

Assessing the Influence of Online Learning Strategies on Academic Performance: Advantages, Disadvantages, and Implications

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Abstract

Higher education institutions have shifted from traditional face to face to online teaching due to Corona virus pandemic which has forced both teachers and students to be put in a compulsory lockdown. However the online teaching/learning constitutes a serious challenge that both university teachers and students have to face, as it necessarily requires the adoption of different new teaching/learning strategies to attain effective academic outcomes, imposing a virtual learning world which involves from the student's part an online access to lectures and information, and on the teacher's side the adoption of a new teaching approach to deliver the curriculum content, new means of evaluation of student's personal skills and learning experience. This chapter explores and assesses the online teaching and learning impact on student's academic achievement, encompassing the passing in review the adoption of students' research strategies, the focus of the student's main source of information viz. library online consultation and the collaboration with their peers. To reach this end, descriptive and parametric analyses are conducted in order to identify the impact of these new factors on student's academic performance. The findings of the study shows that to what extent the student's online learning has or has not led to any remarkable improvements in the students' academic achievements and, whether or not, to any substantial changes in their e-learning competence.

Keywords: online learning environment, content-based research, process-based research, success factors assessment

I. Introduction

With the advent of COVID-19 pandemic and the shutdown of universities worldwide for fear of contamination due to the spread of the coronavirus, higher educational institutions have deemed necessary to adopt new teaching strategies, exclusively online, to deliver their curriculum content and keep from the Corona virus widespread at bay. Technology was called upon to play this pivotal teaching/learning online role, as it has influenced people's task accomplishment in various ways. It has become a part of our ever changing lives. It is an important part of e-learning to create relationship- involving technology, course content and pedagogy in learning/teaching environment. Therefore, e- learning is becoming unavoidable in a virtual teaching environment where students can take control of their learning and optimize it in a virtual classroom and elsewhere. So, learning today has shifted from the conventional face to face learning to online learning and to a direct access to information through technologies available as e-learning has proven to be more beneficial to students in terms of knowledge or information acquisition. Online teaching promotes learning by encouraging the student's use of various learning strategies at hand and increases the level of their commitment to studying their majors. Virtual world represents an effective learning environment, providing users with an experience-based information acquisition. Instructors set up the course outcomes by creating tasks involving problem or challenge-based learning situations and offering the learner a full control of

exploratory learning experiences.

However, there are some challenges for instructors such as the selection of the most appropriate educational strategies and how best to design learning tasks and activities to meet learners' needs and expectations. Various approaches can lead towards strong student's behavioural changes especially when combined with ethical principles. However, with careful selection of the learning environment, pedagogical strategies lining up with the concrete specifics of the educational context, the building of learners' self-confidence and their empowerment during the learning process becomes within reach. Another benefit of using online teaching/learning is that there is a need to explore new teaching strategies and principles that positively influence distance education, as traditional teaching/learning methods are becoming less effective at engaging students in the learning process. Finally, e-learning can solve many of the student's learning issues in a conventional learning environment, as it helps them to attend classes for various reasons, as it has made the communication/interaction between them and their instructors much easier and the access to lectures much more at hand. Students can attend online university courses and at the same time meet other social obligations.

Therefore, the circumstances in a learner's life, and whatever problems or distraction he/she may have such as family problems or illnesses, may no longer be an impediment to his education. Learners can practice in virtual situations and face challenges in a safe environment, which leads to a more engaged learning experience that facilitates better knowledge acquisition. The work presents the educational processes as a modern strategy for teaching/ learning. e-learning tends to persuade the users to be virtually available to act naturally. There are a few factors affecting the outcomes such as learning aims and objectives, and different pedagogical choices. Instructors use various factors to measure the learning quality like Competence, Attitude, Content Delivery, Reliability, and Globalization. In this work, we are going to pass in review positive and negative impacts of online learning followed by recommendations to increase awareness regarding online learning and the use of this new strategic technology. Modern teaching methods like brainstorming, problem solving, indirect-consultancy, and inquiry-based method have a significant effect in the educational progress.

The aim of this research is to examine the effect of using modern teaching methods, such as teacher-student interactive and student-centered methods, on students academic performance. Factors that may affect student's performance and success- the technology used, students collaboration/teamwork, time management and communication skills are taken into consideration. It also attempts to identify and to show to what extent online learning environment, when well integrated and adapted in course planning and objectives, can cater for student's needs and wants. Does online teaching make a significant improvement in student's academic performance and their personal skills such as organizations, communications, responsibilities, problem-solving tasks, engagement, learning interest, self-evolution, and abilities to reach their potential? Is students struggle is not purely academic, but rather related to the lack of personal skills?

