

Learning Leverage for Online Distance Education (D.E.): A New Key Performance Indicator Proposition for Higher Education Management; Case Study of AUL University – Lebanon¹

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Abstract

Global inflation in addition to the recent pandemic led to a global shift in teaching methods and techniques. In Lebanon, the online learning was implemented in schools and universities as a form of distance education without a proper training for students and instructors. The abrupt transition to online learning presented a new challenging evaluation system for students at any higher education institutions like the “Arts, Sciences and Technology University of Lebanon” known as (AUL). Using an inductive approach based on the researcher's observations for a complete year, and the semi-structured interviews conducted with the university students and instructors, this exploratory study aims to highlight the gaps within the applied online system at AUL, particularly in regards to the adopted examination and the student’s evaluation system. Our findings reveal the high impact of student’s skills on their online academic achievements, versus the low impact of their knowledge levels. Thus, we propose in this study a useful evaluation method that we called “The Learning Leverage Ratio” or the L.L.R. system.

Keywords; Distance Education (D.E.); Knowledgeable; Skillful; E- Learning; Leverage; Key indicator.

1. Introduction

1.1 General Outline

University graduates typically receive certificates as proof of their academic achievement and attendance. For many years, these certificates have indicated that an individual is knowledgeable

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and skilled in their field of study. However, it has been observed and reported within our literature review that the application of the knowledge can vary greatly among individuals. This research aims to explore the impact of student skills on the academic performance, particularly in the context of online distance learning in Lebanon. Through an exhaustive literature review and the adoption of relevant theories, as well as the researcher's own observations, a calculation of the ratio between skilled and knowledgeable students was proposed. The study also analyzed the case of AUL University as a leading higher education institution in Lebanon, which has always prioritized the improvement of its internal system for the benefit of its students.

1.2 Research Context

For many developed countries, the online education has been the "new normal" for several years. These countries have focused on creating a rich environment for active learners, known as R.E.A.L (Rich Environment for Active Learning), as they have adopted a complete e-learning system for new generations. Student competencies are nowadays essential for success in the global job market. Therefore, it is important for Lebanese education institutions to consider the skills and knowledge required by the global business market and implement them through a new conceptual approach based on students' self-initiatives. It is worth noting that the literature review is mostly dated between 1990 and 2005, which means that the current education system in Lebanon has not yet reached the technological, skills, and competencies advancements of the 1990s in the developed countries. The root cause is not a lack of effort or awareness on the part of education institutions, but rather the Lebanese law, which until recently did not recognize or allow for online teaching and e-learning. As a result, a graduate from a prestigious university such as Harvard or Oxford would not be able to obtain an equivalency certificate in Lebanon.

1.3 Problem Statement

This study examined the development and progression of distance education, including online systems and e-learning methods in Lebanon. It also looked at the challenges and concerns of education institutions and learners in implementing these systems. The study conducted interviews with students and professors at a specific institution to validate the researcher developed module on student categorization and to identify gaps in the distance education system at one of the educational institutions. It also proposed a new term called the "Learning Leverage Ratio" as a method for measuring student knowledge and skills, and as an indicator of the institution's performance. Finally, the researcher provided recommendations for improving the current hybrid online system.

1.4 Importance and Objectives of the Study

This study was conducted by an MBA student, management consultant, and observer participant in the distance education system at a specific university (AUL) in order to improve the current online methods and techniques used. It may also help the university attract financial donations during the current economic crisis in Lebanon.

The objectives of the study;

- Highlight the importance of teaching relevant skills to students.
- Show that the current online system does not accurately reflect students' levels of knowledge.
- Collect and analyze valuable information and experiences to improve the online system in Lebanon.
- Analyze interviews with students and professors and link them to a comprehensive figure summarizing student results reported by experienced professors.
- Propose a new ratio calculation as a key indicator for measuring students' levels of knowledge and skills effectively.
- Provide recommendations for improvement based on the perspectives and experiences of university professors.

