

Turkish Online Journal of Qualitative Inquiry (TOJQI)  
Volume 12, Issue 5, May, 4844- 4852

Research Article

## **Do Quality And Satisfaction Matter In Online Higher Education?**

**Hon Tat, Huam & Nadarajah**, Devika  
Putra Business School  
Selangor, Malaysia

**Tak Jie, Chan**  
Segi University  
Selangor, Malaysia

**Ai Chin, Thoo**  
Universiti Teknologi Malaysia  
Johor, Malaysia

**Ahmed Ratan, Sarker Rafij**  
United International University  
Dhaka, Bangladesh

**Kok Hooi, Beh**  
Han Chiang University College Of Communication,  
Penang, Malaysia

**Abstract**— the rapid growth of online higher education in any part of the world warrants the writing of this paper. Indeed, quality in higher education services is increasingly put in the spotlight in recent years. Service quality must be achieved and maintained at a certain level while responding to the needs of students. Today, online higher education providers should be accountable for the quality of education, particularly with regards to the issue of assuring the delivery of quality online educational programs that they provide. This paper highlights the link between service quality and student satisfaction in the context of online learning environment. Accordingly, the paper addresses the question: “are service quality and student satisfaction associated in the online higher education?” Particularly, the aim of this paper is to develop a good understanding and insight into relevant previous studies and the trends that have emerged and to determine a rationale to elucidate the relationship between service quality and student satisfaction. Recommendations and conclusion are also explored.

**Keywords**— *Online Higher Education, Service Quality, Student Satisfaction*

# Do Quality And Satisfaction Matter In Online Higher Education?

## I. INTRODUCTION

Today, as the push for a diversified use of information technologies in education teaching continues, a growing number of colleges and universities have come to adopt blended learning which combines traditional face-to-face lectures with Online Education to create flexible approaches of delivering content that are consistent with the requirements of the new digital economy (Ma, Li & Liang, 2019, P. 1) [1]. Indeed, online education changes all components of teaching and learning in higher education (Kebritchi, Lipschuetz & Santiago, 2017) [2]. Online education is different from traditional face-to-face lectures due to the openness to adults who are gainfully employed, fully occupied with family life and do not depend on face-to-face meeting for learning (Agbanu, Sonyo & Ahiase, 2018) [3].

The demand for online education is continuously increasing at varying degrees, with the major appeal coming from adult learners who are managing with the numerous demands from work and life domains (Ng & Baharom, 2018, [4] Yuwono & Sujono, 2018) [5]. Truthfully, online education has grown exponentially with the recent data suggesting the trend will continue to grow due to the government's attempt in establishing information-rich society and a knowledge-based economy (Farooq & Matteson, 2016[6]; Jones Et Al., 2016) [7]. More importantly, online education has provided the opportunity to reach a working adult market in an expanded, almost limitless geographical area as well as the providers are looking for growth in their enrolment numbers besides viewing it as a cost-effective and far-reaching potential target market (Kunz & Cheek, 2016) [8].

The current generations of online learners have been referred to as 'digital natives' in reflection of their apparent ease and familiarity with digital technology (Adams, Sumintono, Mohamed & Mohamad Noor, 2018) [9]. Undeniably, online learning has attracted students into the learning environment with its abundance of benefits (Deviksakti & Ramayah, 2019) [10]. The dramatic increase of online education providers and students has created a learning community that can interact, share and collaborate outside traditional notions of time and space; thus, helping to create and strengthen global competencies for a world that places ever greater esteem on the attainment of higher education (Anuwar, 2011) [11]. For the educational community, it is a reality that the use of technology in teaching practices has led to the emergence of modern social structures and organizational forms, in which the traditional space and time referents are no longer valid (De La Garza, 2015[12]; Garrido, 2003) [13].

