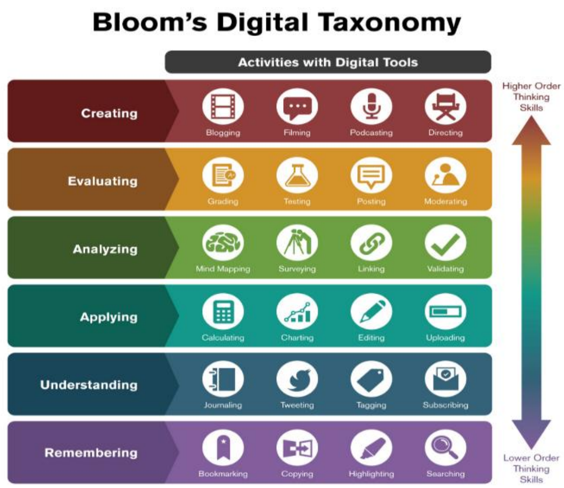

Figure 1: *Digital Bloom's Taxonomy (Source: VET4Food, n.d.).*

Problem of the Study and its Objectives

To enhance learning results, the Digital Bloom's Taxonomy integrates digital tools with cognitive level classification (Saeed, Farrokhi, & Zohrabi, 2024). However, research indicates a discrepancy between the training that is offered and its actual implementation in the classroom, as well as uneven faculty understanding and utilisation of this model in course design (Lubbe, Marais, & Kruger, 2025). In addition, despite several digital tools are used in teaching and learning process, the gap in teachers and students knowledge remain under explored. Therefore, the purpose of this study is to determine the level of using digital taxonomy levels in online courses at the university.

1. Examine how instructors have included Digital Bloom's Taxonomy into their course design.
2. Determine which cognitive levels are most and least used.
3. Examine variations by training, academic level, experience, specialisation, and gender.
4. Provide suggestions for how to improve the taxonomy's integration in higher education.

Questions of the Study

Based on the study purpose, this study tried to answer the main question which is how much faculty use the taxonomy's cognitive levels and related digital resources while creating university courses. From the main question, sub questions were stated which are:

1. To what degree do instructors use Digital Bloom's Taxonomy in online courses?
2. Are gender, specialisation, and experience factors associated with statistically significant differences in faculty members' use of the Digital Bloom's Taxonomy in online courses at the $\alpha = 0.05$ level?

Literature Review

Digital Bloom's Taxonomy has recently used in online learning environment. For instance, using the updated Bloom's cognitive levels, Atta (2024) examined ninth-grade science textbook questions in Libya and discovered that while the taxonomy's digital application fosters critical and creative thinking, there is a practice implementation gap, particularly in areas with limited training and digital resources. This confirms the current study's hypothesis that teacher utilisation in Jordanian universities is modest and diverse. Al-Jallab (2023) suggested a plan for using the Digital Bloom's Taxonomy in the classroom that connected it to the SAMR model and the Arab Child Knowledge Bank. The study provided a theoretical foundation for the current research and emphasised the need for faculty development by stressing the integration of digital procedures reflecting thinking skills and highlighting the role of the teacher as a designer of digital learning. Al Maani and Shanti (2023) also examined the use of video-based learning resources by architecture students to develop their higher order thinking abilities based on Bloom's taxonomy. However, positive results were demonstrated through the strategy in improving students learning outcomes. In another study conducted by Hmoud and Ali (2024) using digital Bloom's taxonomy, the result found that utilizing digital applications facilitate collaboration skills and play positive role in learning (Churches, 2008).

Methodology

The study used a descriptive-analytical methodology to describe and analyse phenomena, intending to obtain precise descriptions to aid in the identification, comprehension, and interpretation of the issues addressed. A quantitative method using survey method was implemented to collect data from the participants.

Sample and Population

Faculty members from education and other departments at a few Jordanian universities (both public and private) who were involved in course design or had expertise with LMS platforms (Moodle/Blackboard) were the study's target participants. See Table 1 for a stratified random sample of 170 faculty members with a range of specialisations, academic positions, universities, experience levels, and pertinent training.

