

Factors Influencing Learning Readiness of University Students in New Normal Era: A Factor Analysis

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ABSTRACT

University students have faced numerous challenges and issues related to online learning in the wake of the last pandemic. However, in many developing countries including Pakistan little is known about the problems of online learning faced by university due to abrupt shifting of education to digital mode. This study attempted to explore critical factors influencing online learning readiness of Pakistani university students in the New Normal. Using literature review, a questionnaire was developed consisting of five important factors such as: internet connection, technological skills, online interaction, learning preference and technology tools. Using these themes, a 21 items instrument was validated using exploratory factor analysis approach. A total of 643 university graduates of public sector universities of Malakand division Khyber Pakhtunkhwa province of Pakistan participated in the study based on convenience sample. The results indicated that in the current time many students did not have access to internet facility. Many students frequently face issues of poor internet connectivity which affects their study. Student did not have proper technological skills to operate different technology tools. University management may design online courses in the New Normal to address these factors. The results of this study also inform the policy makers about the implications of these critical factors on readiness of university students towards online learning in new normal era.



Introduction

The last COVID-19 pandemic had drastically change the educational landscape compelling schools to switch over to distance mode of education abruptly (Charalambous & Papademetriou, 2024). After the pandemic schools faced numerous issues related to managing academic activities as required. As has been observed by researchers that in the New Normal after the pandemic, a technology based online system is not only emerging but fast replacing the traditional face to face education as a choice for educational institutions creating numerous opportunities as well as challenges. For many schools, these issues have been very tough to grapple with due to lack of basic technology infrastructure and resources (Ahmad,Khan & Deebea,2022;Khanna, Cicinelli, Gilbert, Honavar & Murthy, 2020).

New Normal refers to the practices adopted based on blended learning approaches where teaching and learning is mostly conducted by using various modalities of through technology after the COVID-19 pandemic (Cahyadi, 2020). This situation has given rise to many challenges in terms of its implementation and operation. Consequently, the online policy is becoming too ideal and difficult to implement due to numerous factors influencing the online instruction system (Xie, Siau& Nah, 2020). In view of researchers, to address the newly emerging situation, many factors need to be considered like economic sufficiency, ensuring adequate facilities and infrastructure, internet network, and skills so that effective implementation of the available technologies could be possible (Maqbool, Farhan, Safian, Zulqarnain, Asif, Noor & Rehman, 2022). In the wake of COVID-19 pandemic the educational institutions have already started planning to create new online learning opportunities for reshaping the education to new paradigms which was more resilient and robust in terms of its operational capacity and response (Breaz, Topor, Ionescu & Dragolea, 2023; Sibte-e-Ali & Bashir, 2024; Afaq et al., 2022). Alongside, to grapple with the uncertain emerging situation, policy making bodies are also giving increasing attention towards providing sustainable solutions to the problems faced by students in online learning and teachers of higher educational institutions (Hafeez et al, 2022). Different mechanisms are being used to cope with the ever increasing uncertain critical challenges influencing the routine activities of teaching and learning in the New Normal (Harahap & Rusli, 2021).

It has been noticed that since the outbreak of the last pandemic, the higher education institutions around the world are facing high pressure due to the shifting of instruction from face to face to blended mode all over the world (Cannon, Self, Kitchel, Arnett-Hartwick, Billing, Elliott & Jeffery (2024). Many Pakistani universities also soon after the pandemic for which there was no proper preparation. Hence, the sudden switch over to technology applications created many challenges for teachers in delivery of teaching and for students in coping with the new learning model (Hafeez, Kazmi & Tahira, 2022). Many educational institutions started developing Learning Management System (LMS) or Campus Management Systems (CMS) to facilitate student learning using technology, however, this new experiences placed students at difficulty to cope with the new challenges as majority of these were not well abreast in operating technology related tools and some even did not have the capacity to purchase internet data to pursue the instructions (Cahyadi, 2020b).