1.5 Research Question

How can we measure the student's knowledge and skills in online learning using a new key indicator that marks the level of a graduate student? And why it is an urgent matter to teach skills within the H.E.I. Lebanese programs besides the inert knowledge?

1.6 Hypotheses

The Hypotheses tested in this research are both associative and causal and are based on four independent variables; Teaching techniques, instructor's online competencies, communication practices and online tests. In addition to two dependent variables; Student knowledge and student skills. The mediating variable is "available resources". The hypotheses are as follows:

H1: The current D.E. system brings together students with diverse levels and backgrounds in a single classroom.

H2: Online exams, whether oral or written, do not accurately reflect the actual level of knowledge of students, according to the 40 interviewees.

H3: Online exams, whether oral or written, only reflect the actual level of student knowledge.

H4: Online exams, whether oral or written, accurately reflect both the knowledge and skills of students, according to the analysis of professor interviews.

H5: Online exams, whether oral or written, only reflect the skills of students.

H6: Online teaching programs in H.E.I should include the teaching and assessment of important skills.

H7: Online teaching programs depend on student self-initiative and self-motivation to gain basic knowledge, while skills are acquired through experience.

2 -Literature Review

2.1 Distance Education – A Holistic Approach

Education system reformed dramatically because of the new technological advancement and the ultimate changes that were applied in the advanced countries and where hidden or intentionally postponed in our country; recently this new concept was implemented all over the world due to Covid-19 confinement. In Lebanon, our teaching systems shifted from traditional to what we recognized as distance learning since 2020. We used to use the term of E-Learning although it has a diverse significance when it comes to the conceptual framework of an educational system. Education used to rely on communication of a “[...] *one way transmission*” (Tham & Werner, 2005) in which the learners were supposed to listen, memorize and apply what they had in class, nowadays the educational moot setting focuses on an “[...] *interactive transmissions*” (Tham & Werner, 2005) that emphasizes active, self-motivated and dynamic practices from both the learner and the instructors using technological advancements and latest updates. Thus, it is very essential to criticize, reshape and evaluate any system due to the rapid and continuous advancement we are experiencing. Although our current life style requires numerous skills and competencies, the conscious knowledge must be present all the way.

Dr. Ian Fyfe once said “*On the road to e-learning, make sure that Learning is in the driving seat and Technology is in the passenger seat with the map. Learning decides the destination; Technology helps you get there*”.

2.2 Distance Education – History

The history of D.E started as occupational education in 1858 in the University of London, U.K., afterward these programs became a reality. “[...] *Mahatma Gandhi and Nelson Mandela studied through this external system in addition to many scientists who got Nobel prizes*” (Jones, 2008). Between 1888 and 1889 “**Melvil Dewey**” from Columbia College initiated the principal official program of library concept, and forced Albany to add similar courses and provide Library services. Consequently, The American Library Association (ALA) requested an authorization for the education institutions to offer correspondence work (Tham & Werner, 2005). So basically, the oldest D.E. systems in U.S.A relied on the printed materials, the instruction sheets and/or the delivered books. However, in the middle of the 19th century the perception of distance education took its place, developed and disseminated among many European countries like France, Germany and The United Kingdom (Singh, Bhatnagar, Gupta, & Kumar, 2020). Between 1960 and 1970,

due to the great shift in media and technologies, excessive and noticeable alterations were applied to the distance education in general. The first university that adopted this system was the “Open University” in Great Britain and they offered a college degree through D.E. system (**Singh, Bhatnagar, Gupta, & Kumar, 2020**).

In India, they were introduced to this new educational system in the 1960’s and during the 1980’s, more than thirty different universities in India offered different programs using D.E. (**Singh, Bhatnagar, Gupta, & Kumar, 2020**). After this succession in implementation one of the great universities in India named Indira Gandhi Nation Open University (IGNOU) opened more than six branches and applied the D.E. system noting that they followed and used the applied D.E. model of the U.K. By 1995, more than 2 million students enrolled in this new system and graduated. In addition, a council for distance education known as “C.D.E.” was founded in 1992 to monitor the quality of the teaching services and took care of the promotion and the coordination between all the institutions (**Singh, Bhatnagar, Gupta, & Kumar, 2020**).