Table 1: *Sample Distribution According to Demographic Variables.*

Variable	Category	Frequency	Percentage
Gender	Male	121	71.2%
	Female	49	28.8%
Specialization	Humanities	128	75.3%
	Science	42	24.7%
Years of Experience	Less than 5 years	50	29.4%
	5 – less than 10 years	43	25.3%
	10 years or more	77	45.3%
Total		170	100%

Study Instrument

Based on the six characteristics of the Digital Bloom's Taxonomy sequence as described by Al-Saif (2025), a questionnaire was created as the main instrument for gathering data. The purpose of the items was to assess the level of practice at each cognitive level creation, analysis, evaluation, application, recall, and understanding using the relevant digital activities (Al-Hujailan, 2024). Examples include using the Digital Bloom's Taxonomy to build an online course, creating learning objectives based on the taxonomy, applying it, and conducting assessments in accordance with it. 31 items in total, spread across the four dimensions, made up the questionnaire. The degree of practice was assessed using a five-point Likert scale, with choices ranging from "very high" to "very low", which were translated into numerical values between 5 and 1.

Validity and Reliability

The validity of each questionnaire item's internal consistency shows whether or not it measures the desired characteristic accurately. We calculated the Pearson correlation coefficients between each dimension and each item. As seen in Table 2, the scale measuring faculty members' utilisation of the Digital Bloom's Taxonomy in online courses has item-to-dimension correlation coefficients ranging from 0.594 to 0.913. Item 2 showed the largest association, whereas item 12 showed the lowest. Each correlation coefficient was more than 0.20, which means that internal consistency is high. Consequently, there were 31 items on the final scale. Cronbach's alpha coefficient was determined to guarantee the validity of the scale assessing faculty members' usage of the Digital Bloom's Taxonomy in online courses. Table 3 indicates that the scale's overall Cronbach's alpha was 0.97. Course design, learning objectives, applications, and assessment all had reliability coefficients of 0.93, 0.94, 0.90, and 0.87, respectively. Nunnally uses 0.70 as the lowest acceptable level of reliability, and these figures show that the scale has a high degree of reliability and is appropriate for field use.

Table 2: *Item-to-Dimension Correlation Coefficients of the Scale.*

Item	Correlation with Dimension	Item	Correlation with Dimension	Item	Correlation with Dimension
1	0.605	12	0.594	23	0.645
2	0.913	13	0.722	24	0.764
3	0.867	14	0.629	25	0.755
4	0.864	15	0.650	26	0.734
5	0.852	16	0.718	27	0.788
6	0.603	17	0.739	28	0.729
7	0.759	18	0.701	29	0.690
8	0.605	19	0.674	30	0.835
9	0.666	20	0.645	31	0.766
10	0.724	21	0.749		
11	0.732	22	0.681		

Table 3: *Scale-specific Cronbach's Alpha Reliability Coefficients.*

Dimension	Number of Items	Cronbach's Alpha
Designing the online course according to the Digital Bloom's Taxonomy	5	0.93
Learning objectives according to the Digital Bloom's Taxonomy	18	0.94
Applications of the Digital Bloom's Taxonomy	5	0.90
Assessment according to the Digital Bloom's Taxonomy	3	0.87
Total Score	31	0.97

Study Results

This section summarises the results of a study that looked at the association between a few variables and the degree to which Jordanian university teachers use Digital Bloom's Taxonomy in their electronic courses. Addressing the research questions of the study allowed for the completion of the analysis. Regarding question one "To what degree do instructors use Digital Bloom's Taxonomy in online courses?" **t**he averages and standard deviations of the sample's answers on the scale assessing the use of Digital Bloom's Taxonomy in online courses were computed in order to respond to this query. Table 4 displays these findings. With an average of 3.60, Table 4 demonstrates that faculty members' use of Digital Bloom's Taxonomy in online courses received a medium overall mean score. With a high mean of 3.78, the "Assessment" dimension came in first, while "Course Design" came in second with a high mean of 3.72. With a medium mean of 3.56, the "Learning Objectives" dimension came in third place, while the "Applications" dimension came in fourth with a medium mean of 3.51. Results for each dimension are shown in detail in the sections that follow.