Technology provides different platforms to students for online learning such as Google class, Google meets, and Zoom services (d'Orville, 2020). However, in the context of Pakistan many of these services are naïve to students and teachers working in the remote areas of the country where internet facilities are poorly available. Moreover, majority of the teachers and students were not fully trained in applications of technology tools before using being introduced to the online teaching and learning. The students did not feel conformable with the new instructional modalities

in the New Normal Era after the Covid-19 pandemic (Hafeez, Tahira & Leghari, 2021). Many people have suffered all over the world including teachers and students of educational institutions (Abdulkareem & Eidan, 2020). Students have especially received a hard blow in terms of learning performance, adaptation to technology along with other related issues. Several challenges and issues have emerged causing severe setbacks to higher education institutions in the New Normal Era (Abbacan-Tuguic, 2021). At local level especially in more underdeveloped countries of the world, still teachers and students are dependent on traditional face to face education mechanisms due to shortage of technological services and equipment's in educational institutions (Andarwulan, Fajri & Damayanti, 2021).

The global pandemic has had drastic effects in all spheres of normal life. In many countries people face enormous loss in terms of human lives. All social and economic activities went to a stand to still (Edi, Ambiyar, Verawardina, Samsir & Watrianthos, 2021). The experience was more pathetic and destructive for educational institutions. The higher educational institutions were closed and instruction shifted from face to face to online mode. The sudden emergence of the crisis and responses to it were beyond normal routines (Elshami, Taha, Abuzaid, Saravanan, Al Kawas & Abdalla, 2021). The current phase of post-pandemic challenges is more related to technology operations and its applications. However, the nature of the challenges may exacerbate if proper treatment and long term planning was not adopted at this early stage (Kanwar & Carr, 2020). There is also a need to explore rigidities in the educational systems of different countries around the world which were exposed during the pandemic. The fall out of these weaknesses has been seen more candidly in the capacity of the educational institutions around the world including Pakistan (Hafeez et al, 2021).

Researchers consider the present time as the best era for rectifying the faults and improving the system of higher education by incorporating technological structures which may help students and teachers to prepare the present generation to face and overcome the challenges of the current and coming era (Manalu, Wanda, Worumboy & Budiarti, 2021). The emergence of cutting edge technology related tools such as artificial intelligence, augmented reality, virtual reality and machine learning are some of the best options available in front of the higher education institutions (Maru, Pikirang, Ratu & Tuna, 2021). According to scholars, the development and presentation of content delivery in the present time face to face classrooms carries less weight as learners have access to enormous amount of information which is available online from anywhere and anyplace easily (Motala & Menon, 2020). However, the availability of information does not make the task easier for students of educational institutions due to different types of problems faced by students in different cultural and regions of the world where technology is treated and used as tool for education. The nature and applications of technology as educational tool has yet to become available in many parts of the underdeveloped world.

However, despite this, many researchers still believe that the easy availability of teaching and learning materials online has made higher education institutions more viable in terms of impact and quality (Tabassum, Rafique & Sherazi, 2020). In many low economically developed regions of the world, the higher education institutions are learning to use using different technology tools such as audios, videos and other options in facilitating students in the process of learning which have placed the students in more challenging positions to cope with the course materials who are less familiar with these alternatives (Nesterchuk, Grishin & Chepurnaya, 2020).

Online Learning in New Normal

On one hand the pandemic created enormous opportunities for students and teachers to get new information online which were not possible in the traditional mode of education. However, these opportunities were not without challenges and issues to the educational institutions. It has been reported that the scope of challenges comprised of demands for life-long learning, changing priorities of learners and their expectations from the educational system, new emerging technologies, cybernetic crimes (Motala & Menon, 2020). The volume of problems differed from lower to higher education. The pressures on higher education institutions increased especially regarding the quality of education in the new competitive and precarious conditions. According to researchers increasing need for lifelong learning was the biggest challenge in front the higher education institutions (Nesterchuk, Grishin & Chepurnaya, 2020).

