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Article:	**Analyzing the Learning Needs of Students in the Open Distance and Online Learning System**
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ABSTRACT

The purpose of the study was to assess the learning needs of students during their studies in the distance and online learning programs. Quantitative research design with descriptive survey research method was utilized for this study. Sample of the study consisted of 518 students selected through stratified random sampling technique. Learning Needs Questionnaire (LNQ) (Ho & Lim, 2021) was used to collect data from the students of different degree programs. It was found that there was a statistically significant and moderate correlation among students' perspective on all four factors of LNQ. There was no statistically significant difference in the responses of distance and online learners on all the factors of LNQ with respect to region, province, academic performance groups, employment status and age groups. There was a gender, semester and program wise difference among students on the factors of LNQ. It was suggested to offer informal and formal guidance and information sessions to the distance and online learners by the departments and the tutors to cope up with the problems they are facing in their learning process.

Keywords: Learning needs, distance and online learners, university students, instructional process

Introduction

Due to rapid demand for skill-based learning and specialized courses, many institutions are offering courses/programs in distance education mode. Thus, distance education system is contributing to socio-economic development of the country (BUŠELIĆ, 2012). Distance education system has been widely adopted by many countries due to reduced cost and broad access to the people. Different institutions, universities are offering the courses in distance and online mode.

Distance education programs have also used latest technology and software to enhance the quality and effectiveness of teaching-learning process. Online learning platform may be helpful for student motivation, interest, communication and interaction with class fellows (Sari & Oktaviani, 2021). Although the information and communication technology has facilitated the procedures of the distance and online learning system, there is a need to focus not only on improving the technological aspect of the system but also on the goals and expectations of the students (BUŠELIĆ, 2012). The perceived ease of use and perceived usefulness might contribute to enhance the online learning effectiveness (Wu, Wider, Wong, Chan & Maidan, 2023).

During the pandemic, the teachers worked together with their students in shaping the teaching-learning strategies for an effective learning process. It showed the instrumental role of students in the teaching-learning process in higher education. Therefore, in order to tackle the new challenges in teaching-learning process, we need a more systematic strategies and a robust data the data about this process (Warfvingea, Löfgreen, Anderssonb, Roxå & Åkerman, 2022). Rather than just focusing on students' satisfaction (Warfvingea, Löfgreen, Anderssonb, Roxå & Åkerman, 2022), we need data about teaching and learning process such as students' needs.

Literature review

Distance learning is characterized by providing educational services to students who are geographically widely distributed and are not present in traditional classroom setting (BUŠELIĆ, 2012). The teacher and the students are separate from each other due to time or distance or both (Honeyman & Miller, 1993, p. 68: as cited in BUŠELIĆ, 2012). Due to this reason, there is a risk of social isolation. There are also hidden costs of distance learning system such as shipment charges for posting learning resources and handling/administrative costs. Due to latest technology tools and software (bulletin boards, LMS, chats, email, video-conferencing tools), this system has managed to deal with the social isolation and the expenditure. There are synchronous (teachers and students are available at the same time online) and asynchronous (teacher and the students are no required to be online at the same time) methods of learning are in practice. These methods can be combined to deliver the courses (BUŠELIĆ, 2012).

Distance learning can be as effective as traditional classroom learning. However, it comes with its own pros and cons. For example, flexible study hours, reduced cost and continuing study while doing a job are the advantages of distance learning. However, distance learners find it hard to connect to their instructors. Further, they have to be self-motivated and self-directed independent learners. Quality of teaching, teacher-student communication and schedule of course activities are some of the aspects of distance education that contain a room for improvement (Sadeghi, 2019). Besides this, the expectations and needs of the distance

learners may be assessed by the university in order to tailor their resources and services for effective and quality teaching-learning process.