I. Research Methodology:

The present study is based on descriptive as well as exploratory in nature. The study has been carried out based on the collection of the available secondary data. Secondary data was collected from different sources such as articles published in different journals, newspapers, published books, periodicals, conference papers

II. Online learning experience

There are many motives behind the implementation of the online learning experience. The online learning is mandatory nowadays to all audience due to COVID -19 pandemic, which forced the higher educational authorities to start the online teaching. We believe that we reached a tipping point where making changes to the current learning process is inevitable for many reasons. Today learners have instant access to information through technology and the web, can manage their own acquisition of knowledge through online learning. As a result, traditional teaching and learning methods are becoming less effective at engaging students, who no longer rely exclusively on the teacher as the only source of knowledge. Indeed, 90% of the respondents use internet as their major source of information. So the teacher's new role is to be a learning facilitator, a guide for his students. He should not only help his students locate information, but more importantly question it and reflect upon it and formulate an opinion about it. Another reason for the adoption of the online learning is that higher institution did not hesitate one moment to integrate it as a

primary tool of education. So, it transformed the conventional course and current learning process into e-learning concept.

The integration of the online teaching into the curriculum resulted in several issues to instructors, curriculum designer and administrators, starting from the infrastructure to online teaching and assessment. Does the current IT infrastructure support this integration? What course content should the instructor teach and how it should be delivered? What effective pedagogy needs to be adopted? How learning should be assessed? What is the direct effect of the online learning on student’s performance? With reference to the survey findings, the majority of students were among the staunch supporters of online learning taking into consideration the imposed COVID-19 lockdown circumstances, as they expressed their full support and confidence in computer skills to share digital content, using online learning and collaboration platforms with their peers, and expressed their satisfaction with the support of the online teaching and learning.

However, a small percentage of the survey respondents, expressed their below average satisfaction when higher educational institutions have invested in digital literacy and infrastructure, as they believe they should provide more flexible delivery methods, digital platforms and modernized user-friendly curricula to both students and teachers. On the same lines, the higher education authorities regard the quick and unexpected development of the higher education landscape, ICT infrastructure, and advanced online learning/teaching methods, imposed by COVID-19, have had a tremendous adverse impact on the student’s culture, thus leading to student’s social seclusion from their peers, imposing newsocial norms and behaviour regarding plagiarism, affecting student’s cultural ethics and learning and collaboration with their peers, when adopting the digital culture. A current study emphasized the need for adoption of technology in education as a way to lessen the effects of Coronavirus pandemic lockdown in education to palliate the loss of face-to-face teaching/learning which has more beneficial aspects of learning for students than online learning as it offers more interactive learning opportunities. We recommend that all these questions should be taken into consideration when designing a new course i.e. the e-learning strategies, the learners’ and instructor’s new roles, course content and pedagogy and student’s performance/achievement assessment (Figure 1). In this experience, we focus only on the implementation of new learning academic objectives- how they are infused into the curriculum and how they are assessed.

The ultimate objective of implementing a new learning process is to design a curriculum conveyed by a creative pedagogy and oriented towards the cultivation of a creative person yearning for the exploration of new ideas.

