IMPACT OF THE ONLINE LEARNING TECHNIQUES ON STUDENTS' CUMULATIVE GRADE POINTS

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Abstract
When COVID-19 prevailed, the educational system was shifted to online rather than traditional to facilitate the learning process. This study aimed at exploring the impacts of online learning techniques on the students' Cumulative Grade Point Average (CGPA). A total of 155 randomly selected students currently studying M. Phill education at the University of Agriculture Faisalabad, Pakistan participated in this study. Data were collected through validated, pre-tested and reliable questionnaires. Collected data were analyzed using Statistical Package for Social Sciences (SPSS). Findings unveiled that online learning techniques improved the learning abilities, personality traits and teaching styles as perceived by the respondents which further improved the CGPA of students. Within the effects on learning abilities, enabling students to judicious use of technology, multimedia, observation and clearing the concepts were major improvements which helped students to attain an increase in CGPA. As for as effects on personality traits were concerned, social interaction enhanced communication skills and improvement in understanding, social skills and confidence led the students to get high CGPA. Moreover, online learning improved the teaching styles by integrating video lectures, immediate results assessment and easy access to the technology were key drivers of the increase in CGPA. This study suggested a hybrid educational system at the University of Agriculture Faisalabad for effective learning in students.

Keywords: online learning, personality, learning ability, Covid-19, communication

INTRODUCTION

The concept of online learning is now widely understood by students and teachers ,especially after the emergence of COVID-19. During the prevalence of COVID-19, most educational institutions were forced to shut and educational activities were carried out online. The closure of schools augmented the unplanned shift to online education in most of the world like Saudi Arabia (Khalid et al., 2020), Georgia (Armstrong-Mensah et al., 2020), in Jordan (Almahasees et al., 2021) and Pakistan (Mumtaz et al., 2021).

Online learning which is also known as web-based learning imparted education flexibly and comfortably with the help of the internet to support individual learning or organizational performance goals (Abdullah, 2011).Online learning lessons are intended to help learners reach personal learning objectives or perform their jobs in ways that improve the bottom-line goals of the organization. Online learning is an Internet-based learning process, using Internet technology to design, implement, select, manage, support and extend learning, which will not replace traditional education methods but will greatly improve the efficiency of education (Verma *et al.,* 2013).

Different researchers indicate that students who manage their studies with the use of electronic tools have deep knowledge about anything and mostly participate in educational activities that reduce the problems(Maatuk et al., 2022). Online learning played a key role in existing educational settings as it changed the entire education system (Samir et al., 2014). In online learning the participants can save time and effort by accessing the educational activities from thedistance, therefore many scholars supported the online courses (Ms & Toro, 2013).

Teachers who effectively used digital tools in teaching for imparting lessons to students motivated them for learning. Using the computer, mobile phones and laptops supported the students and researchers in attaining education (Giles and Shaw, 2011). Teachers' behaviour toward the use of interactive electronic tools that have proven to be effective in managing their rooms has improved their management and management skills (Jelyani*et al*., 2014). Online learning maintains a proper environment of learning. Therefore, online learning has become crucial for the behaviour management of students (Ekici, 2009).

Pertinent to the occurrence of Covid 19 and the challenges of sustaining the education, Pakistan also followed the policy of shutting the schools, colleges and universities and allowing the online delivery of education (Mumtaz et al., 2021). Iqbal et al. (2021) and Iqbal et al. (2022) have reported that online education didn't produce expected outcomes in Pakistan for many reasons. The major problems hindering the effectiveness of online education were the unsuitable environment, non-availability of electricity, internet issues, and unavailability of android and laptops. Shahzad and Aurangezeb (2021) arbitrated that Pakistani universities were not fully ready to accept the online education approach this the effectiveness was below average.

The available literature regarding online education mainly focused on the impact of the pandemic on the education sector, challenges and coping strategies (Judd et al., 2020; Huber and Helm, 2020). Some studies had a focus on innovative strategies adopted by the institutes to cope with the pandemic (Bao, 2020). Some of the studies found are the experiences based on regular situations, especially where institutions were not completely shifted to online education (Ali and Ahmad 2011; Farid et al. 2015). We thought, a more specific inquiry is needed at the time Therefore, this study was planned to explore the impact of online learning techniques on the Cumulative Grade Point Average of Students (CGPA).