Technologies are changing faster than anything in the current times. There are pressures on the higher education institutions to shift the curriculum needs of learners as per the emerging demands of the societies (Pacheco, 2021). Digitization has become an important norm and has greatly impacted the practices of teaching and learning. Students have to learn new technologies and its applications to keep pace with the new technologies. Many students cannot adjust themselves to the applications of the new technologies and hence remain behind in the competitive job industry. The educational institutions are expected to prepare manpower with good familiarity of technology equipments and its application for learning (Ngo & Phan, 2023). A new work environment is emerging with a hybrid dynamic which is posing threads to the educational institutions who are ill equipped to face the challenges. A study on thirty thousand industry workers showed that out of these 4.8% demonstrated better productivity by using technology at home and saving time which was being wasted during commutation (Pham & Ho, 2020).

Research has found that post pandemic tertiary educational institutions may change their traditional mindset where the students may be able to learn new learning skills, develop abilities and be ready for work in the market for a life time period (Phillips, 2021). Most of the higher education institutions have a typical structured model of instruction and the syllabus goes through various phases before reaching the learners. Hence, developing text and reference materials may take time (Rahmawati, 2021). Moreover, the unavailability of the online content developers further increases the existing problems and at times becomes highly challenging. So it becomes suffocating for teachers to redesign the learning content and modules of learning for future readymade courses. Finally, such courses become highly difficult to impart to students through online platforms. The students also cannot easily adapt themselves to such technology based courses and learning experiences. However, if the courses are designed based on societal and technological needs for enabling the students to easily adapt to the content assimilation then such courses will increase the motivation of learning towards the attractive videos, animation, and AL enabled simulation in engaging classrooms (Rahmatullah, 2021).

In the wake of the pandemic the expectations of students and parents have enormously increased from the higher educational institutions. Due to the availability of internet all the students in higher education centers have become the primary decision makers. They have access to digital devices such as Smartphone and laptops which enable them to get to latest information about different dynamics of life (Rapanta, Botturi, Goodyear, Guàrdia & Koole, 2021). In this scenario, the higher education institutions have to understand the changing needs of the time and provide opportunities to students and teachers to use their abilities for better teaching and learning (Sakina, Kulsum & Uyun, 2020). Researchers have indicated that the higher education institutions must create generalized learning path for students as per their expectations and demands of the society. There

is need to develop targeted plans for curriculum implementation using online mode. This will help the educational managers to understand the changing demands of the learner in the present technology age (Tria, 2020).

The emerging technologies have revolutionized all departments of life. There have been frequent changes in the practices of higher education more rapidly especially after the pandemic (Thahir, Widiawati & Baitillah, 2023). Curriculum developers are becoming more responsive to the needs of the technology challenges vis a vis curriculum implementation. As a result they are designing employment ready courses to enable the learners to learn new technology based skills. However, on the other hand, the traditional learning environment students are finding it difficult the needs of the new curriculum need. The new technology based instruction is characterized by MOOCs (Massive Open and Online Courses) becoming essential part of the system. The information technology industry such as Google and Microsoft are developing such courses for higher education which are more advanced and technically sound. These developments have put the traditional educational institutions in a challenging position (Andarwulan, et al, 2021).

The fast increasing rate of cyber-crimes and its related complexities have presented many problems to the higher education institutions. Researchers have stated that over US dollars 73 billion were used to cope with the challenge of ransomware attack on educational institutions. There were 5.8 million attacks of different malwares from August and September 2021 in different US educational institutions in USA. The major causes for cyber-attacks in higher education institutions are the lack of security to safeguard the systems through devices or using redundant security software (Barnett, Grafwallner & Weisenfeld, 2021). Technology researchers have hinted towards these developments to be seriously taken by the higher education institutions. This will help in reducing the risk or the attacks of malwares. For this purpose, the students and teachers need to get latest knowledge of online platforms and resources necessary to overcome these issues (Hoyt, Cohen, Dull, Castro & Yazdani, 2021).

