

Learning from Home Satisfaction for Graduate Biology Students in the COVID-19 Era

Theophile Niyonsaba*, Paidi Paidi

Universitas Negeri Yogyakarta, Indonesia
*Email: theosmatata@gmail.com

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Abstract. The study aims to assess the level of satisfaction for Biology master's students understudying in online learning mode henceforth learning from home at Yogyakarta State University. A structured questionnaire was employed to view student satisfaction around 7 dimensions namely; resource availability and well-operating tools, instructor support & interaction, lesson quality and quality of delivery, assessment mechanism, teaching method, learning environment, and satisfaction. Of 49 students was surveyed and asked to answer questions relating to learning from home experience and the level of their satisfaction. Out of which participants over 80% were females and around 19% males where the major part of them belonged to 21-30 years of age. Data were analyzed using SPSS software and item's reliability was found higher (over 0.75) that substantiated the reliability of the questionnaire used. Based on calculating the mean and SD, data reveal that students are highly satisfied by the learning from home system. Findings suggest that the implementation of the learning from home program was a very great idea during this dire disease era as the majority of the students supported the initiative. However, the study discovered also that the quality and distribution of internet connectivity, non-updated devices for some students was the main challenge that might be rendering online learning more ineffective.

Key words: biology students, learning from home, satisfaction

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INTRODUCTION

Since its inception in the early months of 2020, the coronavirus has imposed the life of many to change (Poerwanti et al., 2021) and has caused most higher institutions and other public convocations to precipitously shut down their doors in the wake of stymieing the number of new contracted cases (Wong et al., 2020). With no time to dither, universities were then required to employ online teaching platforms, regardless of students' and teachers' level of literacy in digital devices management (competencies) and preparedness as well (Bonafini et al., 2017). Due to that, the learning and working from home approach for both teachers and students started gaining wider acceptance and has now become a viable alternative to conventional classroom teaching.

Assuming that the online learning concept is currently more acquainted with the education system so far, however, it is not a new pedagogical method anyway for others. Whelan Ariza, (2018) stated that the new paradigm in teaching as an online system has been used over years in different disciplines, albeit so far it has become a mandatory approach induced by the current pandemic (Hasanah et al., 2021). But proficiency in its implementation platforms from K-12 to college-level still has some lacks and gaps. Specifically, in the DIY (Daerah Istimewa Yogyakarta in Indonesia), teaching-learning from home is widely implemented across the universities and the country

(Nurhayati et al., 2021). Before and on the onset of the disease, none expected that would be possible to perform teaching from home, but a couple of weeks later the COVID-19 breaks, university instructors were given limited online options to abide by. Some of which were live lectures, recorded video or audio lectures, voice-over demonstrations, virtual presentations (teachers and students) to deliver the rest of the required instruction. With learning from home, there is a noticeable dominance in technology (together with electronic devices and internet flow) involvement and application in teaching-learning in higher institutions. Some studies on information systems present evidence that one of the ultimate aspects while seeking and evaluating the success in the implementation of the new system is user satisfaction (Whyte et al., 1997), (Petter et al., 2008). Therefore, having a stake in student satisfaction level with learning from home settings and provides technical training and proper instructions were the lowdown dimensions and concerns to explore.

By definition, satisfaction is a person's attitude or feelings bonded with multifaceted factors that are affecting a particular situation an individual goes through or experiences (Acuña et al., 1995). In tandem, Acuña (1995), explained that student satisfaction is more likely to be conceptualized to represent student's perceptions acquired from the perceived values of education and experience obtained at the school setting at the point of time. It can also be in-

terpreted as a concept that reflects outcomes and reciprocity that transpire between learners and an instructor (Barnes, 2017). In the respect of what was audited early, student satisfaction is considered to be one of the important staples for assessing the success and effectiveness of a course or system application.