METHODOLOGY
Study area
The study was conducted at the University of Agriculture Faisalabadin 2021. The University of Agriculture Faisalabad is considered one of the leading public universities in the subject of agriculture. However, this university is showing its valuable contribution in the subject of education as well. University is offering M. Phill in education weekend programs.

Study population
All the students enrolled in the M.Phill Education degree in the Institute of AgriculturalExtension, Education and Rural Development were considered as the population of research. The total population of the study was 259 (M. Phil Education 4th semester 101 and M. Phil Education 2nd semester students 158).

Sampling strategy
A multi-stage random sampling technique was used in this study. Inthe first stage, the University of Agriculture was chosen purposively. Inthe second stage, one faculty was chosen at random. There area total of 7 faculties in the university and one Faculty of Social Sciences was chosen purposively. Inthe third stage, one institute was selected purposively from the three institutes working under the umbrella of chosen faculty. This is worth mentioning that the Faculty of Social Sciences has three institutes and two departments. The three departments include (the Institute of Business Management Sciences, the Institute of Agricultural Extension and Rural Development, and the Institute of Agricultural and Resource Economics) whereas two departments are included (the Department of Continuing Education, and the Department of Rural Sociology). Of the three institutes of the faculty, one Institute of Agricultural Extension, Education and Rural Development (IAEE & RD) was chosen purposively. This institute has a total of 259 students currently enrolled in the second and fourth semesters of the M. Phill Education degree.

Sample size selection
Of the total population of 259 students, the sample size was drawn through the online software surveysystem.com which was determined as 155. Proportionate sampling was further used to choose a representative sample from each semester. Thus, 63 and 92 students were chosen from the second and fourth semester respectively, thereby making an aggregate sample size of 155 students.

Selection of respondents
Respondents were selected through a simple random sampling technique as the list of students served as the sampling frame. Random numbers were generated and a random number was allotted to the chosen student who was further contacted for the data collection.

Data collection and analysis
A well-structured questionnaire was used for the collection of data from the respondents.The questionnaire was first pre-tested on 20 respondents, other than the total sample. The Cronbach alpha value of 0.83 accentuated the validity of the questionnaire and the researcher moved to the final data collection. Students were asked to complete the questionnaire which was translated into the Urdu language for the undertaking students. Five-point Likert scale was used to gather the responses of students. Collected data were analyzed with the help of the Statistical Package of Social Science (SPSS). Frequency, mean and standard deviation were calculated for the meaningful interpretation of collected responses.

RESULTS AND DISCUSSION

This section is the meaningful interpretation of the collected data. This section comprises mainly on the demographic profile of the respondents followed by the different effects of online learning techniques of learning abilities, personality traits and teaching and learning styles of the respondents. The very first section is demographic profile indicating the information regarding age, current semester enrolled, residential status, guardian occupation and monthly income of the family (Table 1).

Table 1. Demographic attributes of the respondents

Demographic attributes	Frequency	Percentage
Age (in years)		
<22	16	10.3
23-25	107	69.0
>25	32	20.6
Current Semester in M. Phill Education		
2nd	52	33.5
4th	103	66.5
Residential area		
Rural	52	33.5
Urban	99	63.9
Peri Urban	4	2.6
Guardian occupation		
Pvt. Job	42	27.1
Govt. Job	54	34.8
Business	14	9.0
Multiple income source	45	29.0
Monthly family income (PKR)		
20000-25000	18	11.6
26000-30000	31	20.0
Above 30000	106	68.4

Table 1 shows that 69% of respondents were aged between 23 and 25 years followed by one-fifth of respondents (20.6%) falling in the age bracket of more than 25 years. Around one in ten respondents was aged less than 22 years. All the respondents were currently enrolled in the M. Phill Education program at the University of Agriculture in Faisalabad, Pakistan. Of the total respondents, 33.5% were enrolled in 2nd and 66.5% were currently studying in the fourth semester. It is important to mention that this program has a total of four semesters (two years).

