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Exploring Satisfaction and Perceived Learning in Physical Therapy Students during Online Learning: A Cross-Sectional Survey

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Author`s Contribution

[1,2] Substantial contributions to the conception or design of the work for the acquisition, analysis or interpretation of data for the work. [3,4,5,6] Drafting the work or reviewing it critically for important intellectual content, Final approval of the version to be published, [1-4] Agreement to be accountable for all aspects of the work in ensuring that questions related to the accuracy or integrity of any part of the work are appropriately investigated and resolved.

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A B S T R A C T

Background: The coronavirus outbreak which occurred in 2019 brought an unprecedented transformation in the education sector, accelerating the shift from traditional face-to-face learning to online platforms. While virtual learning existed before, it was largely considered a supplementary tool rather than a primary mode of instruction. Because of the corona outbreak, all the educational institutes either deferred regular class sessions or extracurricular events. Students were experiencing major disturbances in learning and assessment in their subject areas.

Objective: To determine outcomes of online learning on student's satisfaction and Perceived learning level.

Methodology: This was a cross- sectional survey conducted from various institutes in Rawalpindi and Islamabad. After taking ethical approval from ethical committee of foundation university Islamabad data was collected from students following inclusion criteria. Sampling technique used was non-probability convenient sampling and Sample Size was calculated using Rao soft. Data collection tool was SLE-OLE (Student Learning and Satisfaction in Online Learning Environment) questionnaire. Study duration was of six months.

Results: Statistical analysis was done using SPSS 21 version. Normality tests were applied which data was statistically significant. Total of 507 were included in study. Out of which 449 were males and 56 were females. The mean age was 21.4±1.65. Overall, 148(28.00%) students were somewhat satisfied with the overall experience of the course. 165(31.20%) were somewhat pleased with what they have learnt during the course. 138(26.10%) agreed that learning tasks enhance the understanding of the content. 152(28.70%) somewhat agreed on learning less than anticipated. 126(23.80%) slightly agreed with the skills that will help in the future.

Conclusion: Results of this study revealed that majority of students were agreed with all the constructs of satisfaction and the process of learning in an online environment of learning instrument. Findings of the study will help to identify all the factors that need to be improved in the online education system to enhance overall learning and satisfaction of Physical therapy students.

Keywords: Online learning, Perceived learning, Student Satisfaction

Introduction

After sudden corona virus outbreak all the educational institutes either deferred the regular class sessions or extracurricular events. Students were experiencing major disturbances in learning and assessment in their subject areas.[1]

Universities in Pakistan resume normal teaching order through different online applications such as (ZOOM and MS TEAMS)[2] in 2019 during covid outbreak. Therefore, to share knowledge and increase student co-operation, the Learning Management System (LMS) was created by almost all universities. Students were asked to register their courses through LMS. There are 5 pillars to determine quality of online education according to Sloan Consortium.[3] It includes learning experience, student's satisfaction, institutional staff satisfaction, reasonability and accessibility. Out of which satisfaction is of utmost importance. Satisfaction is a link between student learning expectation and actual gain in performance.[4] It shows a positive perception of student learning experience. Higher satisfaction level is an indicator of good student related outcomes. Online learning is overall linked with the efficacy of online systems. However, there are many predictors of student's satisfaction and their learning outcomes are affected by course structure, learning style, and communication between students and between learner and presenter, knowledge and facilitation provided by instructor and student motivation in learning.[5] The effectiveness of the online learning mode is the discipline of growing debate and its importance is increasing rapidly.[6] If the online interaction between students and teacher is of good quality, then there will be more satisfaction of students and perceived learning rates.[7] However, the acceptance of the online mode and satisfaction of students in the online education will continue to increase as long as the students take service quality perception positively i.e. instructor interaction, feedback, institutional support etc.[8]

An online learning course should have a great flexibility in the interaction of students with the instructor, class fellows, and the content of the course.[9] Online learning mode is considered to be less expensive and convenient.[10] Learning process through online education requires students to be proactive. Students are responsible for their own learning.[11] On the other hand, the major disadvantages include internet connection issues, less attention by the students, technology cost, inability to demonstrate clinical work, and less communication of the teachers with students. Many studies considered face-to-face interaction vital to the learning of students which online learning mode is unable to replicate or achieve.[12] More effort is required by the teacher to prepare, design and deliver the lectures in order to increase the student's attention span.[13] A majority of the medical students in a cross-sectional survey conducted in China stated the online learning mode to be impractical which shows that online learning mode, does not provide satisfactory experiences for them.[14]

Majority of the medical students preferred the traditional learning style over the online learning mode. When it comes to student preferences, 75% of students showed dissatisfaction with the online learning experience and 42% preferred to integrate both modes of learning (online and face-to-face).[15] Despite the rapid growth and widespread adoption of online learning, existing research has largely focused on its accessibility, technological platforms, and overall effectiveness compared to traditional face-to-face education. Therefore, our study will focus on the physical therapy students with special focus on these two variables (student satisfaction and perceived learning) in undergraduate physical therapy students of Rawalpindi and Islamabad in order to assess the effectiveness of online learning mode and will aid educational institute to improve their mode of online education system in emergency situations.