Despite its outstanding contribution especially in course effect, however, currently, not a plethora of research is found that can point out the criteria as a guideline for evaluation of student satisfaction. That said, much of these potentials are remain untapped. Some recent findings have suggested some evaluation criteria of students' satisfaction with virtual learning. Compatible devices (electronic), instructor, class management, instruction, to be considered the most criteria driving and render online learning effective and smooth (Sutarto et al., 2020), (Meiers, 2007). The learning environment was deemed to create a favorable milieu for student's teamwork, exchanging ideas with one another becomes a factor that encourages the learner's participation and state of feeling engaged in the course. Some other researchers have found in follow-up interviews that, three key areas that students identified as being essential for them like being in touch regularly with teachers, quick response from teachers, and also regular intervention to ease the learning (Misko et al., 2004), (Guthrie, 2002).

The role plays by the instructors is also undeniable to predict as far as course satisfaction is concerned. That is why the performance of an instructor is found highly correlated with student satisfaction, particularly with his or her response time and availability (Gray & DiLoreto, 2016). An instructor is supposed to act not only as a facilitator of learning rather as a motivation booster for all students as considered one of the most important factors in satisfaction. Another factor deemed essential that may positively influence satisfaction and learning effect as well in online learning is the quality of the lesson (NASHAAT et al., 2021), (Piccoli et al., 2001). The feel of students' learning from home satisfaction and their performance in online collaborative learning in the light of the pandemic is the key factor in judging whether online learning model can be sustainably appreciated or not (Coman et al., 2020). Exploring the factors affecting student's satisfaction when partaking in learning from home, the results of Kuo and colleagues showed a close relationship between student's satisfaction with the factors such as learner-instructor collaboration and interaction, learner-content interaction, and the quality of both devices used and internet self-efficacy. Regardless of some main factors aforementioned that account for student satisfaction in learning from home approach, recent studies also have identified numerous staple challenges thought to contribute

enormously to learning within an online environment. Such challenges include instructors' assessments mode, overseeing students' performance through practices, lack of internet access, low quality of online instructional delivery, cost control, lack of teachers' intervention, counseling in students learning progress, etc. (OECD, 2020), (García & Weiss, 2020). Apart from that, other additional challenges on teacher's sides were reported especially that related to the instructors' adaptability skills to customize lectures for online learning, monitoring students the real performance in synchronous and asynchronous interaction, as well as designing authentic online assessment tools (Sholihah, 2021).

Within this online learning setting, learners are administrated to involve willingly and collaboratively through selected and appropriate online platforms with the focus of social context as the learning collaboration. Therefore, this study aims to assess student's satisfaction levels on the used online systems and approaches during the unprecedented pandemic to collect evidence of tools being used, and measures to the effectiveness of teaching and learning quality in the light of the pandemic.

METHODS

The content items/questions used in this online survey was conducted to find out the level of student satisfaction with the quality of the program and teaching system with respect to resources availability and well-operating tools, instructor support & interaction, lesson quality and quality of delivery, assessment mechanism, teaching method, learning environment, satisfaction. Similarly, questions related to socio-demographic distribution (age and sex) were also collected and used.

Design and procedure: By using a convenient online survey through the platform of Google form, the questionnaire was shared with Biology graduate students via WhatsApp groups. From the researcher's own experience as being a student in the Biology program, we decided to use Biology students in the master's program with the main reason as to view why many students constantly complaining about reaching or participating in online learning indeed. Hence as first-timers, they were likely to encounter some challenges while coping with online learning when physical interaction is still not allowed so far. According to (Demuyakor, 2020a) and (Demuyakor, 2020b), an online survey is one of the best means of cutting down costs when carrying out a study but at the same time serves as an effective way of getting authentic data from the online population. The main objective was to ascertain how satisfied are graduate Biology students at Yogyakarta State University and

also how students are responding to the online learning adopted by the same institution as a result of the COVID-19 pandemic.

Participant: The population for the present study was the biology students who are participating in online learning. The sample group is made up of 49 students completing the online survey through a Google form designed by the researcher under lecturers' supervision. Before subjecting the participants to the e-survey, a request was made to the group administrators and members on the intent of the survey, and hereafter the link was shared via the WhatsApp group platforms. For over a month, data were collected from students in semester one (1) and semester three (3).