In Mexico, a prestigious university founded in 1943 expanded geographically within the country during the 1980’s and initiated 26 new campuses. They were obliged to focus on developed methods for communication in between the faculties and with their students; consequently, they joined what is called a “BITNET” to easily exchange documents. In addition, they ameliorated their oral communication by investing in a satellite network (**Faraha & Corral, 2015**). In 1988, the management of “Mexico University” assessed the need of technological usage within its campuses. In order to fulfill this plan, they had to apply certain improvements to meet the criteria set by the Southern Association of Colleges and Schools (SACS) and get their accreditation. All the professors had to upgrade their level of education from BA to MBA and from MBA to PhD Level (**Faraha & Corral, 2015**). The virtual classrooms were created in the 19th century in many countries as a result on the teleconferencing and the combination of the internet and the web. This new concept allowed the share and the communication of information between people from different places with a different time and the benefits of using these systems were nonnegotiable as it saved a lot of money and time for the participants. Subsequently, the globalization allowed the start-up of the D.E. and the self-learning (**Tham & Werner, 2005**). Learning became little by little a self-directed application and relied on technological resources and personal motivation. Then, the great alteration from “[...] *know what to knowing how*” (**Thomas, 1995**) occurred.

Nowadays learning is about how we can get the right information at the right time and when to use it properly and securely (**Thomas, 1995**). However, “Allen and Seaman” noted that in West Chester University of Pennsylvania, the progression of D.E. growth rate was irregular, and based on their statistics that less than 4% of the students were taking at least one online course in 2014, and more than 8.7% of the online students dropped their courses. In order to understand these particular students’ attitudes and study all the related factors that provoked this decision, three of

the best professors at the same university decided to investigate the reasons behind these courses drop (**Li, Bunk, & Smidt, 2019**). They related the Faculty attitudes toward online learning to the reasons behind these acts, as after this study the statistics presented by (**Allen & Seaman, 2012**) showed that more than four thousand university were suspicious about the quality of education provided comparing to the education delivered in their traditional classrooms. These considerations made the online learning kind of inferior (**Li, Bunk, & Smidt, 2019**) due to many factors that will be explained further in our literature. As said by “Radovic- Markovic” in 2009 we may say that the development of the internet and the technological advancement resulted in changes within the sorts of knowledge and ways in which this technology has found its fast value to our life. In addition, the internet caused a transformational change in communication and institutions management in recent years. The employment of the internet within the education sphere is expected in all countries depending on their advancement use of technology. Within the sphere of education, the internet offers a worldwide visual platform, graphical ones, or many kinds.

It is also considered as a method of synchronous and asynchronous communication (**Keegan, 2000**). (**Radović-Marković, 2009**). Like everything else, the online systems will be improved and continually amended to ameliorate the quality of the online studies services. And it is highly expected that the virtual education institution that existed already in the developed countries will keep spreading within the future. Online education and e-learning courses will shortly become the dominant sort of education, and will eventually succeed to reach its peak point within a few years further (**Radović-Marković, 2009**). It is to be expected within no time that the strategies of labor and communication among the students and the professors can still improve with time. Many standards were created to increase the level of this type of education output (**Radović-Marković, 2009**). It is important to mention that most of the world prestigious faculties giving distance learning studies whether online sessions or e-learning prepared material are relying on famous influencers to promote the advantages of this teaching methods (**Keegan, 2000**).