Researchers have referred to multidimensional implications of the covid-19 crisis. Along with the increasing death tolls media hype has further create unrest and fear among masses affecting the normal life dynamics (Rapanta, et al, 2021). This situation also added to psychological and social stress in the society causing further damage to the already weak supporting policies of the government regarding implementation of the online teaching and learning system. All educational institutions including higher education adopted unprepared modalities for instructional implementation of online teaching and learning during the covid-19 pandemic and which are continuing without proper homework further exacerbating the issues of teachers and students regarding online teaching and learning (Laili & Nashir, 2021).

Some other reported barriers to online learning included poor expertise of teacher to present the learning material online, availability of internet facility, poor coordination between home and institutions, the required language fluency of parents for communication with teachers and administration, parental school involvement and digital competencies of parents (Pragholapati, 2021). Generally, students from low socio-economic backgrounds remained at more disadvantage in exhibiting online learning both at home and school during the pandemic. It is suggested that such issues can be overcome by giving relevant and timely training to teachers about how to handle such students with respect to their online teaching readiness. This will enhance their skills, capacities and knowledge about technology and enable them to play a key role in ensuring successful online teaching and learning to students in all subjects (Muthuprasad, Aiswarya, Aditya & Jha, 2021). Researchers have stated that online learning is difficult to achieve due to two main

reasons in the context of developing countries such as ritual and cultural differences which hinders the process of smooth online instruction and interaction (Zamira & Linda, 2020).

Although, numerous issues have been reported in literature on online teaching and learning during the pandemic such as internet connectivity, teacher readiness, students' motivation, resource mobilization (Batubara, 2021). However, many of such factors still exist even in the wake of the pandemic in educational institutions around the world including Pakistan. Many studies have reported about the outcomes of the pandemic for students and teachers during and after the pandemic. However, it remains to be known how these factors interact among each other and affect the level of online readiness of students in universities. This study explored factors influencing online learning readiness of students in Pakistan in the New-Normal.

Conceptual framework of the study

Based on literature review, five important factors were identified such as, internet connection, technological skills, online interaction, learning preference and technology tools.. The new model is conceptualised to investigate students' perspectives on the impact of these five factors as independent variables (IV) on their online learning readiness (DV) in the higher education context of Pakistan. The study is theoretically constructed based on important studies conducted in the realm of COVID-19 pandemic from around the world. The new structural model with the five factors as IV and students' online learning readiness as DV will be tested based on data collected through a questionnaire developed and validated in the new context.