Table 4: *Descriptive Statistics Results of the Implementing of Digital Bloom's Taxonomy in Online Courses.*

Rank	Dimension	Mean	SD	Level
1	Assessment according to the Digital Bloom's Taxonomy	3.78	0.76	High
2	Designing the online course according to the Digital Bloom's Taxonomy	3.72	0.77	High
3	Learning objectives according to the Digital Bloom's Taxonomy	3.56	0.64	Medium
4	Applications of the Digital Bloom's Taxonomy	3.51	0.76	Medium
	Overall Score	3.60	0.63	Medium

According to Table 5, item means varied from 3.65 to 3.91, although the overall mean for the "Course Design" dimension was high (M = 3.72). "The instructor designs the online course according to learning outcomes" (M = 3.91, High) was the item with the highest ranking, followed by "The instructor designs the online course according to Digital Bloom's Taxonomy domains" (M = 3.72, High). The item with the lowest ranking (M = 3.65, Medium) was "The instructor designs the online course according to Digital Bloom's Taxonomy applications."

Table 5: *Faculty Responses on the Course Design Dimension: Means and Standard Deviations.*

Rank	Item	Mean	SD	Level
1	The instructor designs the online course according to learning outcomes	3.91	0.83	High
2	The instructor designs the online course according to Digital Bloom's Taxonomy domains	3.72	0.86	High
3	The instructor assesses the online course according to Digital Bloom's Taxonomy domains	3.66	0.90	Medium
4	The instructor designs learning activities according to Digital Bloom's Taxonomy tools	3.66	0.86	Medium
5	The instructor designs the online course according to Digital Bloom's Taxonomy applications	3.65	0.91	Medium
	Course Design Overall	3.72	0.77	High

While item means varied from 2.98 to 3.88, Table 6 shows that the overall mean for the "Learning Objectives" dimension was medium (M = 3.56). "The instructor uses electronic communication" (M = 3.88, High) was the most highly ranked item. "The instructor uses search engines (e.g., Google) to enhance information retrieval" (M = 3.84, High) was not far behind. "The instructor produces animations" was the item with the lowest ranking (M = 2.98, Medium).

Table 6: *Faculty Responses Means and Standard Deviations on the Learning Objectives Dimension.*

Rank	Item	Mean	SD	Level
1	The instructor uses electronic communication	3.88	0.92	High
2	The instructor uses search engines (e.g., Google) to enhance information retrieval	3.84	0.84	High
3	The instructor uses digital verbs for the remembering process (e.g., highlight, tag, bookmark)	3.78	0.77	High
4	The instructor uses digital verbs for understanding (e.g., classify, annotate, index, record)	3.75	0.87	High
5	The instructor uses digital applications and programs	3.69	0.76	High
6	The instructor classifies and organizes files online	3.66	0.90	Medium
7	The instructor uses bookmarks to retrieve files	3.62	0.82	Medium
8	The instructor combines multiple data sources into a single digital resource	3.61	0.78	Medium
9	The instructor uses digital verbs for evaluation (e.g., check, hypothesize)	3.59	0.73	Medium
10	The instructor produces educational videos	3.59	0.99	Medium
11	The instructor uses digital verbs for application (e.g., run, upload, apply)	3.58	0.86	Medium
12	The instructor uses blogs	3.53	0.96	Medium
13	The instructor uses tools that allow commenting and annotations on web pages	3.49	0.88	Medium
14	The instructor uses visual blogging for comments	3.49	0.93	Medium
15	The instructor uses digital verbs for analysis (e.g., linking, reverse analysis)	3.48	0.86	Medium
16	The instructor uses digital verbs for innovation (e.g., programming, design)	3.37	0.94	Medium
17	The instructor uses digital interactive games	3.19	0.98	Medium
18	The instructor produces animations	2.98	1.21	Medium
	Overall Learning Objectives	3.56	0.64	Medium

According to Table 7, the "Applications" dimension's overall mean was medium (M = 3.51), with item means varying between 3.22 and 3.65. Utilising social technologies (M = 3.65, Medium) and networking communication (M = 3.65, Medium) were the items with the highest rankings. Using 3D media and simulations was the least popular option (M = 3.22, medium).