In Serbia, this form of finding out still does not have an outsized variety of research, since there are no online classes or e-learning classes as distance education is not yet adopted. In different words, internet education is even currently thought of as some sort of correspondence study, not more (**Radović-Marković, 2009**). Additionally, many colleges however lack the relevant code and concomitant instrumentation, as well as adequately trained workers, which might use them in their work with students. Furthermore, the activity of online studies remains very poor since only 20% of the population uses the internet in Serbia. one of the elements that affected usage or implementation of online sessions or e-learning studies development is the fact that people’s beliefs and culture can slowly be modified (**Radović-Marković, 2009**). In compliance with this, most Serbian people cannot imagine a “classroom without walls”, nor a different kind of class. For an outsized cluster of individuals, it is unimaginable to attend virtual classes or get knowledge from an uploaded video. For them, it is weird not to be physically inside the college building and

not to hear the lectures and see the professor, as this is unfortunately far of their current mindset status quo (Radović-Marković, 2009).

2.3 Growth of D.E. System

Further and further numerous educational institutions adopted the distance education in addition to the traditional system of teaching to attract students from different geographical areas. Accordingly, this system developed exponentially over the past years as it represented a learning option for a huge number of learners (Li, Bunk, & Smidt, 2019). So, the educational institutions had to familiarize their teams and change their practices and configurations to allow the integration of the novel information technologies into their operations (Pina, 2008).

2.4 The Elements That Impact and Control the Distance Education

2.4.1 Faculty Resistance

Attitudes toward online education or distance education were influenced by many psychological factors from both the institutions and the students (Allen & Seaman, 2012). Numerous studies were done to understand the connection between dissimilar emotions like “[...] *fear and motivation*” and how to control those feelings and “[...] *moderate or mediate the relationship*” between online education subconscious feelings and the attitude toward this educational method (Li, Bunk, & Smidt, 2019). As per “Allen and Seaman” and after they have done a huge survey to understand the faculty attitude toward online education, they found that more than 4,500 universities were negative, suspicious and distrustful about the quality and value of the presented distance education. They divided the causes into two main categories 1- The faculty attitudes, 2- The students’ attitudes.

2.4.2 Faculty Attitudes

The Faculty attitude was based on the faculty experience in this specific matter, and it was the major factor that influenced the negative perceptions about the expected outcomes of the D.E. After investigating the reason of this resistance (Allen & Seaman, 2012) found that the faculties that reported negatively toward online learning were not presenting any of their courses online, and they only had an attitude based on their own perception that student’s results were less than in normal classrooms (Allen & Seaman, 2012). However, two third of the participated faculties who presented an online education option reported positively and were excited about the achieved result (Li, Bunk, & Smidt, 2019). Consequently, “[...] *the fear of online education growth*” (Li, Bunk, & Smidt, 2019) was behind these attitudes.

2.4.3 Students Attitudes

The popularity of the online courses increased with time since the students results ameliorated due to many factors that we will discuss further in our literature. During the academic year of 2013-2014, one of eight students who registered in the United States universities chosen the online program, and at least one over four students took few courses online according to the WCET study in 2015 (**Eom, Ashill, & Wen, 2006**). Referring to a study done by Ernst in 2008, 85% of online learners were contented and satisfied about the online programs and they had a positive feedback concerning the virtual classroom environment (**Ernst, 2008**) (**Eom, Ashill, & Wen, 2006**). Since 1997, the “University of Wisconsin- Whitewater” offered MBA online courses and they focused on the student’s attitudes toward the e-learning programs. As per their experience the “*invisible students*” needed a full daily operational support at the beginning of the e-learning; however, they enjoyed the flexible and dynamic program presented to them (**Tham & Werner, 2005**).

2.4.4 Technology Usage- Software Approach

Between 1920 and 1930 the early usage of technology within the distance education was the use of the radio. Then after 1930 it continued via television programs. However, during 1990’s and to be precise in 1993 the usage of the computers was implemented and it was the effective way to deliver a course virtually. The development of the computer programs helped both the instructors and the students to create what is known nowadays as virtual classrooms (**Wang, Chih-Hsuan; Shannon, David M.; Ross, and Margaret E., 2013**).