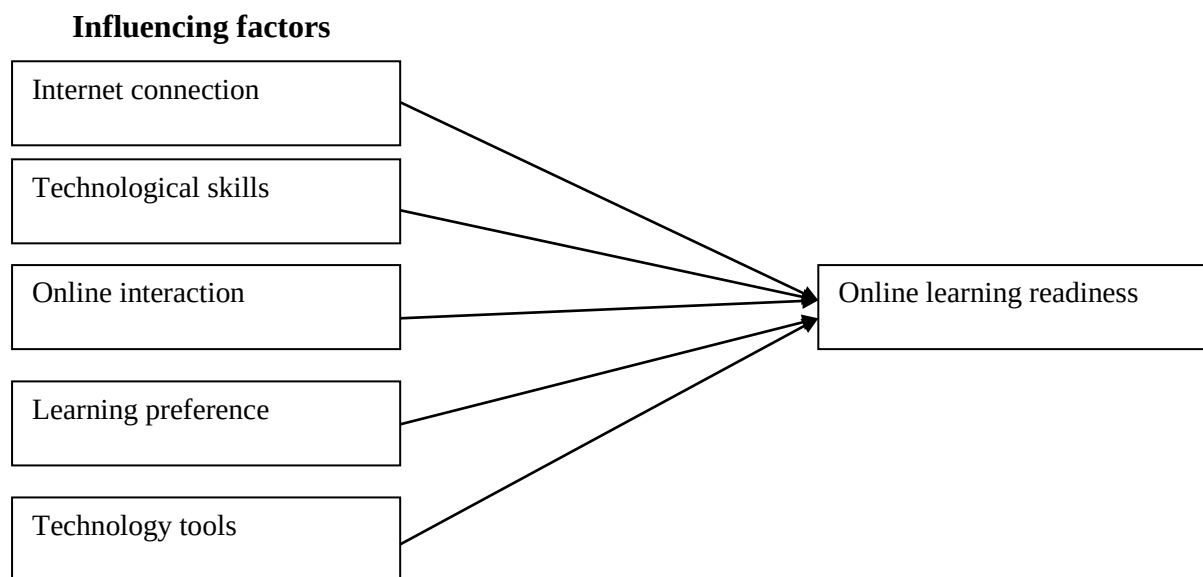


Figure 1: Authors' own work

Hypothesis of the study

Based on the review of literature and research objectives the following five hypotheses were formulated to test related to the influence of factors on online learning readiness of university students in Pakistan.

H01 There is a relationship between internet connection and students' online learning readiness.

H02 There is a relationship between technological skills and students' online learning readiness.

- H03 There is a relationship between online interaction and students' online learning readiness.
- H04 There is a relationship between learning preference and students' online learning readiness.
- H05 There is a relationship between technology tools and students' online learning readiness.

Method

A descriptive quantitative approach was used in the study to investigate the problem. Using a survey method, the researcher investigated the perceptions of university students about the factors influencing their online learning readiness in the New Normal.

Participants

A total of 244 students participated in the study from two universities of Malakand division: university of Malakand (n=144) and university of Swat (n=102). The students were selected conveniently from different departments based on the principle of availability and willingness to participate in the study.

Instrumentation

A 21 items scale was prepared and used for data collection. The scale was developed based on literature review using five important themes identified: internet connection, (2) technological skills, (3) online interaction, (4) learning preference and (5) technology tools. The newly developed scale was pilot tested for reliability and expert validation. The newly constructed scale were coded based on 5-point Likert scale ranging from (strongly agree=5, agree=4, undecided=3, disagree=2 and strongly disagree=1). The scale was developed based on the seven steps procedure of Hinkin, Tracey and Ends (1997). These steps include: (1), item creation (2), assessing content adequacy (3) pilot testing (4) factor analysis (5) reliability test (6) construct validity test and (7) final validation.

Initially as review of literature was conducted and five themes was identified which were frequently reported in the literature. Using these themes 21 items were created and validated for content adequacy through expert judgment and pilot tested. The scale was checked for reliability based on Cronbach's alpha test and construct validation was done based on exploratory factor analysis. The final validated questionnaire was used for data collection to ascertain the perceptions of students about the influence of the factors on their online readiness in the New Normal context.

Validation of the scale

The scale was validated based on exploratory factor analysis approach. The factorial structure was checked based on the five identified factors using principal component analysis technique. Before data collection, a pilot study was conducted to assess the content validity of the newly constructed scale. For this purpose, the scale was subjected to subject checking. Three experts reviewed the items of the scale and provided valuable feedback related to language clarity and readability to be applied in the new context. The reliability of the 21 items scale was .78 based on Cronbach's alpha test of inter-item consistency. Exploratory Factor Analysis (EFA) was used to check construct validation.

Results

This study was conducted to explore factors influencing online learning readiness of students in the New Normal. The study further examined the level of influence of each factor on online

readiness of students. Factor analysis approach was used to determine the factors influencing readiness of university students towards online learning in New Normal.