Methodology

Sample Size was calculated using Rao soft calculator version 4.5. The sample size obtained was 377, as this is a cross sectional survey so we recruited additional participants to compensate for anticipated non-response, dropouts, or incomplete data, ensuring adequate statistical power after data cleaning so we were able to get the data of 529 students. The duration of study was six months. Sampling Technique used was convenient sampling. Provisional approval for conducting the research project was given by Foundation University Ethical Review Committee **(No. FF/FUMC/215-51 Phy/20)** on 18 Sep 2020. The consent was then taken from the participants and they were informed about the research. Personal identifiers were not collected, and each participant was assigned a unique code to ensure anonymity. All data obtained through the cross-sectional survey were used solely for research purposes. Completed questionnaires and electronic data were securely stored, with access limited to the principal investigator only. Data were analyzed and reported in aggregate form, ensuring that individual participants could not be identified. Participants were informed about the confidentiality of their responses and provided informed consent prior to data collection. The data was collected through SLE-OLE (Student Learning and Satisfaction in Online Learning Environment) questionnaire validity and reliability 0.91-0.92.[16]

Data collected from the students studying in various physical therapy institutions of Rawalpindi and Islamabad including Foundation University Institute of Rehabilitation Sciences, Riphah Institute of Rehabilitation Sciences, University of Shifa Tameer e Millat, Margalla Institute Of Health Sciences, Isra Institute and Yusra institute of rehabilitation sciences, university Of Lahore, Rawalpindi Medical University, Islamabad Medical and Dental College. We included both male and female Undergraduate students of physical therapy of age 18 to 25 in Rawalpindi and Islamabad medical colleges who were taking face to face or traditional classes before outbreak and now suddenly shifted to online classes. Post-graduate physical therapy students taking regular online classes during Coronavirus pandemic were not included in our study. Postgraduate physical therapy students were excluded from the study to maintain sample homogeneity and ensure the validity of the findings.

Results

Regarding student satisfaction with online learning result of our study revealed that overall, One Forty-eight students were slightly satisfied with the overall experience of the course. Nighty seven mostly disagree with not recommending this course to others. One Fifty-two strongly dis-satisfied with student interaction in the course. One Forty students were satisfied slightly from course learning. One Sixty-one were satisfied slightly from the course instructor. One seventy-eight were satisfied somewhat from the course content which was taught on an online mode of learning. However, the aspect I would not recommend this course to other student show highest level of dissatisfaction i.e. 90 percent.

Regarding perceived learning through online study mode results of our study revealed that Overall, one sixty-five students were slightly pleased with what they have learnt during the course. One thirty-eight slightly agreed that learning tasks enhance the understanding of the content. One Fifty-two slightly agreed on learning less than anticipated. One twenty-six slightly agreed with the skills that will help in the future. One forty-six slightly agreed with the learning activities that promote the learning outcomes. One twenty-eight slightly agreed with the professional development of students.

Table 1: Student Satisfaction with Online Learning

Student Satisfaction	Strongly Disagree	Mostly Disagree	Slightly Agree	Moderately Agree	Mostly agree	Strongly Agree
I am satisfied with my overall experience in this course.	129(24.40%)	119(22.50%)	148(28.00%)	60(11.30%)	31(5.90%)	42(7.90%)
I would not recommend this course to other students	97(18.30%)	158(29.90%)	123(23.30%)	44(8.30%)	42(7.90%)	65(12.30%)
I am satisfied with the level of student interaction that occurred in the course.	116(21.90%)	152(28.70%)	124(23.40%)	65(12.30%)	41(7.80%)	31(5.90%)
I am satisfied with my learning in the course.	130(24.60%)	115(21.70%)	140(26.50%)	58(11.00%)	54(10.20%)	32(6.00%)
I am satisfied with the instructor of the course.	66(12.50%)	161(18.00%)	161(30.40%)	84(15.90%)	65(12.30%)	58(11.00%)
I am satisfied with the content of the course.	61(11.50%)	94(17.80%)	178(33.60%)	172(13.60%)	62(11.70%)	62(11.70%)