The internet of the fourth generation was widespread within the education system in Canada, which facilitated what is called the “*just in time learning*” (**Litto, 2012**) which indicated that student’s minds won’t be filled with information or knowledge that will be potentially needed in their future work life. Since the information is changing every second and its shelf-life is limited. Consequently, in Canada they worked on developing and appropriate information systems to provide the useful learning and knowledge for the students (**Litto, 2012**). In 2002, the fifth generation of Distance education took place in Australia University of Southern Queensland (**Litto, 2012**). They united their efforts with American universities and provided courses on “Coursera” [www.coursera.org]. After this step, a new term was created “*MOOC*” which meant massive online open courses which gave a great chance for the e-learners who benefited and picked their courses like they picked a cherry (**Litto, 2012**).

We should not forget the technological advancement usage in the educational system of the European countries through the “Erasmus Protocol” they set. This code of conduct or practice agreement allowed a great mobility for the students and the professors of higher education within the European community. Such arrangement allowed the exchange of new technologies and educational techniques and showed a great learning diversity advantage (**Litto, 2012**).

In 2012, Lebanese professors created an organizational model called the “Tetra-Factor Triangle”, they based the educational organization performance success on the three variables linked to the dean’s authority (Aljardali, Kaderi, & Levy, 2012). The elements of this module were “[...] *information system, human resources and the balanced scorecard*” (Aljardali, Kaderi, & Levy, 2012). In 2020 the same professor Dr. Jardali and after nine years re-studied his module and developed a causal scheme along with another professor to highlight the importance of the balanced scorecard to measure the organizational performance, and relied the success of this scheme on the applied information system and the human resources of the same institution (Aljardali, Khaddaj, Abbas, & ALmawed, 2020).

2.4.5 Implication of Online Teaching

The administration department within an education institution have significantly bigger role in developing new processes and procedures before or during the implementation of an online program more than in traditional teaching modality (Grosse, 2004). It is very essential to give the proper time for the instructors along with the team involved in the online teaching module to understand and familiarize themselves with their different tasks and responsibilities within this new modality (Grosse, 2004). Additionally, the education institution who decides to adopt the online learning or the hybrid learning (mix of online and traditional classes) must deeply understand that the critical point of success is actually related to pedagogy not the technology used only (Lewis & Abdul- Hamid, 2006). The success of an online program is actually directly related to the involvement of the faculty team in the creative creation and innovation of the courses. It is also mandatory that the team understand the pros and cons of the online system, so they can amend the courses from different aspects; its design, teaching method and delivery, the assessment types. Etc... (Grosse, 2004). However, the management of the higher education institutions generally consider that the online learning decreases the quality of education as they consider the “face to face” education standard cannot be achieved by eliminating the “social connection” and the interaction that is essential for learning. As said by Gilbert in 2003, we cannot repair the education system by only adopting few theories or investing in some technology in the sense of making a significant change and expecting to say, "OK, all better!"

2.5 Rich Environment for Active Learning – R.E.A.L

2.5.1 What is R.E.A.L?

Students do not get knowledge only for the books or from their instructors, they actually get knowledge from their experiences with each other’s. The student’s interactions within a rich environment reflect what they had as inner knowledge and transform it into activities (Grabinger

& Dunlap, 1995). For a student to become successful, it is highly important to think critically and be able to analyze the acquired information which facilitates technical problem solving.

2.6 MOODLE System

First, we will start by the definition of MOODLE which is a Modular Object-Oriented Dynamic Learning Environment or it is one of the “L.M.S.” (Learning Management System). It was invented by “Martin Dougiamas” in 1999. This type of platform fulfills the interaction, communication and networking needs between all the participants. It also provides an assessment system in addition to organization and communication tasks. Furthermore, such platform allows the instructors to create the online course adding pictures, videos and sounds, and can monitor the students and the professor’s activities efficiently (**Costaa, Alvelosa, & Teixeira, 2012**).