Recently, the online content and learning management platforms and e-learning are important tools available to students and teachers, because they allow information to be quickly disseminated and updated, enabling the set-up of virtual learning communities, favoring individual or group communication, facilitating a more flexible access to educational materials, and supporting self-learning so that the individual can become the focal point of his or her own knowledge (Moreila, ReisMonteiro, & Machado, 2017, P. 39) [14]. Truly, online higher education has become a key instructional delivery method in higher education (Gazza, 2017) [15]. Given the lack of space and the growing demand for admission to educational institutions, online higher education is renowned for offering opportunities to expand the educational range and coverage (De Lar Garza Et Al., 2015). [12] in this context, new ideas have appeared in order to meet the specific training needs of individual based on the possibility of building knowledge in various ways, so as to maximize the construction and development of the higher educational process.

There is no doubt that the advent of ICT and the internet has greatly resulted in the tremendous development of online education (Ali, 2013) [16]. As a result of the constantly changing market

environment coupled with appropriate actions to gain market advantage, online higher education providers are required to understand their current and prospective students in today's competitive market. Given the emphasis placed on retention of students as one of the criteria for successful insemination of knowledge, the e-learning processes and outcomes of online higher education have become a primary concern for all the providers. Despite rapid development of online tertiary education, it is clear that educators and students encounter certain barriers that affect the overall quality of distance learning (Markova, Glazkova & Zaborova, 2017) [17]. To a certain extent, given the high stakes in online higher education and the growing reliance on technologies in education (Teo, 2014) [18], it is believed that identifying the critical service quality factors related to student satisfaction is an important consideration for today's online education providers.

Students' satisfaction level is an important indication in determining how successful the education institution is at providing services to the market (Ng, 2018) [19]. As such, online higher education providers must study the association between service quality and student satisfaction and subsequently improve student retention. Prior studies on e-learning service quality were conducted mainly in developed countries; however, little effort has been made in emerging countries (Pham, Limbu, Bui, Nguyen & Pham, 2019) [20], particularly limited understanding exists about what kind of quality services is like to offer to meet the levels of satisfaction of registered students. The aim of this study was to uncover the experience of the relationship between service quality and student satisfaction particularly in the Malaysian online higher education context. This study specifically highlights this industry as research interest due to the mushrooming of colleges and universities in the country offering online programs.

## II. THEORETICAL BACKGROUND

Online Learning Began In The 1990s And The Increased Access To Innovative Technology And The Use Of New Pedagogy Have Broadened Individuals' Access To Higher Education (Budden Et Al., 2015) [21]. Dramatic changes in higher education institutions are experienced both in their student numbers and quality of education over the past twenty years. As a result, there is a growing demand to provide value and quality education (Das & Haque, 2013, P. 221)

[22]. Indeed, quality in higher education services is increasingly put in the spotlight in recent years. Service quality must be achieved and maintained at a certain level while responding to the needs of students (Yavuz & Gülmez, 2016) [23]. Today, educators of higher education should be accountable for the quality of education, particularly about the issue of assuring the delivery of quality online educational programs that they provide.

Nonetheless, online higher education has met with skepticism and questions about quality at its inception, particularly the opponents of online education, where they view online courses provide lower quality education than the traditional face-to-face format due to inappropriate use of technology to support pedagogy by the instructors and ineffectiveness course design by the providers (Kunz And Cheek, 2016[8]; Yang & Cornelious, 2005) [24]. As blended and e-learning become widespread in higher education, educators and institutions have become interested in understanding the factors that influence students' satisfaction (Ghaderizefreh & Hoover, 2018) [25]. Student satisfaction has been seen as one of the key variables in retaining distance learners due to retention of students has also been cited as one of the greatest weaknesses in distance education

(Arhin & Wang'eri, 2018[26]; Lang, Brown, Khan, Davenport, Davis & Williamson, 2018) [27].

## Do Quality And Satisfaction Matter In Online Higher Education?

In this regard, research in the area between quality services of e-learning and student satisfaction has received considerable attention as reflected in the literature. For instance, in 2009, Palmer and Holt assessed the factors that influence student satisfaction with online learning in a particular context that can be used as an input to the appropriate design of learning environments, and for the provision of targeted support to students, with an aim to positively influence the student online learning experience. Factors that were found to positively influence student satisfaction with studying a wholly online unit primarily related to how confident they felt about their ability to communicate and learn online, having a clear understanding of what was required to succeed in the unit and how well they thought they were performing in the unit.