Table 7: *Means and Standard Deviations of Faculty Applications Dimension Responses.*

Rank	Item	Mean	SD	Level
1	The instructor uses social tools that support knowledge (e.g., blogs, file sharing, online discussions)	3.65	0.79	Medium
2	The instructor uses networking communication, direct dialogues, and text writing	3.65	0.85	Medium
3	The instructor uses hybrid applications for learning opportunities (e.g., mobile devices, cloud computing, tablets)	3.59	0.85	Medium
4	The instructor uses storytelling to develop creative knowledge via presentation and video production tools	3.45	0.99	Medium
5	The instructor uses 3D media and simulations to situate learning in real and augmented reality (e.g., virtual worlds)	3.22	1.00	Medium
	Applications Overall	3.51	0.76	Medium

With a mean score of 3.78, Table 8 demonstrates that the evaluation dimension's overall mean score based on Digital Bloom's Taxonomy was high. The individual item means varied from (3.72) to (3.91). With a high mean score of 3.91, the item that said that "the instructor diversifies assessment methods according to the timing of the assessment" came in first place. "The instructor uses assessment based on the tools of the Digital Bloom’s Taxonomy and links them to learning outcomes" was the second-most popular item, with a high mean score of 3.72. "The instructor uses assessment according to the levels of the Digital Bloom’s Taxonomy" was the third and last item, and it similarly received a high mean score of 3.72.

Table 8: *Descriptive Statistics Results for the Assessment Dimension.*

Rank	Item	Mean	Standard Deviation	Level
1	The instructor diversifies assessment methods according to the timing of the assessment	3.91	0.92	High
2	The instructor uses assessment based on the tools of the Digital Bloom’s Taxonomy and links them to learning outcomes	3.72	0.76	High
3	The instructor uses assessment according to the levels of the Digital Bloom’s Taxonomy	3.72	0.86	High
Overall	Assessment according to the Digital Bloom’s Taxonomy	3.78	0.76	High

Regarding questions two that = examined whether gender, academic specialisation, and years of experience affect faculty members' use of the digital Bloom's taxonomy in electronic courses at a statistically significant level (α=0.05). The averages and standard deviations of the study sample's answers on the scale assessing the application of Bloom's taxonomy in online courses were computed based on the variables (gender, specialisation, and experience) in order to respond to this question. As shown below, a multivariate analysis of variance (MANOVA) was used to assess the significance of differences in the scale's dimensions, while an analysis of variance (ANOVA) was used to investigate the significance of differences in the scale's overall score.

Table 9: *Differences in Applying Bloom's taxonomy in online courses based on Participants Factors.*

Variable	Category	N	Mean	SD
Gender	Male	121	3.60	0.64
	Female	49	3.61	0.60
Specialization	Humanities	128	3.50	0.58
	Sciences	42	3.91	0.69
Years of Experience	Less than 5 years	50	3.78	0.58
	5 – less than 10 years	43	3.80	0.51
	10 years or more	77	3.38	0.66

According to the variables of gender, specialisation, and years of experience, the study sample's mean scores on the scale assessing faculty members' use of digital Bloom's taxonomy in online courses appear to differ, as shown in Table 9. An analysis of variance (ANOVA) was performed to ascertain the statistical significance of these differences; the findings are displayed in Table 10. The calculated F-value was 0.024 with a significance level of 0.876, which is not statistically significant, indicating that there are no statistically significant differences in the degree of faculty members' practice of digital Bloom's taxonomy in electronic courses based on the gender variable (Table10). On the other hand, the specialisation variable in the table indicates statistically significant differences in the extent to which faculty members apply digital Bloom's taxonomy in electronic courses; the F-value was 13.777 at a significance level of 0.000. The findings show that faculty members in scientific faculties had a higher level of practice than faculty members in humanities universities.

Table 10: *Results of the Analysis of Variance (ANOVA).*

Source of Variance	Sum of Squares	df	Mean Square	F-value	Sig.
Gender	0.008	1	0.008	0.024	0.876
Specialization	4.637	1	4.637	13.777	0.000*
Years of Experience	6.285	2	3.143	9.336	0.000*
Error	55.541	165	0.337		
Adjusted Total	67.277	169			

*Significant at α = 0.05

According to the years of experience variable, the table also demonstrates statistically significant differences in the extent to which faculty members apply digital Bloom's taxonomy in electronic courses; the F-value was 9.336 at a significance level of 0.000. Scheffé's post hoc test was used to determine the cause of these discrepancies, and the findings are shown in Table 11. Table 11 shows that there are statistically significant differences in the degree to which faculty members use digital Bloom's taxonomy in electronic courses between the groups with 10 or more years of experience and the groups with fewer than 5 years and 5 to less than 10 years of experience. Faculty members with 10 or more years of experience had lower levels of practice than the other two groups, but there were no statistically significant differences between the groups with fewer than 5 years and 5-less than 10 years of experience. To investigate the significance of differences across the scale's dimensions, the study sample's means and standard deviations on the dimensions of the scale measuring faculty members' practice of digital Bloom's taxonomy in electronic courses were calculated using the study variables. A multivariate analysis of variance (MANOVA) was then carried out, as described below.