Table 2: Perceived Learning among Students of Doctor of Physical Therapy

Perceived Learning	Strongly Disagree	Mostly Disagree	Slightly Agree	Moderately Agree	Mostly Agree	Strongly Agree
I am pleased with what I learned in the course.	103(19.50%)	109(20.60%)	165(31.20%)	62(11.70%)	61(11.50%)	29(5.50%)
The learning tasks enhanced my understanding of the content.	97(18.30%)	133(25.10%)	13826.10%)	69(13.00%)	53(10.00%)	39(7.40%)
I learned less in the course than I anticipated.	55(10.40%)	134(25.30%)	152(28.70%)	74(14.00%)	55(10.40%)	59(11.20%)
I learned skills that will help me in the future.	112(21.20%)	123(23.30%)	126(23.80%)	72(13.60%)	44(8.30%)	52(9.80%)
The learning activities promoted the achievement of students learning outcome.	98(18.50%)	127(24.000%)	146(27.60%)	73(13.80%)	45(8.50%)	40(7.60%)
The course contributed to my professional development.	98(18.50%)	123(23.30%)	128(24.20%)	73(13.80%)	51(9.60%)	56(10.60%)

Discussion

This study sought to explore the level of learning and satisfaction in undergraduate physical therapy students of Rawalpindi and Islamabad as compared to the study of Melanie DiLoreto, which was conducted on graduate students using the same tool. The main variables of our study were student satisfaction and perceived learning which are considered as the learning indicators and key elements for course evaluation.[17] Perceived learning and satisfaction are critical indicators of the effectiveness of online learning among physical therapy students. Physical therapy education relies heavily on the integration of theoretical knowledge with clinical reasoning and practical skill development Postgraduate physical therapy students were excluded from the study to maintain sample homogeneity and ensure the validity of the findings A study conducted in 2015 by Melanie DiLoreto to find the effects on the engagement of student together with satisfaction of student and perceived learning which showed that the course organization, the engagement of student, presence of the instructor, satisfaction among the student and perceived in learning have considerable effect on student satisfaction.[18]

Another study concluded that students taking online classes are less satisfied with their short online course structure which was taken for their professional development than the students taking traditional classes.[19] However, the main difference in our study and all previous studies is that all the previous studies conducted on student satisfaction and learning were only for short online courses that were only carried out for a specific period, whereas the purpose of our study was to explore the satisfaction and perceived learning in professional degree programs including physical therapy students only. Like our study, there was a study which concluded that students are more likely to be satisfied and have high perceived learning rates if they had high both quality and quantity of interaction.[17] Regarding student's satisfaction over study, results revealed that most students agreed on the fact that student satisfaction is an important predictor of learning as it was associated with greater engagement, motivation, and persistence, which are essential for successful learning in online setting contrary as most of the students a to study conducted by Eom et al. which stated that student satisfaction is an important predictor of learning. According to another study, there is very limited research on student's satisfaction in online learning mode.[20] A study in under-graduate students conducted by Cathy Galyon concluded that students taking online classes face more difficulty in completing assignments and managing time for other deadlines than students in traditional classes.[21] which are similar to our result findings as our students faced similar difficulties in managing time during online classes. Results of our study revealed that students slightly agreed to overall student engagement and learning just like one study which showed that undergraduate students have low rate of both perceived learning and student engagement as compared to post graduate program.[22] Contrary to the results of our study was the cohort study conducted by Murry in which he concluded that the students will be more responsible for their learning if they had an online basic learning course before having traditional class.[23] Another study was done to explore the relationship of four variables on satisfaction of students and the perceived learning. Results for this study concluded that interaction between student and course was a significant predictor of student satisfaction while self-efficacy was the strongest predictor of perceived learning.[24] which are similar to our study findings regarding student interaction and satisfaction.

A survey study of three years on graduate and undergraduate students was conducted by Michele T Cole and Louis B Swartz along with Daniel J Shelley revealed that there is no statistically difference in the satisfaction level based upon age, gender and study type however the students rated that their online instruction was moderately satisfactory and online courses were more satisfactory. However, this study was conducted for students taking short online courses not for students taking online classes for professional degree programs.[25] This study will therefore help our education institutes to improve their mode of learning and will highlight the different aspects of online learning like time management, overall course and instructor which need to be focused to improve the learning skills of students.

Conclusion

In conclusion majority of students were agreed with all the constructs of satisfaction and the process of learning in an online environment of learning instrument so this mode of learning can be used along with face to face learning for better learning and academic growth of student.

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