Learning Needs Questionnaire (LNQ) was developed by Ho and Lim (2021) for conventional university students and adult learners studying various modes (face-to-face/fully online/blended). The purpose of this research instrument was to assess the learning needs of students. It consisted of four factors: student preference of tutors' characteristics (SPT), use of technology (UT), perceived academic competence (PAC) and time management (TM). By assessing the students' perspective of the traits of an effective teacher, the teacher and the institution can use this information to deliver an effective instruction in the class that in turn can help student learning. Student need support for using technology for their learning. The information from the 'use of technology' can be helpful to provide guidance and support to the students for effective use of technology in their learning activities. 'Perceived academic competency' can provide information about the course design, teaching-learning process and the academic support for our students. 'Time management' is crucial for our students to manage the academic activities of their courses. If they are facing some problem in managing time for academic activities, necessary support may be designed for them (Ho & Lim, 2021).

Research Questions

The research study focused to address the following research questions:

   i.   What are the preferences of distance learners about the characteristics their tutors'?

   ii.   How the use of technology has affected the learning process of the distance learners?

   iii.   Which academic competencies the distance learners acquired in the distance education programs?

   iv.   To what extent, the distance learner use the time management skills for their learning process?

Methodology

Quantitative survey research method was employed to conduct this study. All the students enrolled in masters and bachelors program in distance education programs in Pakistan were the population of the study. The sample comprised of 518 students selected through stratified sampling technique. Learning Needs Questionnaire (LNQ) developed by Ho and Lim (2021) was used to collect the data from the students. It was a seven-point scale and consisted of 33 statements. There were four constructs in this research instrument, as shown in table 01. Table 01 also showed the number of items in each construct and Cronbach's alpha value for each construct. Cronbach's alpha value for the Learning Needs Questionnaire (LNQ) and its constructs showed a better internal consistency of the research instrument. Data were collected through Google Forms. The data were analyzed by using mean, standard deviation, Spearman correlation co-efficient, Kruskal Wallis test and Mann-Whitney U test.

Table 01

Reliability Value for Factors of Learning Needs Questionnaire (LNQ)

S#	Factor	No of items	Cronbach's alpha value for LNQ
1	Student Preference of Tutors' Characteristics (SPT)	19	.958
2	Use of Technology (UT)	04	.882
3	Perceived Academic Competence (PAC)	04	.748
4	Time Management (TM)	06	.870
5	Overall value for LNQ	33	.948

Findings

This section presented the results of data analysis of students' responses on Learning Needs Questionnaire (LNQ).

Table 02

Descriptive Analysis of Responses of Students on Learning Needs Questionnaire (LNQ)

Factor	Sample (N)	Mean (M)	Standard Deviation (SD)
Student Preference of Tutors' Characteristics (SPT)	518	6.43	.56
Use of Technology (UT)	518	6.28	.70
Perceived Academic Competence (PAC)	518	6.18	.62
Time Management (TM)	518	6.19	.74

Table 02 showed the descriptive analysis of responses of students on four constructs of Learning Needs Questionnaire (LNQ). The mean response of students for all the four constructs was above average. However, 'Students' preference of tutors' characteristics' showed the highest mean score whereas the 'Use of technology' was the second highest value of mean score.

Table 03

Relationship among factors of Learning Needs Questionnaire (LNQ)

Factors	M^6	SD^7	N	SPT^1	UT^2	PAC^3	TM^4	LNQ^5
SPT^1	6.43	.56	518	-	.633 (.000)	.538 (.000)	.433 (.000)	$.744^8$ (.000)
UT^2	6.28	.71	518	.633 (.000)	-	.583 (.000)	.442 (.000)	$.795^8$ (.000)
PAC^3	6.18	.62	518	.538 (.000)	.583 (.000)	-	.579 (.000)	$.823^8$ (.000)
TM^4	6.19	.74	518	.433 (.000)	.442 (.000)	.579 (.000)	-	$.791^8$ (.000)
LNQ^5	6.27	.51	518	$.744^8$ (.000)	$.795^8$ (.000)	$.823^8$ (.000)	$.791^8$ (.000)	-

SPT^1= Student Preference of Tutors' Characteristics; UT^2= Use of Technology; PAC^3= Perceived Academic Competence; TM^4= Time Management; LNQ^5= Learning Needs Questionnaire; M^6= Mean score; SD^7= Standard Deviation; x^8= strong relationship

Table 03 showed the relation among constructs of LNQ based of students' responses. All the constructs had a statistically significant and moderate relation with each other. All the factors were strongly correlated to LNQ. It showed that an improvement in the value of one construct may have a positive effect on the score of the other construct. However, in order to achieve a high score on LNQ (i.e., to meet the learning needs of students), it is important to consider working on all the constructs.