For the scope of the data collection, we decided to apply the survey items, designed and constructed under the expert's supervision. The respondents concerned by the study were all graduate students in the Biology department and were invited through the WhatsApp platform to complete the sampling. As estimated, the completion of all questions took the participants about 10 minutes in average time. A deliberate bid-weekly reminder strategy was utilized to notify the participants who had not completed the survey items to do so. The questionnaire used was adapted and adopted according to the online learning requirements and was around 7 dimensions as cited in the previous paragraphs. The survey administered to participants was divided into three parts. The first part consists of student demographic data, multiple-choice questions, and Likert scale itemization recorded on a 5-points from strongly disagrees to strongly agree. Data were collected from October 2020 up to December 2020. The questionnaire comprised 44 items encompassing these 7 dimensions/factors. The mean score has been used to measure students' satisfaction for each dimension. No question was reported or remained unfinished or mistakenly filled out, however, 17 students did not want to complete the questionnaire due to the lack or less of interest to participate. Of 49 students as a sample size in this study, this number was translated to a response rate of 74.25%. According to (Challice et al., 2021), any study with a respondent rate of over or equal to 50 % (percent) is considered appropriate for analysis. Thus, our response rate of 74.25%, said that it was excellent to proceed with the analysis. The mean score has been used to measure students' satisfaction for each dimension.

Data analysis: All data collected were in ordinal scale namely Likert scale converted to 5-points scales. Cronbach's alpha was used while testing the validity and reliability of items. It is a measure of internal consistency of items, that is how closely related a set of items are as a group (Tavakol & Denick, 2011). It is considered to be also a measure of

scale reliability where its value or popularly known as reliability coefficient of 0.70 or higher is considered acceptance (Trizano-Hermosilla & Alvarado, 2016)

RESULTS AND DISCUSSION

Consequently, this study was done to survey or investigate the answer to the research questions cited in the section of sub-objectives. Then, the main objective is to measuring student's satisfaction with the learning from home system plagued by the COVID-19 through courses they have taken in the biology master's program through the following sub-objectives: (1) how much satisfied are the students with the assessment mechanism in the course's studies in online learning in the COVID-19 era? (2) how much satisfied are the students with the instructor's support and interaction? (3) how much satisfied are the students with the learning environment (in the residences) and teaching methods experienced during online learning? (4) how much satisfied are the students with the learning quality, resources available and, tools during online learning?

Based on the aforementioned objectives along with the importance of the related works in articles writing, it is worthy to review some concepts, previous findings, to complete properly the gist of the information needed. In the wake of institutions and public convocations closures and mandatory curfew seem in different countries all plagued by the contemporary disease, these preventive acts are impacting not only the mode of life of students, teachers and, household, but have shown far-reaching economic and societal consequences in many families across the world. After UNESCO recommended the closure of schools and starts off the use of distance learning programs, there have been so many useful mobile or computers applications developed mostly open educational applications and platforms that schools and teachers can use to reach learners from their home just in purpose to limit the disruption of education (Alderete & Formichella, 2017).. According to UNESCO reports and monitoring as of 7th July 2020, roughly 1,067,590,512 learners have been overwhelmed by the grief due to school closures and preventive protocols to abide by in response to the pandemic. With no time to differ, other countries have established and implemented localized closures impacting millions of additional learners. Solely in Indonesia herein in Yogyakarta city mostly known as the city of education, about all students ranging from kindergarten to higher institutions are affected due to the COVID-19 strength. While it is still blurred and far away to predict how the pandemic will unfurl, the likelihood of extending restrictions on social distancing and curfews would persist.