Eom (2009) [28] examined the antecedents and outcomes of interaction in asynchronous online learning courses by using a partial least squares analysis on the survey data. He found that course structure, self motivation and learning styles influenced students' interaction with the instructor and classmates. Further, there is a positive relationship between interaction and learners' satisfaction. Beqiri Et Al. (2010) [29] investigated potential factors impacting students' satisfaction with online course delivery using business students as participants. The findings suggest that factors found to influence student satisfaction include the appropriateness of the course being offered online and the degree of familiarity with it.

In 2011, an empirical study conducted by kim et al. To investigate how learners' experiences with case-enhanced e-learning environment can students' satisfaction and knowledge in a higher-education institute found that the tutorial with the CaseBased Learning (CBL) group scored significantly higher on learners' perception of the e-learning environment in terms of ease of use, satisfaction and usefulness. Their results assert that the cbl approach can be effective in increasing domain knowledge and learning satisfaction in higher education, particularly with international learners, who have various needs. Bolliger And Wasilik (2012) [30] investigated perceived satisfaction of undergraduate students with high-enrollment online course sections at a research-intensive university. A modified survey instrument was administered to all undergraduate students enrolled in two online statistics courses in which interaction was not a central element of course design. Students were found to be satisfied with the courses. However, they were found less satisfied with course outcomes.

An exploratory study of the drivers of student satisfaction and learning experience in the hybrid-online and purely online marketing courses by Estelami (2012) [31] indicated that student satisfaction is found to be affected by the course content, student–teacher communications, the use of effective learning tools and the instructor. In other words, student satisfaction and overall learning experience are primarily driven by the contents and characteristics of the course and the quality of instruction. In 2012, Bolliger and Halupa conducted a study to survey with regards to

Their computer, internet, and online course anxiety, and overall course satisfaction. A twenty-four-item satisfaction tool with domains regarding the instructor, technology, setup, interaction, outcomes, and overall satisfaction was administered at the end of the course. The results showed that participants were overwhelmingly satisfied with the online research-design course. Besides, students commented about the instructor's timely feedback and responses to questions, helpfulness, supportiveness, and openness. They indicated the instructor motivated and encouraged them throughout the course. However, several shared elements pertaining to instructional and supportive resources, interaction, and technology. Learners would have appreciated more detailed instructions about assignments, grades, and participation. Others needed additional feedback from the instructor and more time to complete assignments.

Using a structured questionnaire derived from the literature and collecting data from undergraduate students of a public university in Malaysia, Ramayah and Lee's (2012) [31] study indicated that service quality, information quality and system quality were positively related to e-learning user satisfaction. Similarly, another study by Sawang, Newton And Jamieson (2012) to assess the factors that affect the way in which learners experience e-learning and perceive such systems found that e-learning characteristics can buffer the relationship between learner characteristics and intention to adopt further e-learning in the future. Additionally, the results also suggest that certain e-learning characteristics (i.e. authenticity) significantly contributed toward learners' satisfaction with e-learning. In Kantoğlu, Torkul And Altunışık's (2013) Study, the relative importance of factors affecting student satisfaction in the context of e-learning were investigated. The factors were grouped under five headings, formed by fifteen sub-factors. These sub factors are, student instructor interaction, student's level of computer usage, student's attitude towards computer use, instructor's interest in e-learning, quality of course materials, traceability of student's development, ease of use of the e-learning system, accessibility to system, quality of interaction with the system, quality, flexibility, currency of the materials, university support services, student tracking and course management. Their findings showed that only six of the factors tend to influence student satisfaction in e-learning.