Table 04

Responses of students on Learning Needs Questionnaire (LNQ) with respect to the degree program

Factor	Program of Study	N	Mean	SD	Mean rank	Chi-square	df	Sig value
Student Preference of Tutors' Characteristics (SPT)	BS/BBA	38	6.35	.58	241.49	.801	3	.849
	BEd (1.5/ 2.5/4 years)	433	6.43	.58	260.22			
	MA/MSc	31	6.49	.37	262.40			
	MS/MPhil	16	6.53	.42	277.13			
Use of Technology (UT)	BS/BBA	38	5.97	.86	191.18	10.558	3	.014
	BEd (1.5/ 2.5/4 years)	432	6.29	.70	264.07			
	MA/MSc	31	6.43	.47	291.23			
	MS/MPhil	16	6.23	.57	236.50			
Perceived Academic Competence (PAC)	BS/BBA	38	5.89	.77	199.88	10.806	3	.013
	BEd (1.5/ 2.5/4 years)	432	6.20	.61	265.23			
	MA/MSc	31	6.26	.58	285.13			
	MS/MPhil	16	5.97	.46	196.34			
Time Management (TM)	BS/BBA	38	5.65	1.2	186.72	26.377	3	.000
	BEd (1.5/ 2.5/4 years)	432	6.26	.65	268.90			
	MA/MSc	31	6.28	.93	289.77			
	MS/MPhil	16	5.53	.82	119.28			

Table 04 showed the comparative analysis of students' responses on the constructs of LNQ with respect to the program they were enrolled in. There was no statistically significant difference among students of different degree programs on students' preference of tutors' characteristics. However, there was a statistically significant difference among students' responses on 'use of technology', 'perceived academic competency' and 'time management' with highest mean score for students of masters' degree program. It indicated that students of masters' degree program used technology for their academic learning more than those from other programs. It can be inferred that students of masters' degree program were more positive about their academic competency and time management skill as compared to students of other degree programs.

Table 05

Responses of Students on Learning Needs Questionnaire (LNQ) with respect to the region

Factor	Region	N	Mean	SD	Mean rank	Chi-square	df	Sig value
Student Preference of Tutors' Characteristics (SPT)	Urban	230	6.42	.58	261.44	.207	2	.901
	Rural	219	6.44	.55	259.78			
	Semi-Urban	69	6.40	.55	252.15			
Use of Technology (UT)	Urban	230	6.29	.65	259.23	.161	2	.923
	Rural	219	6.29	.63	257.78			
	Semi-Urban	69	6.17	1.1	265.85			
Perceived Academic Competence (PAC)	Urban	230	6.13	.70	251.82	1.493	2	.474
	Rural	219	6.21	.57	262.71			
	Semi-Urban	69	6.24	.53	274.93			
Time Management (TM)	Urban	230	6.16	.73	250.08	3.953	2	.139
	Rural	219	6.26	.71	274.46			
	Semi-Urban	69	6.08	.87	243.41			

Table 05 showed the comparative analysis of students' responses on the constructs of LNQ based on their region (rural/urban/semi-urban). There was no statistically significant difference among students of different regions on constructs of LNQ. It depicted that students from various regions did not have any significant difference in their perspective about tutors' characteristics, their use of technology, their perceived academic competency and their time management skill in their learning process.