Table 1: Demographic Data

University	Total students	Department	Number of Students from each department
University of Swat	102	Education	21
		Chemistry	24
		English	28
		Economics	19
		Physics	20
University of Malakand	142	Education	28
		Chemistry	23
		English	25
		Economics	24
		Physics	22

Table shows that a total of 244 students participated in the study from two universities. From University of Swat, a total of 102 students participated in the study. Out of these students 21 were from department of education, 24 from chemistry, 28 students from English department, 19 students from economics and 20 students from physics department. From University of Malakand out of the total 144 students who became part of the study, 28 students were from education, 23 from chemistry, 25 from English, 24 from economics and 22 from physics.

Exploratory Factor analysis

The factor analysis was done based on EFA method. The principal component analysis was applied to determine the five-factor dimensionality of the scale. KMO and Bartlett's test of sphericity was checked for sample adequacy and correlation significance as preconditions for conducting factor analysis.

Table 2: KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.			.961
Bartlett's Test of Sphericity	Approx. Chi-Square		15766.715
	Df		210
	Sig.		.000

Table 2 indicates that the KMO value .961 and Bartlett test of sphericity significant at .000 ($X^2_{15766.715}$) provides a sufficient evidence for sample adequacy to conduct factor analysis.

Table 3: Items, Communalities and Reliability

Factor	Items	Communality	Reliability
Internet connection (IC)	Online connection services is available	.765	.812
	Online services is regular	.829	
	Online services is rarely available	.782	
	Online services is accessible all time	.778	
Technological skills (TS)	I can use interface of online service easily	.867	.761
	It is difficult to use online service	.871	
	The interface of online services is complex	.768	
	I can use the online services anytime	.782	

Online interaction (OI)	I adjust my mood with online entertainment	.849	.786
	The interface of online services is polite	.819	
	I am excited by the online environment	.776	
	It is not tiring to use online services	.796	
Technology tools (TT)	It is not stressful to use online services	.822	.843
	It is simple to use online service	.813	
	It is not confusing to use online services	.763	
	Using online services is pleasant	.769	
Learning preference (LP)	I am happy with online services	.727	.901
	Using online services is productive	.803	
	Using online service is worthwhile	.767	
	Online services are friendly	.793	
	I like online learning	.781	

Table 3 indicated that all the items have communalities values above 0.5 which is valuable for further analysis. The alpha values are also above .70 which gives an evidence of a good reliability for all the five subscales.

Table 4: Total Variance Extraction

Component	Rotation Sums of Squared Loadings ^a		
	Total	% of Variance	Cumulative %
1 Internet connection	12.417	59.128	59.128
2 Technological skills	1.813	8.632	67.760
3 Online interaction	1.966	4.744	72.504
4 Technology tools	1.925	4.595	77.099
5 Learning preferences	1.928	3.512	79.611

Table 4 shows the number of extractions based on the 21 items scale. The overall variance of the scale is 79.611. The first factor ‘internet connection’ explained 59.128 % of the variance in the scale followed by ‘technological skills’ having variance of 8.632 % of the variance in the scale, ‘online interaction’ having 4.744 % of the variance in the scale, ‘technology tools’ with 4.595 % of the variance in the scale and last one ‘learning preference’ having 3.512 % of the variance in the scale.

Table 5: Factor Loadings, Mean and Standard Deviations of the scale

S#	Items	Loadings	Mean	SD
1	IC	.860	4.03	1.055
2	IC	.867	4.03	1.023
3	IC	.787	4.10	.992
4	IC	.859	4.00	1.010
5	TS	.864	3.99	1.018
6	TS	.926	4.03	.978
7	TS	.654	3.96	1.015
8	TS	.849	3.98	1.003
9	OI	.865	4.06	.956
10	OI	.916	4.08	.942
11	OI	.964	4.17	.985
12	OI	.569	3.96	1.054
13	TT	.683	3.98	1.063