2.7 Transformational Change in Education.

A study was made by a Lebanese- French professor and researcher and his team in (2020) and was published in the journal of Maryland University (PM world Journal) about the need to apply a “[...] *transformation change*” within the “[...] *learning services*” in post war countries and under developing countries like Lebanon. They highlighted in their study the importance of putting “[...] *the student skills into action*” (**Haraké, Saliba, Audeh Ibrahim, & Moussa, 2020**) within his/her society. Although their study had an objective to pinpoint the importance of helping the students become “[...] *transformation leaders*” within their communities, it also focused on the “[...] *cognitive skills*” that must be provided to the students within their education programs in addition to the “[...] *inert knowledge*” (**Haraké, Saliba, Audeh Ibrahim, & Moussa, 2020**).

2.8 Lebanese Higher Education Institutions.

2.8.1 General outline

The Lebanese higher education institutions are managed and regulated by the ministry of education known as “MEHE”. The law applied in the private institutions until 2014 goes back to 1960, and after 2014 a new law was proposed but it still under the implementation phase till date. In Lebanon there is one and only one public university which is the “Lebanese University” (LU) and another 35 private universities in addition to 11 University Colleges that includes more than 14 non-profits organizations. The public higher education is represented by the Lebanese University only, and it has a great sovereignty and autonomy. In the contrary the private sector refers back directly to the MEHE, although it represents more than 60 % of this sector according to the study done by a committee from the European Union in 2017. The Italian Government proposed a national qualification framework to be applied within the Lebanese institutions, and funded a program to help the Lebanese MEHE establish this framework based on a draft prepared by the Italians.

However, in 2013 this project was held due to the poor strategic planning within the MEHE management and due to the unstable environment that we are stuck in (**Jaramillo, Moreno, Ruby, Gacuognolle, El-Gali, & Thacker, 2013**).

A study was done in Marseille by more than ten researchers and experts in the education system for the universities in the MENA region in 2010. It was followed by a great book titled “Benchmarking Governance as a tool for promoting change”. More than 15 private Universities programs were tested and appraised during this research to highlight the importance of the governance. They compared the given programs to the required skills and knowledge needed within the job market at that time, and they found that the main barrier for the newly graduated student to find a job was that the “[...] *Skills supply and demand were mismatched*”. According to their study the Employers were dissatisfied with the candidate’s skills especially their technical, linguistic and their interpersonal skills and habits (**Jaramillo, Moreno, Ruby, Gacuognolle, El-Gali, & Thacker, 2013**).

2.8.2 AUL University –A Lebanese Higher Education Institution

Founded in 1998 in Beirut – Lebanon and it is one on the elite Universities in the country that provides Higher education in four main fields (Business, arts and humanities, engineering and sciences and fine arts). It is an independent and nondenominational Lebanese higher education institution with undergraduate and graduate degree programs. Despite that most of the Lebanese private universities are contained and regulated by religious authorities, AUL is not restricted to any of these authorities. It is not only a University where the students can learn a major but also it is known by its governance that engage all the stake holders especially the students within the decision-making process. In their Mission statement they clearly mentioned their commitment to provide their students with an advanced knowledge and practical skills in order to add a great value to the community. Their slogan is: “Distinguished University for distinguished students” directed them to make affiliation with more than 15 universities in France, USA, Russia and other countries and opened their doors for a culture and education swapping opportunities (**Original site of AUL University**).

2.9 Importance of skills assessment

A skill assessment is an evaluation of an individual’s ability to perform a certain skill. Skill assessment can be a tool in which assists us in measuring if one needs to improve their skills or not. Additionally, “[...] *skills assessment is an activity carried out to measure the ability of students to apply knowledge in carrying out certain tasks*” (**Ningsih & Yani, 2018**). Therefore, measuring how capable students are at using their skills in adhering to an efficient academic performance.

2.9.1 Types of Skill Assessment

Assessments are used to detect any insufficiencies when it comes to skill acquisitions in order to further determine the appropriate response to interference (Steadly et al, 2008). There are many tools to assess the skills of students at university or at home, many players are involved such as the student, the instructors, the parents, the government and other stakeholders. The “Organization for Economic Cooperation and Development” states that because teachers are the ones capable of giving task for students, they are the best in creating skills assessments especially ones that can assess their performance as well. These assessments can come in many forms such as: tests and questionnaires, observation, self-assessment, and real-life scenarios, case studies, etc.