Table 06

Responses of students on Learning Needs Questionnaire (LNQ) with respect to the province/area

Factor	Region	N	Mean	SD	Mean rank	Chi-square	df	Sig value
Student Preference of Tutors' Characteristics (SPT)	AJ&K	67	6.43	.36	243.22	7.107	6	.311
	Islamabad	37	6.39	.69	259.41			
	Balochistan	21	6.19	.73	215.19			
	Punjab	296	6.43	.58	260.33			
	Khyber Pakhtunkhwa	53	6.43	.59	263.92			
	Sindh	28	6.61	.45	318.34			
	Gilgit-Baltistan	16	6.46	.42	253.09			
Use of Technology (UT)	AJ&K	67	6.18	.83	241.36	7.644	6	.265
	Islamabad	37	6.16	1.0	253.86			
	Balochistan	21	6.26	.65	255.83			
	Punjab	296	6.29	.62	255.92			
	Khyber Pakhtunkhwa	53	6.24	.88	264.19			
	Sindh	28	6.56	.49	325.43			
	Gilgit-Baltistan	16	6.45	.37	288.56			

Perceived Academic Competence (PAC)	AJ&K	67	6.19	.49	257.40	7.066	6	.315
	Islamabad	37	6.25	.52	265.66			
	Balochistan	21	6.13	.63	252.90			
	Punjab	296	6.17	.63	256.85			
	Khyber Pakhtunkhwa	53	6.08	.83	249.58			
	Sindh	28	6.44	.58	326.59			
	Gilgit-Baltistan	16	6.09	.52	227.16			
Time Management (TM)	AJ&K	67	6.27	.53	261.46	2.720	6	.843
	Islamabad	37	6.28	.59	271.57			
	Balochistan	21	6.36	.45	278.86			
	Punjab	296	6.15	.79	253.13			
	Khyber Pakhtunkhwa	53	6.11	.92	255.95			
	Sindh	28	6.38	.56	293.73			
	Gilgit-Baltistan	16	6.19	.83	267.69			

Table 06 showed the comparative analysis of students' responses on the constructs of LNQ with respect to the province or area. There was no statistically significant difference among students of different provinces/area on constructs of LNQ. It could be derived that students from various provinces/areas did not have any significant difference in their perspective about tutors' characteristics, their use of technology, their perceived academic competency and their time management skill in their learning process.

Table 07

Responses of Students on learning needs questionnaire with respect to their age group

Factor	Age Group	N	Mean	SD	Mean rank	Chi-square	df	Sig value
Student Preference of Tutors' Characteristics (SPT)	16-20 years	41	6.37	.56	245.80	1.478	4	.831
	21-25 years	298	6.43	.58	262.39			
	26-30 years	130	6.40	.55	251.08			
	31-35 years	28	6.49	.50	278.64			
	36-45 years	21	6.53	.42	271.76			
Use of Technology (UT)	16-20 years	41	5.96	1.0	212.11	7.927	4	.094
	21-25 years	298	6.35	.59	270.14			
	26-30 years	130	6.23	.66	244.52			
	31-35 years	28	6.34	.52	266.18			
	36-45 years	21	6.09	1.4	284.86			
Perceived Academic Competence (PAC)	16-20 years	41	5.94	.79	219.77	4.417	4	.353
	21-25 years	298	6.23	.56	268.46			
	26-30 years	130	6.14	.68	254.28			
	31-35 years	28	6.12	.79	254.88			
	36-45 years	21	6.19	.49	248.33			
Time Management (TM)	16-20 years	41	5.84	.99	205.93	9.090	4	.059
	21-25 years	298	6.24	.74	270.79			
	26-30 years	130	6.21	.68	259.45			
	31-35 years	28	6.21	.62	252.18			
	36-45 years	21	6.06	.58	213.95			

Table 07 showed the comparative analysis of students' responses on the constructs of LNQ with respect to their age groups. There was no statistically significant difference among students of different age groups on constructs of LNQ. It could be derived that students from different age groups did not have any significant difference in their perspective about tutors' characteristics, their use of technology, their perceived academic competency and their time management skill in their learning process.