Table 11: *Results of the Scheffé post hoc test for variations based on Participants Factors.*

Years of Experience (I)	Years of Experience (J)	Mean Difference (I–J)	Sig.
10 years or more	Less than 5 years	-0.4021*	0.001
10 years or more	5 – less than 10 years	-0.4193*	0.001
5 – less than 10 years	Less than 5 years	0.0172	0.990

The results in Table 12 show clear disparities in the mean scores of the study sample's responses across the parameters of the scale measuring faculty members' use of digital Bloom's taxonomy in electronic courses based on gender, specialisation, and years of experience. Table 13 shows the results of a multivariate analysis of variance (MANOVA) to examine the statistical significance of these discrepancies.

Table 12: *Descriptive Statistics Results for the Dimensions.*

Variable	Category	Designing the Electronic Course	Learning Objectives	Applications of Digital Bloom	Assessment According to Digital Bloom
		M	SD	M	SD
Gender	Male	3.71	0.79	3.56	0.64
	Female	3.74	0.72	3.58	0.64
Specialization	Humanities	3.63	0.78	3.46	0.58
	Scientific	4.00	0.67	3.87	0.71
Years of Experience	Less than 5 years	3.90	0.62	3.75	0.60
	5 – less than 10 years	3.97	0.68	3.72	0.50
	10 years or more	3.46	0.83	3.35	0.68

Table 13: *Results of a Multivariate Analysis of Variance (MANOVA).*

Source of Variance	Dimension	Sum of Squares	df	Mean Square	F-value	Sig. Level
Gender	Hotelling's Trace = 0.007, Sig. = 0.892					
	Course Design Based on Digital Bloom's Taxonomy	0.030	1	0.030	0.058	0.811
	Learning Objectives Based on Digital Bloom's Taxonomy	0.020	1	0.020	0.057	0.812
	Applications of Digital Bloom's Taxonomy	0.051	1	0.051	0.101	0.751
	Assessment According to Digital Bloom's Taxonomy	0.030	1	0.030	0.058	0.810
Specialization	Hotelling's Trace = 0.086, Sig. = 0.010*					
	Course Design Based on Digital Bloom's Taxonomy	3.780	1	3.780	7.156	0.008*
	Learning Objectives Based on Digital Bloom's Taxonomy	4.427	1	4.427	12.489	0.001*
	Applications of Digital Bloom's Taxonomy	6.388	1	6.388	12.550	0.001*
	Assessment According to Digital Bloom's Taxonomy	4.736	1	4.736	9.157	0.003*
Experience	Wilks' Lambda = 0.870, Sig. = 0.004*					
	Course Design Based on Digital Bloom's Taxonomy	9.026	2	4.513	8.544	0.000*
	Learning Objectives Based on Digital Bloom's Taxonomy	5.347	2	2.673	7.543	0.001*
	Applications of Digital Bloom's Taxonomy	7.054	2	3.527	6.930	0.001*
	Assessment According to Digital Bloom's Taxonomy	7.574	2	3.787	7.322	0.001*
Error	Course Design Based on Digital Bloom's Taxonomy	87.154	165	0.528		
	Learning Objectives Based on Digital Bloom's Taxonomy	58.483	165	0.354		
	Applications of Digital Bloom's Taxonomy	83.981	165	0.509		
	Assessment According to Digital Bloom's Taxonomy	85.342	165	0.517		
Corrected Total	Course Design Based on Digital Bloom's Taxonomy	100.680	169			
	Learning Objectives Based on Digital Bloom's Taxonomy	69.312	169			
	Applications of Digital Bloom's Taxonomy	97.672	169			
	Assessment According to Digital Bloom's Taxonomy	98.246	169			

*Statistical significance is set at α = 0.05.