Most of the respondents (63.9%) belonged to urban areas and 33.5% belonged to rural areas. Out of the total respondents, 2.6% belonged to peri-urban areas. The background of the respondents was important as it has a strong association with access to facilities and access to higher education. Students coming from urban areas often had more access to educational facilities as compared to those living in rural areas.

As for as guardian occupation was concerned, 34.8% of respondents' guardians were involved in a government job, 27.1% in a private job, 9% in business and 29% were relying on multiple income sources. The majority of respondents (68.4%) family income was more than 30,000 per month followed by one fifth (20%) of respondents who had earnings of 26000-300000 Pakistani Rupees in a month. Of the total respondents, 11.6% had a family income of around 25000. This implies that the monthly income of respondents was not up to the mark and this might be the constraining factor for many in accessing the higher educational opportunities.

Effects on learning abilities

Table 2. effects of online learning on learning abilities

Effects on learning abilities	Mean ± SD
Enable them to utilize technology for saving time and energy	3.53 ± 1.052
Enable the students to utilize multimedia	3.45 ± 1.108
Increase the content by discovering the power of students	3.17 ± 1.123
Nourish observing the power of students	3.08 ± 1.130
Increase the concepts of students	2.83 ± 1.236

Table 2 indicates the effects of online learning on the learning abilities of the students currently studying M. Phill education. Online learning enabled students to utilize the technology effectively and save time and energy (*X= 3.53 SD 1.052*), this was ranked 1stamong different perceived effects. Online learning enabled students to utilize multimedia and its implication for learning (*X=3.45 SD 1.108*). Moreover, online learning improved the content discovering power among students (*X=3.17 SD=1.123*) and helped students to obverse their potential and powers (X=3.08 SD=1.130). This indicates that the impact of online learning on the learning abilities of the students was slightly more than medium level and tended towards a high level on a five-pointLikert scale. This can be deducted that the learning abilities of the students improved through online learning, and this might have led them to increase their CGPA. In a recent study, Ali et al. (2021) have reported appositive outcomes of online assessment among students in the form of grades in UAE. According to Ulum (2021), the effect of online learning on the academic achievements of students was at a moderate level. Although, this effect needs to be improved further with synergistic support from the teachers, and students, ensuring the learning materials, effective designs of learning and effective use of digital tools like websites, software and other supportive tools necessary for online learning. This integrated utilization of digital tools in particular can escalate the effectiveness of online learning (Rolisca and Achadiyah, 2014). Rahayu et al. (2017) have reported thateffective use of software improved the effectiveness and quality of online learning which could have positive impacts on the learning abilities of the students.

Table 3. Effects of online learning techniques on personality traits students.

Effects of online learning techniques on personality traits of students	Mean ± SD
Develops social interaction	3.76±0.947
Development of communication skills	3.70±0.930
Encourage students to better understanding	3.67±1.219
Enable the students to manage the time	3.56±1.108
Promote social interaction for the development of social skills	3.49±1.139
Increase the knowledge regarding the use of electronic learning tools	3.33±1.206
Develop self-confidence	3.31±1.150
Enhance collaboration among students	3.23±1.189
Increase the efficiency of work	3.21±1.058

Very low – very high

Table 3 shows the different effects of online learning techniques on the personality traits of students. Online learning developed the social interaction among students (X=3.76 SD=0.947). The effect on the social interaction was tending towards a high level. This points to the significance of online learning and its impacts on developing a sense of social interaction among students which can further lead them towards academic achievement. Online learning further enhanced the communications skills among skills (X=3.70 SD=0.934). Communication skills are deemed important for the academic performance of the students, thus online learning helped students to gain a new experience of communicating with teachers and fellow students. Findings are supported by those of Zarzycka et al. (2021), as they found that the increasing use of Facebook for educational purposes improved the communication abilities and collaboration among students during online education observed at the time of the pandemic. According to Elshami et al. (2021), the top level of satisfaction among students was the communication and flexibility in online education which advanced the impacts.