Table 08

Responses of students on learning needs questionnaire with respect to semester of the study

Factor	Semester of the program	N	Mean	SD	Mean rank	Chi-square	df	Sig value
Student Preference of Tutors' Characteristics (SPT)	1st	272	6.46	.58	270.02	8.219	6	.223
	2nd	40	6.35	.58	240.83			
	3rd	71	6.32	.58	227.75			
	4th	65	6.51	.39	272.70			
	5th	36	6.39	.49	234.40			
	6th	15	6.19	.83	230.50			
	Alumni	19	6.56	.42	292.98			
Use of Technology (UT)	1st	272	6.33	.62	265.71	16.025	6	.014
	2nd	40	5.99	.84	196.95			
	3rd	71	6.23	.73	250.79			
	4th	65	6.42	.71	299.29			
	5th	36	6.09	1.0	233.81			
	6th	15	6.05	.85	212.97			
	Alumni	19	6.43	.47	284.18			
Perceived Academic Competence (PAC)	1st	272	6.22	.62	270.46	10.830	6	.094
	2nd	40	5.98	.76	219.20			
	3rd	71	6.13	.61	245.64			
	4th	65	6.18	.53	254.43			
	5th	36	6.19	.61	253.31			
	6th	15	5.88	.73	197.87			
	Alumni	19	6.41	.53	316.92			
Time Management (TM)	1st	272	6.29	.66	280.28	24.161	6	.000
	2nd	40	5.89	1.0	217.83			
	3rd	71	6.12	.61	229.20			
	4th	65	6.22	.77	265.57			
	5th	36	6.13	.54	225.54			
	6th	15	5.39	1.1	141.93			
	Alumni	19	6.28	1.0	299.37			

Table 08 showed the semester wise comparative analysis of students' responses on the constructs of LNQ. There was no statistically significant difference among students of different semesters on 'Student Preference of Tutors' Characteristics (SPT)' and 'Perceived Academic Competence (PAC)' constructs of LNQ. There was a statistically significant difference among students of different semesters on 'Use of Technology (UT)' and 'Time Management (TM)' constructs of LNQ with higher score of students of 4th semester. It could be inferred that students from 4th semester reported better time management skill and effective use of technology for academic learning as compared to students from other semesters.

Table 09

Responses of students on learning needs questionnaire with respect to the performance (percentage of marks) in their previous semester

Factor	Percentage of marks	N	Mean	SD	Mean rank	Chi-square	df	Sig value
Student Preference of Tutors' Characteristics (SPT)	31%-50%	15	6.47	.41	253.93	5.391	5	.370
	51%-60%	53	6.36	.46	230.69			
	61%-70%	131	6.44	.52	261.26			
	71%-80%	199	6.41	.54	253.72			
	81%-90%	96	6.43	.73	275.00			
	91%-100%	24	6.58	.43	302.88			
Use of Technology (UT)	31%-50%	15	6.60	.42	338.60	6.681	5	.245
	51%-60%	53	6.21	.83	254.23			
	61%-70%	131	6.23	.84	256.81			
	71%-80%	199	6.27	.59	248.92			
	81%-90%	96	6.33	.72	275.47			
	91%-100%	24	6.31	.59	260.29			
Perceived Academic Competence (PAC)	31%-50%	15	6.10	.80	251.73	3.948	5	.557
	51%-60%	53	6.05	.69	231.16			
	61%-70%	131	6.22	.52	258.53			
	71%-80%	199	6.16	.64	257.63			
	81%-90%	96	6.23	.63	274.41			
	91%-100%	24	6.26	.72	288.13			
Time Management (TM)	31%-50%	15	6.21	.69	260.50	2.365	5	.797
	51%-60%	53	6.24	.52	252.91			
	61%-70%	131	6.26	.56	262.64			
	71%-80%	199	6.12	.84	249.75			
	81%-90%	96	6.19	.87	273.77			
	91%-100%	24	6.28	.74	280.08			

Table 09 showed the comparative analysis of students' responses on the constructs of LNQ with respect to their percentage of marks in their previous semesters. There was no statistically significant difference among students of various academic performance groups on constructs of LNQ. It could be derived that students from various academic performance groups did not have any significant difference in their perspective about tutors' characteristics, their use of technology, their perceived academic competency and their time management skill in their learning process.