In Indonesia like in many other developing countries, a substantial portion of the population doesn't have ample access to the internet and electronic devices (Summaries, 2019) and (PISA, 2018). And even people who are supposed to have access to the internet undergo an infrastructural divide (The World Bank, 2020). The infrastructural gulf can be viewed through several circumstances, including the discrepancy of internet stability and speeds in different regions of the country. In tandem, despite internet issues and electronic devices, the availability of public electricity or accessibility of electricity in residences is also critical. People in the downtowns are more likely to enjoy significantly faster internet compare to those living in remote areas (Vichit-vadakan, 2020). With the learning or working from home system, most people feeling so far, buying data packages either on mobile networks or computers, their quality to perform well depends mostly on the personal financial capability and budget. That said that is relatively varying within learners and families they live in. For some, the faster internet bundles are deemed far more expensive for students to afford regularly even though some universities had started to giving hands in such acts but complaints and constraints are often heard.

So far Indonesia is counted among Asian countries with many private and state/public universities with a sizeable number of programs and students from around the world (Welch, 2007). Because of the presence of coronavirus, these programs and students are being delivered or offered online. The proliferation of online educational leadership programs has created new for schools and students and thus has enhanced competition among schools and programs. However, attention to student satisfaction especially during this new online learning environment is more crucial than ever, (Chernyayeva et al., 2009). (Strong, 2012) stated that with online learning, some key elements related to student satisfaction appear to be course structure and design. In this respect, a survey handed over to teachers in 28 institutions in America, (Choy et al., 2002) revealed that of 201 response, the services which were expected by students from schools and teachers were outlined as follows: 1) concise and detailed information about what is mandatory for the student to complete at the end of a structured module/course; 2) detailed course information; 3) personal details on the tertiary university database security; 4) clear instructional statements of what is required to acquire; 5) prompt and helpful interaction as teachers' feedback; 6) assessment requirements applied for all students; 7) virtual and smooth communication between teachers and learners with different communicative means; 8) timely response/reaction from teachers; 9) complete directives on whom to approach

and ask for help; and 10) information on how to register. After these latter findings, the research conducted follow-up interviews in the wake of trying to find others influential elements or factors to drive student's satisfaction. In their opinions, three key areas were perceived by students as being essential, namely regular contact with teachers, quick response from instructors, without forgetting regular support for learning. Apart from that, improving teacher's satisfaction and technical system were also reported by students. Despite results audited in this preceding section, in 1999, (Hara & Kling, 1999) a qualitative study carried out of an online graduate course enrolling six students in master's programs, their findings were in the line with (Samarawickrema, 2005) who found that the lack of prompt feedback, technical hindrances, along with ambiguous course instructions bred student frustration and dissatisfaction.

Further, a study comparing two parts of a graduate student course, one with a conventional approach and the other one with online, (de la Varre et al., 2014) noted that more students taking the online course found the courses to be better than expected. However, few of them found the online course taken to be less than they expected. Among major difficulties and concerns raised by students, technological issues, inadequate group participation by their classmates were repeatedly reported. As course design and structure found by (Gopal et al., 2021) to impact students' satisfaction with online courses, a comparative study executed by (Arias et al., 2018) between online and face-to-face courses, suggested that students completion rates are partial/total influenced by subject matter. In the follow-up research, (Bailie, 2015) and (Rosenfelt's study 2005) investigated and compared student achievement and completion rates and online learning by the same instructors, and student achievement was determined by final course grades, and data was tested by employing an independent two-sample t-test. In the meantime, the mediating effect of the subject matter such as student age, race, gender, academic background namely previous college or university was scrutinized. By using a sample of 796 students in their studies, completion rates were calculated using a two-sample z-test whereas ANOVA was recalled in verifying the impact of subject matter, age, race, gender, and previous institutions on student achievement. After addressing all data gathered, the authors found that there was no statistical difference in student achievement with either delivery form (online or face-to-face teaching approach). However, their findings showed that completion rates and conventional courses teaching, a significant difference was reported compared to those in remote learning courses. In fact, for them, subject matter area was found to be a variable with the great-

est mediating effect on school achievement and completion rates between the two delivery methods.