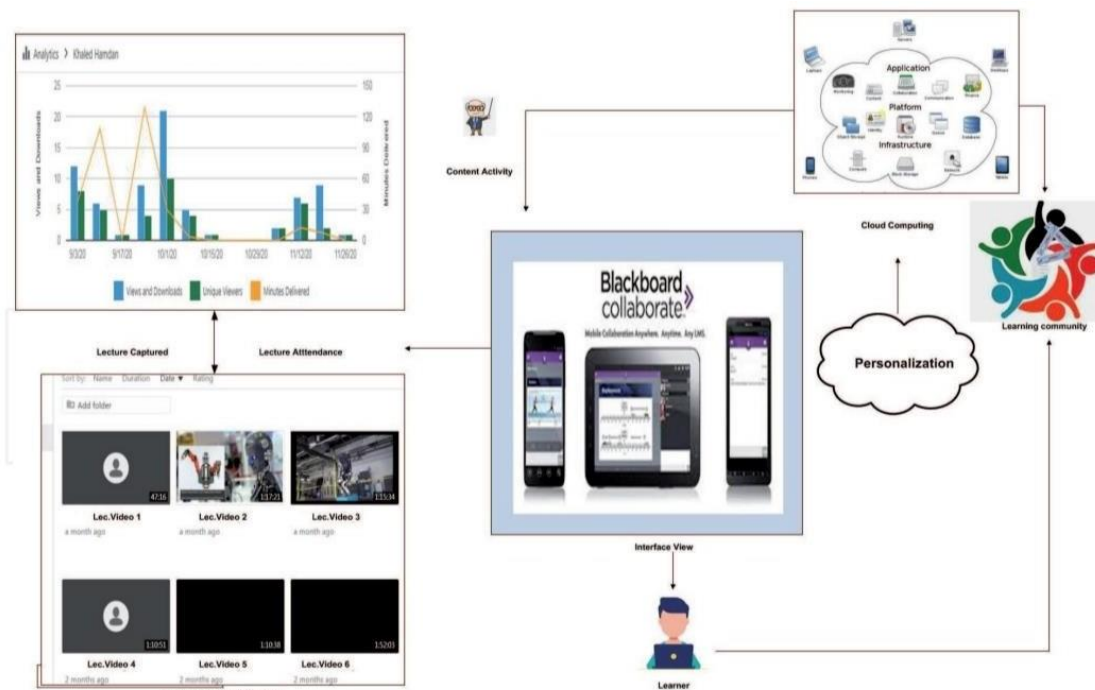


Figure 1. E-learning approach.

The afore-mentioned objectives lead to design a comprehensive learning experience with new learning outcomes where instructors infuse new practical skills – Critical thinking and Problem-Solving Tasks, Creativity and Innovation, Communication and Collaboration. Other skills are implicitly infused into the curriculum such

as, self-independent learning, interdependence, lifelong learning, flexibility, adaptability, and assuming academic learning responsibilities. Online learning is defined as virtual learning using mobile and wireless computing technologies in a way to promote learners' learning abilities. In (Figure 2), each component of the e-learning process is defined clearly below.

➤ **Active instructor**

His role is to facilitate learning process in the virtual classroom, to engage students in the learning process, to allow them to participate in designing their own course content and to contribute to design learning assessment parameters.

➤ **Active learner**

He can access course content anytime and from anywhere, engage with his peers in a collaborative environment, formulate his opinions continuously, interact with other learning communities, communicate effectively, share and publish their findings with others in online environment.

➤ **Creative pedagogy**

Both instructors and learners decide on what to learn online and how it should be learned. This experience is designed to promote an inquiry and challenge-based learning models where teachers and students work together to learn about compelling issues, propose solutions to real problems and take actions. The approach involves students to reflect on their learning, on the impact of their actions and to publish their solutions to a worldwide audience.

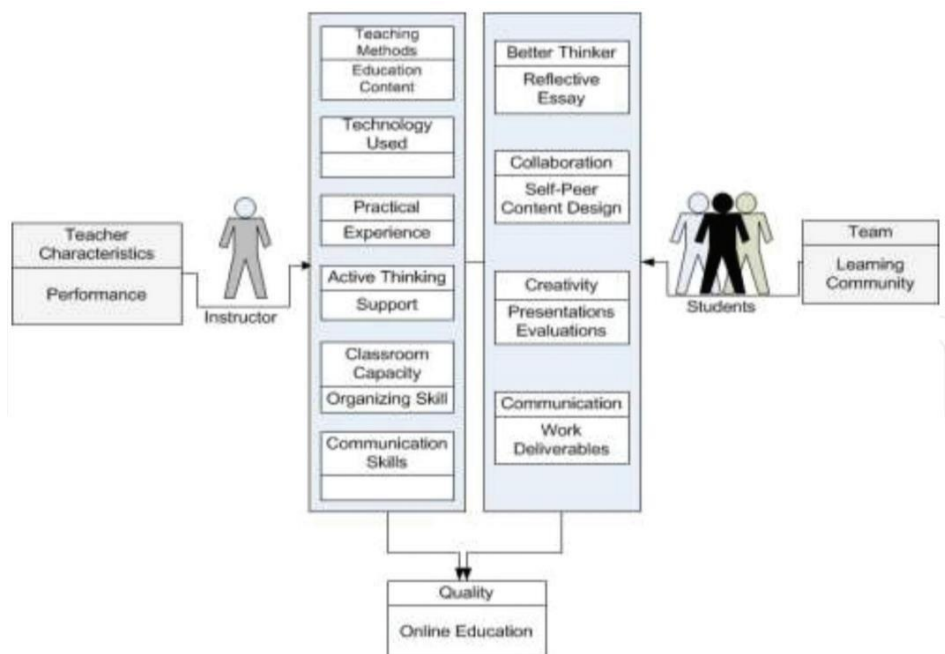


Figure 2. E-learning process.