The effects of online learning on better understanding were perceived to tend toward a high level (X=3.67 SD=1.219). Online learning gave the students access to various educational contents, video lectures, reports and a wide array of literature that would have expanded the vision of students to understand the topic in depth. Students involved in online education were better prepared and had active participation in the class (Chen and Jones, 2007) whereas this interactive discussion helped them in making decisions and improving their communication skills (Jones and Chen, 2008). This kind of interactive discussion through online gadgets improved the time management among students (X=3.56), although the effect was ranging between medium and high levels. Online learning had many other effects like the development of social skills (X=3.49 SD=1.139), an increase in knowledge regarding the use of electronic learning tools (X=3.33 SD=1.206), developing of self-confidence (X=3.31 SD=1.150), enhancing collaboration among students (X=3.23 SD=1.189) and increase in efficiency of work (X=3.21 SD=1.058) as perceived by the respondents. Although the effect of online learning on these personality traits was of about medium level.

Table 4. Effects on learning and teaching styles that increase CGPA of students.

Effects on learning and teaching styles	Mean ± SD

Improved the courses with videos	3.39±1.141
Increase result-oriented assessment	3.35±1.376
Students do not miss any educational activity due to illness	3.23±1.314
Provide a pressure-free environment for better learning and teaching	3.20±1.194
Create a flexible lesson plan for teaching	2.89±1.134
Provides a schedule for learning and teaching	2.85±1.326

According to the data given in Table 4, respondents perceived that online learning helped improve the courses with videos (X=3.39 SD=1.141) which promoted effective learning among students. Lectures coupled with the related videos helped students to get a better understating of the course and the contents being taught. The teachers while delivering lectures online had an opportunity to share video lectures among students, which could have endorsed the contents being taught and improved the learning ability of students. Muthuprasad et al. (2021) have found that students preferred recorded lectures with the quiz session at the end of class which improved the impact of learning.

Online learning was perceived as result-oriented (X=3.35 Sd 1.376) as the students were getting a prompt response to their queries and time to time examinations. Moreover, the students had an opportunity to participate in online classes at any time especially in the circumstance when they are not well and unable to move to the physical classes. This broadening access to online learning was a promising strength of online learning. Online learning was more flexible having no pressure on students (X=3.23 SD 1.376). Indeed, the students had more confidence and high morale during online sessions which made the learning and teaching more conducive and result oriented. For the students, the flexible nature and accessibility of the online classes werethe most fascinating option (Muthuprasad et al.,2021)

Online learning created a flexible lesion plan for teaching (X=2.89 SD=1.134) and provided a schedule for learning and teaching (X= 2.85 SD=1.326) were rated less than the medium level in terms of effectiveness as perceived by the respondents. Soffer et al. (2019) maintained that patterns of learning time and access to online learning resources had a significant relationship with the academic achievement of students. In another study, Kokoc (2019) confirmed that online learning was flexible in time and content management and it has a significant influence on the academic achievement of students.

CONCLUSION AND RECOMMENDATIONS

This study was mainly focused on analyzing the effects of online learning on the cumulative grade point average (CGPA) of the students who were studying M. Phill Education at the University of Agriculture Faisalabad. At the time of the pandemic, the landscape of education changes from traditional to online with many percussions of its impacts on the students learning and academic achievement. This study found that online learning had a positive impact on the CGPA of the students. This implies that during online education the CGPA of the students was improved with the perceived improvements in their learning abilities, teaching styles and change in personality traits. Within the effects on learning abilities, enabling students to judicious use of technology, multimedia, observation and clearing the concepts were major improvements which helped students to attain an increase in CGPA. As for as effects on personality traits were concerned, social interaction enhanced communication skills and improvement in understanding, social skills and confidence led the students to get high CGPA. Moreover, online learning improved the teaching styles by integrating video lectures, immediate results assessment and easy access to the technology were key drivers of the increase in CGPA. Overall, online learning had a positive impact on the learning abilities, personality and teaching styles as perceived by the respondents. Because of these findings, it is suggested that a hybrid educational system should be introduced in the universities of Pakistan. Hybrid access including traditional and online learning can turn students more effective.

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