14	TT	.837	3.86	1.071
15	TT	.950	4.16	.936
16	TT	.768	4.04	.991
17	LP	.739	4.27	.911
18	LP	.618	4.18	.944
19	LP	.566	4.14	.976
20	LP	.494	4.20	.922
21	LP	.762	4.24	.921

Table 5 shows that the first factor ‘*internet connection*’ has 4 items (1-4) with mean scores ranging from 4.00 to 4.10. The second factor ‘*technological skills*’ has 5 items (5-8) with mean scores ranging from 3.98 to 4.03. The third factor ‘*online interaction*’ has 4 items (9-12) with mean scores ranging from 3.96 to 4.17. The fourth factor ‘*technology tools*’ has 4 items (13-16) with mean scores ranging from 3.86 to 4.16. The fifth factor ‘*learning preference*’ has 5 items (17-21) with mean scores ranging from 4.14 to 4.24. The highest mean score above 4.00 indicated that internet connection and learning preference were the most powerful factors influencing online learning readiness of university students. whereas, technological skills, online interaction and technology tools were second most powerful factors influencing online learning readiness of university students.

Table 6: Correlation of influencing factors with online learning readiness of students

S No	Online Learning Readiness	R= value
1	Internet connection	.802 ^{**}
2	Technological skills	.766 ^{**}
3	Online interaction	.666 ^{**}
4	Technology tools	.743 ^{**}
5	Learning preference	.894 ^{**}

^{**}. Correlation is significant at the 0.01 level (2-tailed).

Table 6 indicates that a strong significant and positive correlation among all the five influencing factors in the scale. There is a statistically significant correlation between online learning readiness and internet connection ($r = .802$), online learning readiness and technological skills ($r = .766$), online learning readiness and online interaction ($r = .666$), online learning readiness and technology tools ($r = .743$), as well as online learning readiness and learning preference ($r = .894$) of students in higher education of Pakistan in the New Normal.

Discussion

The current research explored factors influencing online learning readiness among Pakistani university students in the New Normal. The study also aimed to find out the levels of influence of these factors from students’ perspectives. For this purpose, the researchers developed a scale factors using five important factors most frequently discussed in the pandemic related literature. These factors were internet connection, technological skills, online interaction and learning preference and technology tools. The study revealed that internet connection and learning preference were the strongest influencing factors for readiness of university students towards online learning. Similarly, the study found that technological skills, online interaction and technology tools were fairly responsible factors. The findings of this study fairly support the results of previous studies that poor online internet connectivity exercises a negative impact upon online learning and the implementation of actual learning. Internet connectivity works as a central source in the process of online teaching and learning. It facilitates the process of transformation of

explicit knowledge in the process of learning (Andarwulan, 2021). Transformation of explicit knowledge can be possible through the internet connection. Poor internet connectivity halts the process of easy understanding and dissemination of learners, whereas strong connectivity facilitates the availability of online knowledge to reach the brain or mind based on personal experiences and it is hard to communicate with people who have poor internet connectivity (Edi et al, 2021). Furthermore, strong internet connection is essential for sharing of the learning material during the New Normal for online learning. Some students and teachers may not have fully utilized the technology applications in dissemination of the information needed as part of the required curriculum content due to poor internet connectivity issues in different areas. Based on the results it is argued that lack of proper internet connectivity is important for students' online learning readiness in the New Normal.

Previous studies have indicated that the online teaching and learning policy motivate students to use their various skills for the existing information and communication technology devices available in different forms. This includes computer, internet, mobile phones, video, telephone and fax. With the availability of the facilities around, learn may learn anytime and anywhere without being blocked by the barriers of distance, space and time. More varied forms of learning material are available in soft and hard form, in the form of texts, visual, audio and motions (Pokhrel & Chhetri, 2021). The results of this research indicated that poor technological skills were of the students was another factor that influenced their online learning readiness in the New Normal. It can be argued that if the students do not have skills to operate various technological devices and tools during the online teaching process, they are less ready to face online teaching and learning. Previous research has indicated that ability to apply technology is essential in the implementation of online learning after availability of such tools. Despite the availability of different technological devices and tools, learners still did not know the effective use of such sources for online learning (Maatuk, Elberkawi, Aljawarneh, Rashaideh& Alharbi, 2021).