An empirical study examined by Lemos And Pedro (2013) [31] with the aims to collect relevant data regarding the experience of students who attended a postgraduate course in e-learning and to explore the relationship between e-learning students' expectations and their level of satisfaction in a master degree program suggests that online students present relatively high levels of satisfaction, which points towards a positive learning experience. Both constructs, expectations and satisfaction, were analyzed from a multidimensional perspective and nine dimensions were considered: course design; coordination; faculty and tutors; curricular program; resources; learning methodologies; evaluation system; support services and technological infrastructures. In 2013, mackenzie examined how the use of multimedia components, such as graphics, audio and video, in online courses were related to perceived learner satisfaction and learning effectiveness. Their major findings include (i) a low relation between learners' perceived satisfaction with the use of graphics and objective performance and (ii) a relation between combined learners' perceived satisfaction with the use of audio, learners' perceived satisfaction with the use of narration properly synchronized with text animation, and learners' perceived satisfaction with the use of video and learners' objective performance.

Similarly, the findings of Sinclair's (2013) [32] study indicated that factors relating to perceived faculty characteristics and methods of communication and interaction (i.e., methods of instruction, methods of grading) are rated highly in relation to student satisfaction with a college course. The specific perceived faculty characteristics rated as important or very important to student satisfaction in this study was helpfulness, having a working knowledge of the subject, interested in student learning, interested and passionate about the subject, having practical experience in the subject, prompt to answer email, and accessible and available when needed. Teo (2014) [18] conducted an empirical analysis to explore the factors that explain elearning satisfaction among pre-service teachers registered in a postgraduate diploma in education and a bachelor in arts/science in education by using the following variables: satisfaction (student), tutor quality (teacher), perceived usefulness (course), perceived ease of use (technology), course delivery (system design), and facilitating conditions (environmental). The results from the data analysis performed using structural equation modeling showed that, apart from facilitating conditions, all variables were significant predictors of e-learning satisfaction. However, the facilitating conditions construct was found to be a significant mediator of perceived ease of use and satisfaction.

## Do Quality And Satisfaction Matter In Online Higher Education?

In a study by Chitkushev Et Al. (2014) [33] to understand the factors that impact student satisfaction and performance in online courses, the findings suggest that student course satisfaction is strongly correlated with students' instructor satisfaction, while the students' course satisfaction is moderately correlated with student satisfaction with facilitators. There is a positive correlation between the students' final grade distribution and the satisfaction with the instructor. The results point to the critical importance of the instructor of record in online courses and to the significant impact of the students' satisfaction with instructor's performance. Crews And Wilkinson's (2015) [34] study noted that the providers should be more aware of the importance of conducting quality reviews of online courses besides becoming cognizant of how good design impacts good teaching.

In 2016, Zeglat Et Al. Had investigated postgraduate students' satisfaction on the online academic databases offered in the Jordanian academic institutions. Their findings indicate that the ease of use, website design, security and reliability have a positive impact on users' satisfaction. An empirical study conducted by Kuo And Belland (2016) [35] on the African American working adults who are online learners signal that their satisfaction is positively related with student performance, learner-instructor interaction and learner-content interaction. Another empirical study conducted at University Of Tennessee in 2016 found that there is an extremely strong causal linkage between e-service quality and loyalty intentions as mediated by student perceptions of value in which the findings have provided more substantiation for the proposed full mediation model indicating the strength of the quality-perceived value-loyalty intention linkage is so well substantiated in research (Kilburn Et Al., 2016). [36]

Another study investigated by Lenert And Janes (2017) [37] suggest that to show quality in online courses, the providers must include not only course features and student services, but also the design process as well as instructor delivery. Besides, the findings of the study investigated by Ali, Hossain And Ahmed (2018) [37] supports that online learning is faster, time and cost friendly, appropriate to work independently, add value to the learning of the students, usable for the purpose of active learning, faster, quick response, applicable outside the class room and quality of e-learning is satisfactory which indicates elearning is effective. Nagy (2018) [37] examined the determining factors of students' video usage and their learning satisfaction relating to the supplementary application of educational videos, accessible in a moodle environment in a business mathematics course found that satisfaction was directly influenced by learner-learner interaction, perceived ease of use, and learning performance. Furthermore, the results indicated that video usage had a significant effect both on learning performance and on learning satisfaction.