➤ **Flexible curriculum**

A core curriculum is designed, but the facilitator has the freedom to innovate and customize course content accordingly up to the aspiration of the learners; this means that the learner's knowledge of the material will mainly come from his own online research (formal and informal content), and from his own creativity and collaboration with his peers (teamwork).

➤ **Communities outreach**

This allows a group of students to formulate real-world context research question, connect with local learning and global communities to find creative solutions to their problems, create opportunities to connect themselves with international communities. These opportunities will foster students social and leadership skills.

According to students observation, more than 70% of instructors found that the online learning using Blackboard ultra-collaboration boosts students learning interest, engagement and motivation. 84% of teachers use required to use interactive tools in order to engage students in presenting and sharing five minutes presentation to their classmates, write a reflective essay on their experience, be involved in a collaborative project (interest-based learning project). 97% of students contributed to self and peer

assessments, and 97% interacted using online management systems. Students were also encouraged to interact with their peers using blackboard group collaborate. Thanks to the online teaching strategy, 70% of students were able to deliver on time their work. For the study purpose, several assessments components incorporate both individual and group work. For the individual work, each student was required to make an individual presentation on any subject of his own interest, write a reflective essay, self-assessment, class peer assessment, midterm and final exams. For the collaborative work, students were assigned teams and each student should contribute to the project delivered every two weeks in the form of a final presentation and a final project. Rubrics were designed and all students were well instructed to use them. Teachers were trained to monitor and facilitate the experience and the internal learning management systems such as Blackboard.

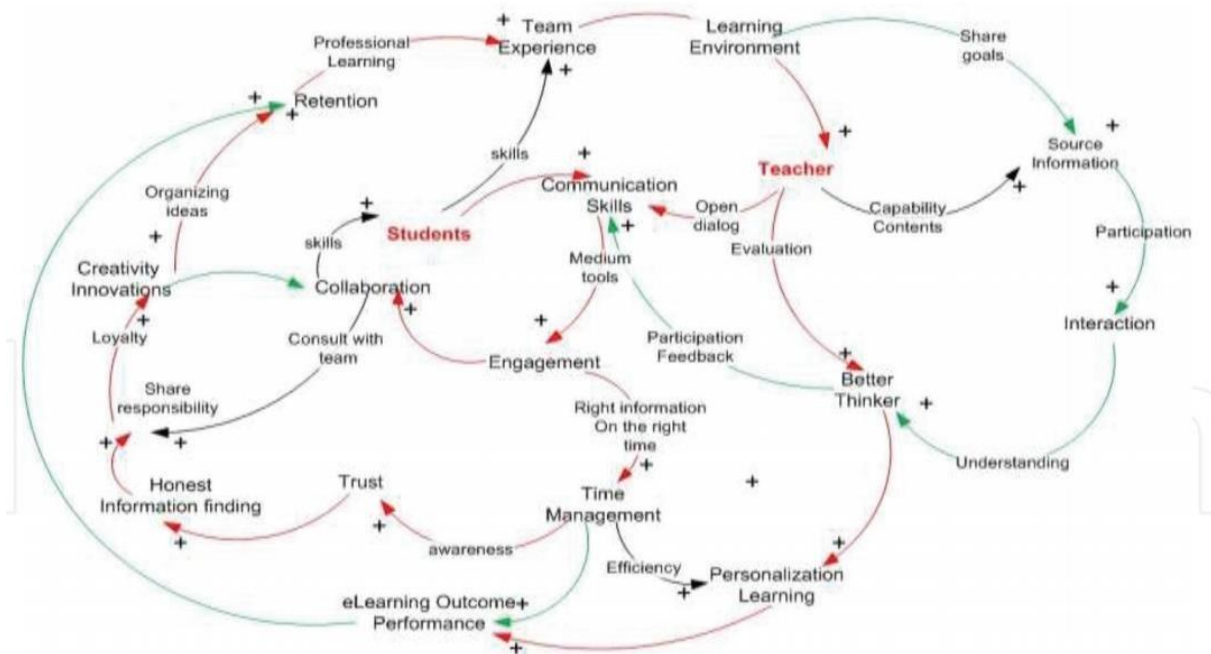


Figure 3. Conceptual model of student's e-learning environment parameters.