But then, according to (Mohamad et al., 2020), in higher institutions, the sense of student satisfaction is determined by a better interaction between professors and students. In tandem, the same authors noted that this bond between them may be even more complicated when a group or team project is served online. By using narrative pedagogy, it is a great occasion where teachers shared and explained their working experiences of supporting and participating to students' knowing and linking with each other in online courses. In online teaching, teachers employed practices that set limits and rules and reassured treatment fair of group members. (Stutsky, 2009) stated that in online learning, some faculty made a special extra effort to become a supportive presence in learner-to-learner knowing and connecting by stressing students' accountability to their groups. According to them, such act was accomplished by posting/sharing course contents in form of notes, sending e-mail, and most importantly partaking in discussion boards.

Mcgrath & Kraus, (1998) conducted research regarding school administrator and faculty reactions/responses to online learning through a case study involving the development of an online learning initiative for the State University of the New York system shortened as SUNY. As participants in such study, decision-makers, proposal authors, and faculty were invited to participate in unstructured interviews proposed and designed by the author in collaboration with experts. The author's concern was to search for whether there are similarities or dissimilarities in the responses collected between institutions, faculty, and administrators by emerging patterns. After doing that, Kraus reported that this growing form of postsecondary instruction may be affecting a cultural change in higher education. These changes predicted to change during university education will mainly consist of how teachers instruct and how students acquire knowledge, as well as how they interact with each other (teacher-student or student-student). As a conclusion drawn, the researcher said that universities cannot decline this new, swapping, and extending marketplace although online education will not be totally a replacement for face-to-face knowledge delivery.

Last not least, peer interaction, faculty-student interaction, and a sense of intellectual stimulation of both the student and the learner's peers were found by (Turley & Graham, 2019) related to student satisfaction at the graduate level. Diekelmann & Mendias, (2005); Rosenfeld, (2005) have also found these characteristics of students' satisfaction in studies of online courses at both the undergrad and graduate level. Some researchers with online course experi-

ences also recapped some issues that, if addressed, could have a major impact and foster student satisfaction. Some of which included time management, helpful communication with the educators, clear instructions regarding course expectations, student assignments, and requirements, support to enrolment as well as data security (Khan et al., 2017, Hara & Kling, 1999). Despite means and ways noted for some researchers that ensure student satisfaction with distance learning, to our better knowledge, data are still needed to reveal student's satisfaction with online learning especially during the coronavirus pandemic at the graduate level.

In the context of Yogyakarta schools, the practice of learning from home is still new to many colleges (high school teachers, lecturers, and students) and also there is not enough proof yet that guarantees good access to electricity and internet service, and other reliable academic materials for all. So, this survey was carried out to access partially some major problems faced by students during online learning and determine their level of satisfaction with the learning from home system.

Among 49 students who willingly partook in this study as respondents, the majority of them were of age group 21-30 years where the prevalent number of them was female 40 individuals of 49 in total or 81.6% and male 9 people or 18.36 from the total. This quantitative study employed a questionnaire, which the items used to measure resources availability and well-operating tools (6 items), instructor support & interaction (6 items adapted from (Navarro-Rivera & Kosmin, 2013); Cole et al., 2014), lesson quality, and quality of delivery (7 items), assessment mechanism, (4 items of (Nguyen & Walker, 2016)&(Sahidin, 2018), teaching methods (5 items); learning environment (3 items Gunawardena & Zittle, 1998), satisfaction (4 items of (Nguyen, 2016) adapted from previous studies and pieces of literature.

Information about Respondents

Table 1. The attitude of respondents towards teachers, activities/problems regarding learning from home