### III. RECOMMENDATIONS & CONCLUSION

Obviously, online higher education in the learning environment today is no longer an issue or question. In fact, such education has become part of the norm and will only make further inroads into academia. Based on the theoretical review, undoubtedly, service quality and student satisfaction are two inextricably related online educational experiences and both have emerged as a topic of significant strategic concern. Thus, the providers should strive convenient and helpful courses to ensure quality of their services are always being enhanced or exceeded the expectation of students (Budden Et Al., 2015) [21]. Some researchers suggest additional research needs to be investigated to identify how the providers of online education can effectively ensure quality design and subsequently affect quality teaching in an online environment besides studying how they can include professionalism in online course design and teaching.

The literature indicates that the above issues have been widely researched, however, there are still remaining critical issues for online education providers as online businesses strive to maintain comparative advantage in the marketplace. For instance, researchers (E.G., Eom, 2009[28]; Beqiri Et Al., 2010[29]; Estelami, 2012[38]; Sawang Et Al., 2012[38]; Kantoğlu Et Al., 2013[38]; Sinclair, 2013[32]; Chitkushev Et Al., 2014[33]) have noted that to date, there is no general agreement on service dimensions for setting quality standards although it is apparent that perceptions of service quality on student satisfaction are based on multiple dimensions. Moreover, the sampling decisions adopted by researchers usually involved only their own educational institutions (E.G., Kim Et Al., 2011[39]; Kim Et Al., 2012[39]; Ramayah & Lee, 2012[40]; Lemos & Pedro, 2013[31]; Teo, 2014) [18] without seriously considering respondents from other educational institutions.

On the whole, the stiff competition among online education providers in Malaysia today has clearly signaled the importance of student satisfaction as satisfaction of students is driven by a student's assessment of the quality of the course and other curriculum-related factors associated with that provider. In any businesses, the consequences of unmanageable levels of dissatisfaction or the failure to adequately reduce dissonance can result in lost sales and profits. In the online education sector specifically, the results may be lower levels of student satisfaction and achievement, and a higher rate of attrition. Additionally, the survey data from student ratings of instructional activities of faculty also have occupied an increasingly conspicuous role in tenure, promotion, salary exercise, and even in influencing crucial administrative decisions. In addition, as the use of technology in higher education advances, the understanding of the elements and principles of connectivism will be challenged in order to improve the pedagogical quality in which everyone has access to a world-class online education one day.

#### REFERENCES

- [1] J. Ma, C. Li, And H. Liang, "Enhancing Students' Blended Learning Experience Through Embedding Metaliteracy. *Education Research International*," 2019, Pp. 1–8.
- [2] M. Kebritchi, A. Lipschuetz, And L. Santiago, "Issues And Challenges For Teaching Successful Online Courses In Higher Education: A Literature Review. *Journal Of Educational Technology Systems*, 46(1)," 2017, Pp. 4–29.
- [3] P. G. Agbanu, E. Sonyo, And G. Ahiase, "Examining Factors Influencing Student Satisfaction In Distance Education In Ghana: A Study Of The Institute For Educational Development And Extension, University Of Education, Winneba. *The Online Journal Of Distance Education And E-Learning*, 6(1)," 2018, Pp. 33–44.
- [4] H. Ng And S. S. Baharom, "An Analysis On Adult Learners' Satisfaction In Online Education Programmes. *International Of Interactive Mobile Technology*, 12(7)," 2018, Pp. 70–85.
- [5] K. T. Yuwono And H. D. Suiono, "The Effectiveness Of E-Learning: A Meta-Analysis. *Journal Of Physics, Conference Series*," 2016, Pp. 1–8.
- [6] O. Farooq And M. Matteson, "Opportunities And Challenges For Students In An Online Seminar-Style Course In LIS Education: A Qualitative Case Study. *Journal Of Education For Library And Information Science*. 57(4)," 2016, Pp. 271–282.
- [7] J. S. Jones, S. R. Tapp, B. W. Evans, And R. J. Palumbo, "Gender Differences In Online Communication In Higher Education. *Academy Of Business Research Journal*. 4," 2016, Pp. 45–52.