The subsequent (Figure 3) shows the feedback loop of content mapping of factors and their relationships in relation to students performance and intake. The first feedback loop begins at the node called "Students". The second one begins at the node entitled "Teacher". There are two major positive feedback loops. For instance, a good team improves co-operation and creativity which increase the team's learning experience. Setting clear goals and interactive strategies will enhance online learning and performance results. The E-learning process and the project outcomes are influenced by technology use.

Learning is a lifelong key to success, especially for career-oriented individuals who hope to advance on both a personal and a professional level. Unfortunately, many of us find it difficult to add new challenges to our demanding and inflexible schedules. Online learning is the solution. People can learn about virtually any subject online, anywhere, anytime. Of course, nothing is perfect. In this article, we delve into some advantages of online classes as well as the disadvantages of online learning, to help you decide if it is an option for you.

III. Merits and Demerits of Online Learning/Classes Merit of Online Classes

1. Online Classes Are Convenient

The first obvious advantage of online classes is the sheer convenience factor. Perhaps some of you are burdened by a lengthy commute after a long day. The thought of traveling to yet another location before heading home is an impossibility. Now, with virtual learning, you have the option of taking classes in the privacy of your own home while wearing your comfy slippers. You can search for whatever video you might have missed and catch up on class later! You could even make efficient use of your time commuting and attend an online course on the bus or train ride home. All you need is an internet connection and a computer or a smartphone.

📌 Online Classes Are Flexible

Not only have you saved hours by not having to travel to a physical location to take a class, but with online courses, you have greater flexibility in choosing the best time to study. You may not be able to find a face-to-face instructor to teach you Spanish online at 3 am, but your options are infinitely greater online. Online courses ultimately enable you to achieve your professional and educational goals in a manner that fits your schedule.

📌 Online Classes Are More Affordable

The major advantages of online classes centre around the tremendous amount of savings for the learning institution, which no longer has to rely on reserving a physical location to teach courses. This ultimately translates into more cost-effective classes for the student. Having to show up at a physical classroom location increases your expenditures as a student quickly. In addition to saving on the basics like books and supplies when you take classes online, you also save money on lunch and travel costs.

📌 Online Classes Foster More Interaction

Some might assume that traditional learning in a physical setting is the most natural and best way to interact. But that's not necessarily true. In an online class, no student sits in the back row. Everyone sits basically front and centre. Those that are too shy to ask a question in front of their entire class now have the option of initiating a live, private chat with their instructor. A student uncomfortable with broadcasting to the entire class may even opt to mute their microphone or disable their camera while continuing to participate in the lesson. A student with the ability to hide may seem like a disadvantage of online courses. But now, teachers have the option of administering online quizzes to ensure every student is engaged. They can edit and enrich videos to create a better learning experience online. In a physical classroom, the teacher may write notes on a blackboard, in hopes that students are jotting the information down themselves. With online learning, an instructor can write down notes on a digital whiteboard or even assign a student to write real-time notes that students can easily download after the class, edit and enrich.

📌 Online Classes Unlock More Learning Opportunities

Have you ever wanted to learn French, but simply never were available? Perhaps the small block of time you actually managed to carve out around a full-time job and family to learn how to code didn't coincide with class hours at your local community centre. Was a school in your area even offering your dream class? Now with virtual learning, the sky's the limit for new training opportunities. With online education, students have the option of learning from instructors in any time zone all over the world, at potentially any time of day. A world of opportunity can now be accessed from your laptop or smartphone.

Demerits of Online Learning

📌 Online Learning May Create a Sense of Isolation

Everyone learns in their own manner. Some students possess the ability to work independently, while others find comfort in their community on campus with easy access to professors or their fellow students. The good news is online virtual classroom platforms have been working to bridge those gaps, recreating the feeling of community in the virtual space by producing a series of tools that encourage learners to actively participate in live sessions. Online education must support the social aspect of learning to match the effectiveness of traditional classes.