The results in Table 13 show that there were no statistically significant differences in the dimensions of faculty members' practice of the Digital Bloom's Taxonomy in e-courses based on gender, with a Hotelling's Trace value of (0.007) and a significance level of (0.892), which is statistically insignificant. There were statistically significant disparities in faculty members' use of Digital Bloom's Taxonomy in online courses based on specialisation, with faculty in scientific colleges outperforming those in humanities. Similarly, differences in years of experience were significant, with Scheffé post hoc tests employed to identify their causes, as shown in Table 14. Table 14 reveals substantial variations across all dimensions of Digital Bloom's Taxonomy, with faculty members with 10 or more years of experience indicating lower practice levels than those with fewer than ten years. There were no significant differences between the <5 and 5-<10 years groups.

Table 14: *Scheffé Post Hoc Test for Comparing Faculty Members' Digital Bloom's Taxonomy Practice in Online Courses Based on Years of Experience.*

Dimension	Years of Experience (I)	Years of Experience (J)	Mean Difference (I–J)	Sig.
Course Design according to Digital Bloom's Taxonomy	10 years or more	Less than 5 years	-0.4469*	0.004
	10 years or more	5 – less than 10 years	-0.5150*	0.001
	5 – less than 10 years	Less than 5 years	0.0681	0.904
Learning Objectives according to Digital Bloom's Taxonomy	10 years or more	Less than 5 years	-0.4045*	0.001
	10 years or more	5 – less than 10 years	-0.3710*	0.006
	5 – less than 10 years	Less than 5 years	-0.0335	0.964
Applications of Digital Bloom's Taxonomy	10 years or more	Less than 5 years	-0.3465*	0.030
	10 years or more	5 – less than 10 years	-0.4646*	0.004
	5 – less than 10 years	Less than 5 years	0.1181	0.729
Assessment according to Digital Bloom's Taxonomy	10 years or more	Less than 5 years	-0.4055*	0.009
	10 years or more	5 – less than 10 years	-0.4744*	0.003
	5 – less than 10 years	Less than 5 years	0.0688	0.900

* Statistically significant at α = 0.05

Discussion

The first purpose of the study is to assess the digital Bloom's taxonomy among faculty members in their online learning activities. However, **t**he results found that faculty members used Digital Bloom's Taxonomy moderately in course design. This implies widespread awareness but little systematic use, most likely due to insufficient training, poor integration of digital tools, and institutional constraints (Atta, 2024). Al-Jallab (2023) observed similar findings, stating that the adoption of Bloom's concept is still in its early stages. Another purpose was to explore any differences between the participants factors on using digital Bloom's taxonomy in the learning environment and the study identified no significant gender disparities in Bloom's model practice, implying that males and females received equivalent instruction. However, significant variations emerged in terms of specialisation (favouring education subjects) and teaching experience, with faculty with 6-10 years of experience demonstrating the highest levels of practice. This could indicate a balance between practical skill and openness to modern digital tools. This study demonstrates how instructors utilise the Digital Bloom's Taxonomy to create courses, assessing the advantages and disadvantages of digital course design and assisting in the development of focused training initiatives (Kouicem & Boulakhal, 2025). It provides insights for colleges looking to promote intelligent, digitally linked teaching practices and adds to the little body of work on the taxonomy's adoption in Arab higher education (Al-Jallab, 2023).

Limitations and Recommendations of the Study

The study's scope is restricted to that the analysing faculty use of the Digital Bloom's Taxonomy solely during course development; as well as the gathering data were collected from a selecting a sample of faculty from Jordanian public and Private universities during the second semester of 2024/2025; and evaluating application levels using a descriptive-analytical method with a questionnaire. Based on the limitations stated above several recommendations were highlighted such as, the study suggests that faculty development programmes include instruction on digital Bloom's taxonomy, as well as the development of practical guidelines and tools to assist its application in course design. It emphasises the necessity of encouraging non-educational disciplines to adopt instructional paradigms while also improving digital infrastructure to support authentic learning activities. Furthermore, it advocates for the implementation of institutional policies that include Bloom's taxonomy in course review and quality assurance systems, ensuring its long-term impact on teaching and learning. Furthermore, future research could look into the impact of the digital Bloom's taxonomy on student achievement and higher-order thinking skills, the relationship between faculty training and taxonomy use, comparative studies across universities or countries, and student attitudes towards courses designed with the digital Bloom's taxonomy.

Conclusion

The study aimed at exploring the level of implementing digital Bloom's taxonomy in online learning environment. However, the results showed that the respondent moderately used digital Bloom's taxonomy in online learning as well as the results also indicated no significant differences on using digital Bloom's taxonomy based on the respondents' variables (gender, experiences etc…).

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