## Do Quality And Satisfaction Matter In Online Higher Education?

- [8] M. B. Kunz And R. G. Cheek, "How Aacsb-Accredited Business School Assure Quality Online Education? Academy Of Business Journal. 1," 2016, Pp. 105–115.
- [9] D. Adams, B. Sumintono, A. Mohamed, And N. S. Mohamad Noor, "E-Learning Readiness Among Students Of Diverse Backgrounds In A Leading Malaysian Higher Education Institution. Malaysian Journal Of Learning And Instruction, 15(2)," 2018, Pp. 227–256.
- [10] A. Deviksakti And T. Ramayah, "E-Learning Usage Outcomes Among University Learners: A Pilot Study. Journal Of Education And E-Learning Research, 6(3)," 2019, Pp. 149–155.
- [11] A. Anuwar, "Global Outreach In Open And Distance Learning: The Internationalization Of Open University Malaysia.  
In International Conference And 41st Anniversary "Building Global Competences, Surabaya, Indonesia. Retrieved From [Http://Eprints.Oum.Edu.My/602/1/Global\\_Outreach.Pdf/](http://Eprints.Oum.Edu.My/602/1/Global_Outreach.Pdf/)," 2011.
- [12] L. Y. A. De La Garza, T. Sancho-Vinuesa, And M. G. Gómez Zermeño, "Indicators Of Pedagogical Quality For The Design Of A Massive Open Online Course For Teacher Training. Universities And Knowledge Society Journal. 12(1)," 2015, Pp. 104–118.
- [13] A. Garrido, "El Aprendizaje Como Identidad De Participación En La Práctica De Una Comunidad Virtual (Doctoral Dissertation). Universitat Oberta De Catalunya, Barcelona," 2013.
- [14] J. Moreila, A. Reis-Monteiro, A. Machado, "Higher Education Distance Learning And E-Learning In Prisons In Portugal. Media Education Research Journal, 51(Xxv)," 2017, Pp. 39–49.
- [15] E. A. Gazza, "The Experience Of Teaching Online In Nursing Education. Journal Of Nursing Education, 56(6)," 2017, Pp. 343–349.
- [16] M. Ali, S. M. K. Hossain, And T. Ahmed, "Effectiveness Of E-Learning For University Students: Evidence From Bangladesh. Asian Journal Of Empirical Research, 8(10)," 2018, Pp. 352–360.
- [17] T. Markova, I. Glazkova, And E. Zaborova, "Quality Issues Of Online Distance Learning. Procedia-Social And Behavioral Sciences, 237," 2017, Pp. 685–691.
- [18] T. Teo, "Preservice Teachers' Satisfaction With E-Learning. Social Behavior And Personality, 42, 2014, Pp. 3–6.
- [19] C. G. Ng, "The Impact Of Lecturers' Competencies On Students' Satisfaction. Journal Of Arts & Social Sciences, 1(2)," 2018, Pp. 74–86.
- [20] L. Pham, Y. B. Limbu, T. K. Bui, H. T. Nguyen, And H. T. Pham, "Does E-Learning Service Quality Influence E Learning Student Satisfaction And Loyalty? Evidence From Vietnam. International Journal Of Educational Technology In Higher Education, 16(7)," 2019, Pp. 1–26.
- [21] C. B. Budden, H. L. Budden, M. Hall, And D. G. Longman, "Assuring Quality In Online Offerings: Insights From A University's Faculty. Contemporary Issues In Education Research. 8(4)," 2015, Pp. 223–226.
- [22] D. Das And H. M. J. Haque, "Faculty Services Towards Student Satisfaction In Tertiary Education: Bangladesh Perspective. Knowledge Horizons - Economics, 5," 2013, Pp. 220–230.
- [23] M. Yavuz And D. Gülmez, "The Assessment Of Service Quality Perception In Higher Education. Education And Science, 41(184), 2016, Pp. 251–265.
- [24] M. Yavuz And L. H. Cornelious, "Preparing Instructors For Quality Online Instruction. Journal Of Distance Learning Administration, 3(1)," 2005.