📌 Online Learning Requires Self-Discipline

Piggybacking off the sentiment above, being part of a community and physically attending classes increases accountability. If a student does not feel they are getting the proper guidance, they may not have enough self-discipline to fully engage in the lessons themselves. Moving to virtual, real-time classes instead of just online courses gives a greater sense of accountability. Tools like live quizzes help assess understanding in real-time, while breakout rooms encourage group activity. These tools help foster accountability and keep students engaged.

📌 Online Learning Requires Additional Training for Instructors

Online classes imply an initial learning curve and extra effort on the teacher's behalf to create a successful online course. Instructors need to get a deep understanding of the different approaches to teaching and learning to avoid just replicating the physical class environment and miss out on all the added advantages and tools that eLearning and blended learning have to offer. Of course, instructors also need proper training to tackle the technical aspect of online learning: the use of video and audio recording equipment, virtual

classroom and lecture capture software, and of course the Learning Management Software (LMS). The combination of all these new skills represents a steep learning curve for the teacher, but thoughtful investment in proper training will pay off tenfold for the institution, the teacher, and the students alike!

📌 **Online Classes Are Prone to Technical Issues**

The classic disadvantages of online learning centre around technical problems. Nothing disrupts an online lesson more than audio, video, or connection issues. Many times in the past, students were required to download and/or install cumbersome apps or technology that would deliver inconsistent performances. Luckily nowadays, online classes can be accessed through the click of a link without the need to install anything. Internet connections throughout the world have improved dramatically. Additionally, people's devices have gotten significantly better.

📌 **Online Learning means more screen-time**

It's pretty much inevitable in 2022, but darn do we spend a frightening amount of time in front of screens. Online learning sadly contributes to this problem. Excessive screen-time can lead to all sorts of physical ailments like poor posture or headaches. But it can also be a personal issue to students who struggle with learning from or focusing on screens. Especially since the internet is geared to distract students with social media and entertainment just a click away from the learning material. The better online learning platforms and software out there have all kinds of tools and features to help students staying attentive and engaged.

IV. Conclusion

The ultimate purpose of this investigation was to explore the impact of online learning on student's academic achievement as the demand has increased in recent times for online courses among institutions and college students who solely rely on flexible and comfortable education. We tried to measure in quantifiable terms the student's final academic performance after their exposure to online learning during this pandemic lockdown. The final results obtained in this study were quite self-eloquent, as they unequivocally show the tremendous impact of e-learning on student's academic performance and achievements, as it can benefit students in many ways, including enhancing and maximizing their learning independence and classroom participation. It is a good experience for student's transitional preparation to pursue college education and seek employment. Students were more engaged in the learning process than in conventional teaching, and online learning experience has revealed that didactic teaching style is no longer effective. They no longer regard teachers as the only source of information, but as learning facilitator and online learning from different internet sources as their main source of information. They have proved that they can assume their responsibilities, contribute to course design assessment and learning process personalization. Online learning also helped overcome time and space constraints imposed by the conventional learning process and helped students to effectively communicate their findings and share their ideas with their peers locally and globally. The introduction of a new technology such as the online learning will undoubtedly have more impact on the learning outcomes only if we reconsider the delivery mode, content redesign, new assessment system. A suitable pedagogy and an appropriate content are the most important sources of students learning motivation. Finally, e-learning has a bright future, tremendous learning potentialities and excellent organizational culture. Universities will incontrovertibly use many of the lessons learned during this pandemic lockdown period of this forced online teaching to adjust curriculum contents, teaching methods/lesson delivery, and assessment tools. E-learning is here to stay and can make a much stronger contribution to higher education in the years to come. However, there are some negative effects of online class as it does not offer real a face to face contact and interaction with instructors and imposes time commitment and less accountability on students. There are also many online struggles that students face such as the impossibility to stay motivated all the time, as they sometimes feel that they are completely isolated. In addition, instructors feel impotent to control students cheating, impose classroom discipline. In addition to that, poor students struggle to get the necessary electronic equipment to access this new mode of learning to interact in due time with their instructor, make necessary comments and raise questions to clear ambiguities and any equivocal statements and get appropriate feedback from their instructor.

There are other academic issues that need to be investigated deeply such as the perspectives of higher education quality focusing on the study of cultural, emotional, technological, ethical, health, financial or academic achievements.

Furthermore, more academic research should be done about e-learning theories/distance learning to truly

improvise a new and adequate teaching/learning approach. There are advantages and disadvantages of online learning for higher education. But as technological capabilities have reached new heights and many of the major concerns of students taking online classes have been addressed, the advantages of online classes are beginning to drown out the disadvantages.

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