Table 10

Responses of students on learning needs questionnaire with respect to their employment status

Factor	Employment Status	N	Mean	SD	Mean rank	Chi-square	df	Sig value
Student Preference of Tutors' Characteristics (SPT)	Full-time Student	259	6.43	.54	254.48	1.706	4	.790
	Part-time employee in government institution	35	6.33	.61	227.83			

	Part-time employee in private institution	86	6.37	.72	250.29		
	Full-time employee in government institution	62	6.47	.55	266.10		
	Full-time employee in private institution	65	6.48	.39	259.55		
Use of Technology (UT)	Full-time Student	259	6.26	.65	248.04	6.135	4	.189
	Part-time employee in government institution	35	6.20	.51	217.99		
	Part-time employee in private institution	86	6.39	.61	273.13		
	Full-time employee in government institution	62	6.35	.77	278.65		
	Full-time employee in private institution	65	6.16	1.0	248.32		
Perceived Academic Competence (PAC)	Full-time Student	259	6.14	.66	244.45	5.386	4	.250
	Part-time employee in government institution	35	6.08	.56	228.64		
	Part-time employee in private institution	86	6.30	.47	278.17		
	Full-time employee in government institution	62	6.20	.72	268.29		
	Full-time employee in	65	6.23	.61	260.08		

		N	Mean	SD		Mann-Whitney U	df	Asymp. sig.
	private institution							
Time Management (TM)	Full-time Student	259	6.11	.86	246.46	6.007	4	.199
	Part-time employee in government institution	35	6.11	.56	217.80			
	Part-time employee in private institution	86	6.33	.60	279.98			
	Full-time employee in government institution	62	6.27	.62	264.33			
	Full-time employee in private institution	65	6.27	.58	259.33			

Table 10 depicted the comparative analysis of students' responses on the constructs of LNQ with respect to their employment status. There was no statistically significant difference among students with different employment status on constructs of LNQ. It could be derived that students with various employment status did not have any significant difference in their perspective about tutors' characteristics, their use of technology, their perceived academic competency and their time management skill in their learning process.

Table 11

Grade wise analysis of response of students on learning needs questionnaire

Factor	Gender	N	Mean	SD	Mean rank	Sum of ranks	Mann-Whitney U	Z	Asymp. sig.
SPT[1]	Male	112	6.39	.62	250.17	28019.00	21691.00	-.671	.502
	Female	404	6.44	.53	260.81	105367.00			
UT[2]	Male	112	6.39	.48	274.00	30687.50	20888.50	-1.272	.203
	Female	404	6.26	.75	254.20	102698.50			
PAC[3]	Male	112	6.25	.61	279.48	31301.50	20274.50	-1.714	.087
	Female	404	6.16	.62	252.68	102084.50			
TM[4]	Male	112	6.36	.59	289.18	32388.50	19187.50	-2.479	.013
	Female	404	6.15	.78	249.99	100997.50			

SD= Standard Deviation; SPT[1]=Student Preference of Tutors' Characteristics; UT[2]= Use of Technology; PAC[3]= Perceived Academic Competence; TM[4]= Time Management

Table 11 depicted the gender wise analysis of students' responses on the constructs of LNQ. There was no statistically significant difference among students with respect to their gender on three constructs of LNQ. There was a statistically significant difference among students with respect to their gender on 'Time Management' with higher score of male students.

Table 12

Analysis of response of students on learning needs questionnaire with respect to their self-report about disability

Factor	Sample	N	Mean	SD	Mean rank	Sum of ranks	Mann-Whitney U	Z	Asymp. sig.
SPT[1]	Consider themselves disable	77	6.38	.59	249.77	19232.00	16229.00	-.621	.534
	Not consider themselves disable	441	6.43	.55	261.20	115189.00			
UT[2]	Consider themselves disable	77	6.14	.92	238.06	18330.50	15327.50	-1.394	.163
	Not consider themselves disable	441	6.30	.66	263.24	116090.50			
PAC[3]	Consider themselves disable	77	6.20	.65	269.81	20775.00	16185.00	-.667	.505
	Not consider themselves disable	441	6.18	.62	257.70	113646.00			
TM[4]	Consider themselves disable	77	6.29	.65	277.52	21369.00	15591.00	-1.153	.249
	Not consider themselves disable	441	6.18	.76	256.35	113052.00			