- [25] S. Ghaderizefreh And M. L. Hoover, "Student Satisfaction With Online Learning In A Blended Course. *International Journal Of Digital Society (Ijds)*, 9(3)," 2018, Pp. 1393–1398.
- [26] V. Arhin And T. Wang'eri, "Orientation Programs And Student Retention In Distance Learning: The Case Of University Of Cape Coast. *Journal Of Educators Online*, 15(1)," 2018, Pp. 1–12.
- [27] R. Lang, W. A. Brown, S. Khan, L. D. Davenport, D. Davis, And G. Iii. Williamson, "An Investigation Of The Predictors Of Student Satisfaction In Online Courses Using The Community Of Inquiry Framework. *International Journal Of Education And Social Science*, 5(10)," 2018, Pp. 20–25.
- [28] S. Eom, "Effects Of Interaction On Students' Perceived Learning Satisfaction In University Online Education: An Empirical Investigation. *Ijgms*, 1," 2009, Pp. 60–74.
- [29] M. S. Begiri, N. M. Chase, And A. Bishka, "Online Course Delivery: An Empirical Investigation Of Factors Affecting Student Satisfaction. *Journal Of Education For Business*, 85, 2010, Pp. 96–100.
- [30] D. U. Bolliger And O. Wasilik, "Student Satisfaction In Large Undergraduate Online Courses. *The Quarterly Review Of Distance Education*, 13," 2012, Pp. 153–165.
- [31] S. Lemos And N. Pedro, "Expectation And Satisfaction Of Students In E-Learning Courses In Higher Education. *Educação Temática Digital*, 15," 2013, Pp. 107–126.
- [32] J. K. Sinclair, "An Empirical Investigation Of Student Satisfaction With College Courses. *Research In Higher Education Journal*, 22," 2013, Pp. 1–21.
- [33] L. Chitkushev, I. Vodenska, And T. Zlateva, "Digital Learning Impact Factors: Student Satisfaction And Performance In Online Courses. *International Journal Of Information And Education Technology*, 4," 2014, Pp. 356–359.
- [34] T. B. Crews And K. Wilkinson, "Online Quality Course Design Vs. Quality Teaching: Aligning Quality Matters Standards To Principles For Good Teaching. *The Journal Of Research In Business Education*. 57(1)," 2015, Pp. 47–63.
- [35] Y. Kuo And B. R. Belland, "An Exploratory Study Of Adult Learners' Perceptions Of Online Learning: Minority Students In Continuing Education. *Education Tech Research Dev.* 64, 2016, Pp. 661–680.
- [36] B. Kilburn, A. Kilburn, And D. Davis, "Building Collegiate E-Loyalty: The Role Of Perceived Value In The QualityLoyalty Linkage In Online Higher Education. *Contemporary Issues In Education Research*, 9(3)," 2016, Pp. 95–102.
- [37] N. T. Nagy, "Evaluation Of Online Video Usage And Learning Satisfaction: An Extension Of The Technology Acceptance Model. *International Review Of Research In Open And Distributed Learning*, 9(1)," 2018, Pp. 160–184.
- [38] B. Kantoğlu, O. Torkul, And R. Altunisik, "A Study On The Factors Affecting Student's Satisfaction In E-Learning: A Model Proposition. *Business And Economics Journal*, 4, 2013, Pp. 121–141.
- [39] Yogesh Hole Et Al 2019 *J. Phys.: Conf. Ser.* 1362 012121
- [40] D. S. Lee, H. Lee, And A. Skellenger, "Comparison Of Levels Of Satisfaction With Distance Education And On-Campus Programs. *Journal Of Visual Impairment & Blindness*, 106, 2012, Pp. 275–286.