Statement	Yes n (%)	No n (%)
I enjoy taking a class from home than from school	21 (42.85%)	28 (57.14%)
I am glad to be updated with the digital technology used for taking a class from home.	47 (95.91%)	2 (4.08%)
Online class saves my travel cost, as I do not travel from home to school.	49 (100%)	0 (0%)
I control the principle of using automated media (social media indeed).	36 (73.46%)	13 (26.53%)
I can access and use the internet easily (download files research, books, article, learning materials...).	26 (53.06%)	23 (46.93%)
I can easily access the university's digital platform, (Google classroom, zoom conference, Be smart, digital library, etc.).	32 (65.30%)	17 (34.69%)
I have a fixed internet subscription during the corona pandemic for learning from home and for other related academic activities.	11 (22.44%)	38 (77.55%)
Multiple Choice Statements		
How did/do you get online lessons during the learning from home period?	Through the university's digital platform.	45 (91.83%)
	By means of social media	0 (0%)
I did not sometimes use the digital platform to follow my lessons because:	By a colleague (classmate)	4 (8.16%)
	I do not own a private updated computer.	11 (22.44%)
	I do not own a suitable smartphone	3 (6.12%)
	Internet flow is weak/unstable	43 (87.75%)
	I do not have the Internet at home	18 (36.73%)

This table above illustrates the level of students' feelings while taking the learning from home. It also depicts the problems/ activities of respondents towards online learning where only 22.44 % of the respondents admitted to having a good quality of internet access for their online class at their home. However, more than half of the respondents (77.55%) got disturbed by their online class because of internet problems. So, the major issues students reported are chiefly related to the quality of the internet as a mandatory element during learning even though some others reported that their devices are not compatibles with some mandatory software and documents students should install and have.

Table 2. Age Group and Sex of Respondents

	Frequency	Percentage	Gender	
			Male	Female
<=20	0	0%	0 (0%)	0 (%)
21-30	45	91%	8 (16.3%)	37 (75.5%)
31-40	4	8.1%	1 (2.04%)	3 (6.12%)
>40	0	0%	0 (0%)	0 (0%)

Items Verifications/testing

Table 3. The Reliability

Variables	Items	Reliability
Resources Availability and well-operating Tools	6	0.855
Instructor support & interaction	6	0.913
Lesson Quality and quality of delivery	7	0.903
Assessment Mechanism	4	0.892
Teaching Method	5	0.921
Learning Environment	3	0.947
Satisfaction	4	0.970
Completed instruments used	35	0.981

Table 4. Mean Scores of Subscales Variables

Variables	Sample	
	Mean	CV
Resources Availability and well-operating Tools	3.70	.23
Instructor support & interaction	3.65	.24
Lesson Quality and quality of delivery	3.72	.23
Assessment Mechanism	3.50	.28
Teaching Method	3.72	.24
Learning Environment	3.74	.23
Satisfaction	3.76	.22

The questionnaire used consisted of seven subscales and used 05-point Likert scale as schematized as follows:

Table 5. The score of each Point of the Likert Scare employed

Strongly disagree	Disagree	Neutral	Agree	Strongly Agree
1	2	3	4	5

The substantial results of the research were discussed in detail based on the questions /statements that were provided. The study aimed to investigate student's satisfaction with the learning from home system induced by the COVID-19 and courses they have taken in the biology master's program at Yogyakarta State University. Data from the questionnaire were coded, then analyzed by the use of SPSS software 26th version. This software was employed to excellent reliability among multiple measures of variables of the research. During the data collection, 41 items questions of 5-point Likert scare were administered to the respondents, where 35 statements were valid.

Age and Gender Distribution of Participants

Table 2 recaps the number of males and females along with their ages. It is encouraging that over 80% of the participants were females and younger between 21-30 years of age. Not only in this study, but the number of females in all walks of life in Indonesia is also increasing and higher than males.

Reliability of the Entire Instruments Used

Table 3. portrays to what extent is the reliability of the entire instruments employed. There were 05 Likert subscales for 7 dimensions. The questionnaire consisted of 41 items in all but only 35 items were used during calculating/testing the item's reliability. Cronbach's Alpha reliability was recorded for each subscale ranging from 0.855 to 0.970, and overall reliability of 0.981 shows that the instrument yielded consistent since reliability is accepted when the Cronbach's Alpha is greater than 0.70 even some works of literature suggesting the value of alfa below 0.70. Cronbach's alpha is a statistic scales commonly quoted by different authors to determine the state of tests and is known as 'one of the most important and pervasive statistics in research. According to (Taber, 2018) and (Sharma, 2016), Cronbach's alpha involving chiefly tests construction and use to the extent that its employment in any research with multiple-item measurements.