SD= Standard Deviation; SPT[1]=Student Preference of Tutors' Characteristics; UT[2]= Use of Technology; PAC[3]= Perceived Academic Competence; TM[4]= Time Management

Table 12 showed the comparative analysis of students' responses on the constructs of LNQ with respect to their self-report about their disability. The students were asked about whether they consider themselves in the category of disability or not. Based on their self-report, the data about their disability were collected. There was no statistically significant difference among students on LNQ with respect to their self-report about disability. It could be inferred that students with disability/no-disability status did not have any significant difference in their perspective about tutors' characteristics, their use of technology, their perceived academic competency and their time management skill in their learning process.

Discussion

The purpose of the study was to assess the learning needs of the distance and online learners. Boroughani, Xodabande and Karimpour (2023) reported the effectiveness of mobile-assisted self-regulated learning to develop the academic vocabulary of university students. Students appreciated the use of flipped classroom fostering social constructivist practice. It could be made possible by using synchronous and asynchronous learning spaces, as reported by Noguera Fructuoso, Albó & Beardsley (2022). Further, the students might opt for virtual classroom if it continued to address their learning needs (Islam, Mazlan, Al-Murshidi, Shamsul Hoque, Karthiga & Reza, 2023). Hence, it can be inferred that use of technology in the

teaching-learning process may be helpful for improving the learning process but addressing the learning needs of the students is crucial in it.

There was a semester wise and program wise difference in the use of technology for academic learning as reported by students. The students in their early semesters and last semesters were comparatively low mean score in the use of technology for their learning. Similarly, the students of BS/BBA, MS/MPhil and teacher training programs had a low mean score on the use of technology for learning activities. In case, the university has introduced new technological features in the online learning system, the necessary support may be provided to the students to deal with these features (Ho & Lim, 2021). It was reported that there was a significant influence of students' attitude towards e-learning on their behavior to use e-learning; the attitude, in this case, was significantly affected by perceived ease of use and perceived usefulness of e-learning (Mailizar, Burg & Maulina, 2021). It might be helpful to seek feedback from students from time to time about their success and concerns regarding academic learning activities in order to provide them positive learning experience.

There was a gender wise and program wise difference in the time management skill of students. Equity based access to resources and capacity development with a supportive and needs-based environment may be provided for the students (Dodd, Dadaczynski, Okan, McCaffery & Pickles, 2021). Maqableh and Alia (2021) reported that students faced technological and time management issues. Therefore, university management must take into account the problems faced by the students and resolve it (Maqableh & Alia, 2021).

Conclusion

The purpose of the study was to assess the learning needs of distance and online learners at university level with respect to 'tutors' characteristics', 'use of technology', 'perceived academic competency' and 'time management'. It was concluded that students' needs related to all four factors were high. Based on students' responses, all the factors showed a statistically significant and moderate relation with each other; it depicted that their perspective on one factor might positively affect their behavior on other factors. Male students reported better time management skills for learning activities than female students. The students of masters' degree program showed a higher mean score on effective use of technology, perceived academic competency and time management as compared to other degree programs. The students of 4th semester reported higher score on 'time management' and 'effective use of technology' for academic activities than students from other semesters; it is important to mention that the score of students of 6th semester was low than those from 4th semester. Based on the results of the study, there is a need to provide support, from time to time, to the students of different semesters and programs for time management, academic competency benchmarks and effective use of technology for the learning activities. For this purpose, periodic seminars and workshops, and informal guidance by tutors may be helpful. Some scheduled synchronous or asynchronous sessions may be arranged for the distance learners at the start of the semester to provide orientation about university policies and resources, and answer their queries/concerns. These activities may be arranged program wise or at the department/university level as per enrolment data and the available resources. In this way, the university may provide tailored-support to the distance learners.

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