For technology application, internet support is highly necessary. For this purpose, there should be high speed and stable internet networks (Ngo, 2023). However, it requires purchasing a data package. During the New Normal, students are inevitably forced to purchase internet data packages for online teaching and learning. This was done to create communication link between students and teachers. Surprisingly, the results of this current study revealed that access to technology tools was an important influencing factor that affected students' readiness towards online learning. Earlier research has showed that availability of strong internet signals certainly supports the smooth running of online classes for students and teachers. Meanwhile, poor internet signals disturb the process of online classes and affect the process of instruction (Manalu, Wanda, Worumboy & Budiarti, 2021). However, lack of access to technology tools may hamper the effectiveness of even the internet signal availability and it was found to be one of the major concerns of students' online learning readiness in the New-Normal.

This study further showed that lack of online interaction and student learning preferences were two critical factors influencing the readiness of students towards online learning in the New Normal. This finding is in line with previous research results which stated that internet signals access. Students' readiness towards learning constitutes one of the key elements of the online instruction. The issues of poor online interaction occurs when the internet signals are not or less available. This study indicates that students do not demonstrate positive attitude towards online learning in the New-Normal due to personal preferences which needs to be identified and proper guidance may be provided to students to channelize their preferences positively towards online leaning. These findings are well in line with results of earlier researchers that three levels must be focused for online learning readiness. The first one is pedagogical readiness. It is related to understanding of

technological experiences, confidence and attitude (Hafeez et al, 2021). Many learners still prefer face to face learning over online instruction due to many reasons. They believe through face to face learning they get many values like social, cultural and moral benefits which cannot be had through online interaction.

Conclusion

This research study measured the perspectives of university students about the factors influencing their readiness towards online learning in the New-Normal. The study found that internet connection and learning preference were the most strongly influencing factors followed by technological skills, online interaction and technology tools that affected the online learning readiness of students in the higher education context of Pakistan. The study suggests that this situation can be improved by giving attention towards proper facilitation through provision of internet connection. The students may also be provided orientation how to apply and operate upon technology devices. The solution of the poor internet signal availability can largely improve students' online learning readiness. The study additionally recommends that the higher education authorities may reconsider the online curriculum by providing sufficient support through provision of technological tools to the needy students who could equally participate in the online learning as most of the students are unable to afford costly devices. Online learning orientation may be helpful for students to improve their online interaction and their learning preferences.

Implications of the Study

The findings of this study provide important insights to the authorities of higher education in Pakistan regarding the influence of important factors affecting students' online learning readiness. In this perspective, the current policy initiatives for effective implementation of online teaching and learning at university level for the New-Normal may be reconsidered and revised to increase students' readiness to participate in online learning in the New Normal. The findings of the current study may also serve as policy recommendations for the higher education authorities and university management to revisit the existing policies on online teaching and learning for the pandemic period and its future effective implementation in the form of curriculum revisions, students' assistance, provision of more facilitation and resource arrangements, creation of feasible online teaching and learning structures for meeting online learning needs of students.

Limitations and Future Direction

This study was conducted based on a limited number of sample of students using convenient sample in a particular geographical zone. This may affect the analysis of results of the current study. Future studies may collect data from larger sample to get more reliable results. Future researchers may start new investigations based on the findings of this study and carry out extensive studies using more robust sample and methodologies. Furthermore, future studies may attempt to collect data both from students and teachers. It will provide a comparative and clearer picture of the situation arising out of the pandemic into the New-Normal.

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