Resources Availability and well-Operating Tools

Learning resources dimension and operating tools refer to availability, utility, and relevance, text, software, videos together with some other form of materials recommended by the university or lecturers in the online courses to help students meet the required expectations of learning. A mean of 3.70 shows that students are satisfied with the learning resources available during this contemporary period of their learning from the home system.

Instructor Support & Interaction

The instructor is any educator who is devoted to providing guidance and mentoring to the students via different means of communication like moderated discussion boards (MDBs), emails even with other means of assistance learners might need. Based on the data yielded, seems like students were highly satisfied by the available instructor support and interaction anytime they ask for help. The highest mean score of 3.65 of all dimensions shows that lecturers and other academic staff are doing well to provide ample and satisfying support during this dire moment of learning from home.

Lesson Quality and Quality of Delivery

A substantial part of students perceived that learning from home was a very good option and a useful method to use when physical interaction is not allowed. A mean score of 3.72 and a cumulative variance of .23 have been recorded from their responses. Overall, with that mean score, it shows students' high satisfaction with this dimension.

Assessment Mechanism

It's a multi-faceted process consisting of different types of academic assessments like formative and summative assessments which include daily assignments, learning projects (power tests), quizzes, graded discussions or presentations as well as mid and final exams. Reasonably, moderate mean scores of 3.50 show that they are quite satisfied by the evaluation of their lecturer even though a few of them complaining that the assignments given are beyond their capability.

Teaching Method

Given on teaching method for online instructors, four different roles are identified such as pedagogical, social, managerial, and technical responsibilities (Berge, 1995), (Yuksel, 2009). Pedagogical roles simply stand for the teaching methods, whereas social roles to the ways that instructors establish social relationships with the students. As far as managerial roles are concerned, it refers to administrative and organizational tasks, while technical responsibilities talking about technical support that lecturers provide for students to easing and nurture knowledge. To examine online teaching methods, this study focused on the pedagogical roles of instructors in the online asynchronous discussion boards, which are the most popular platforms and used to maintain pedagogical roles in online settings (Kebritchi, 2014). A mean score of 3.72 shows students' high satisfaction with teaching methods mostly used by their teachers during learning from their homes.

Learning Environment

It is broadly understood as teaching and mentoring methodology, perceptions regarding online learning environment, availability of different teaching and learning media for both sides (teachers and students). After addressing data related to this dimension, a high score of 3.74 was gained on this dimension which implicates that students do appreciate the availability, flexibility, and utility of online resources as teaching media during their virtual learning from their home.

Satisfaction

Through 4 items administrated to respondents asking the level of satisfaction of online learning. This

has yielded the highest mean of 3.76, that said, students are quite satisfied with the system and they consider it effective so far.

CONCLUSION

So far determining the level of students' satisfaction in online learning could be evaluated by different means. However, in our study it was appraised based on some selected criteria namely resources availability and well-operating tools; instructor support & interaction; lesson quality and quality of delivery; assessment mechanism; teaching method; learning environment and satisfaction itself. By employing 49 students as the sample size, 81% of them were female against 19% of males in which the majority of them belonged to 21-30 years of age. Given the items validity used through subscales attributed, all felt in the high category, which substantiated the reliability of instruments. The survey data have shown that the students were contented and determined with the new learning system by showing a sense of satisfaction in all aspects deemed to show off the level of their satisfaction. Hence, our findings imply that, there is a plethora of evidence that indicating a speedy advancement of the level of technology and its positive influences as well as contribution in online learning. Successful and effective virtual learning is mainly dependent on how learning resources are available along with the well-operating tools/devices for both sides. The interaction between the student and professor, lesson quality, teaching methods, assessment means constitute outstanding factors to explore the level of satisfaction within learners. Despite being facilitators in discussions either individually or within groups especially during assignment or classroom presentations teachers are also required to willingly respond to the questions asked by students, design assignments, and assessing them.

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