2.9.1.1 Tests and Questionnaires

“[...] Assessment information provides the foundation for decision making and planning for instruction and learning” as said by (Venpakal). Assessing skills is vital to determine the foundation for student’s academic performance as well as for future career purposes (Kulturel-Konak et al, 2015). Tests depend on an instructor’s creativity to be able to properly design a test which in return can provide the desired outcome with the most amount of accurate result (Hadiyanto et al.2017). Referring to Venpakal, there are many advantages of uniform tests such as being easier to construct and easier to score. Nevertheless, using tests can be a very constructive way to assess student’s skills, as they can be customized for specific skills. Questionnaires are another type of skill assessment tool that is a set of questions used to analyze a certain outcome. Although questionnaires need more “technical knowledge” (Venpakal) to be constructed in an effective way, they can serve as a good tool to measure certain skills.

2.9.1.2 Observation

According to Venpakal, “[...] Observation is one of the most refined modern research techniques”, as this method can be used inside the academics or at home. Instructors are often responsible for in-class observations, where they might notice a lack of social skills from a certain student for example this observation allows professors to determine if there is a need to develop and improve certain skills. Skills can be divided into soft and hard skills, hard skills “[...] are typically easy to observe, quantify and measure” (Hadiyanto et al. 2017). Observing students’ skills and attaining knowledge throughout that can be through watching them during specific situations and how they react to such. Collecting data from observation is essential to monitor skills which cannot be measured throughout tests and questionnaires. Thereby, in order for an observation to be effective according to Venpakal:

- It must be planned ahead, knowing the setting and the subject being observed can facilitate the observation process.

- Observation must be done in a clear and serious manner, with knowing the objective of the done observation.
- Record the outcomes in an effective way.
- If possible, repetition of the observation process would provide more accurate results.

2.9.1.3 Real Life Scenarios

Assessment in academics is important for institutions, but it can be challenging to accurately measure certain skills that cannot be assessed through written exams. Real-life scenarios can be an effective way to assess these skills by having students apply their knowledge and abilities in authentic situations (Nguyen & Phan, 2020). This method can be used to assess communication and teamwork skills (Steadly et al, 2008) at various educational levels, such as through homework assignments that are designed to be "real-life" (Gambil, Moss, Vescogni, 2008). It is important to use the appropriate assessment method for each skill in order to accurately determine if any intervention is needed (Hadiyanto et al. 2017).

Summary

According to a literature review, the most important type of skills assessment is "real life scenarios," as proposed by Steedly et al. (2008) and supported by Gambil, Moss, and Vescogni (2008). This idea was also recently discussed in a related research by Nguyen and Phan (2020). In addition, Professor "Mary James" emphasized the importance of skills teaching and the use of real-life scenarios in her book published in 2006 and titled: "Adoption of Theory of Formative Assessment," as well as in her article published in the same year by Sage Publications.

3- Research Method

3.1 Research Methods & Designs

The present study employs a "sequential exploratory" method to examine the efficiency and effectiveness of an applied online D.E. system, as well as its potential impact on the future workforce (Harake, 2019; Saunders, Lewis, & Thornhill, 2012). Primary data was obtained through a combination of qualitative methods, including observations and semi-structured interviews with a diverse range of participants (Saunders, Lewis, & Thornhill, 2012). Adopting a constructivist perspective (Harake, 2019), the researcher employed a case study approach at AUL University due to the institution's varied student demographics and academic programs. In addition, a literature review was conducted, which revealed that the most effective means of achieving the study's objectives was through the collection of qualitative data. The findings were subsequently summarized in comprehensive figures and a new educational index, referred to as the Learning Leverage Ratio (L.L.R.), was proposed as a means of restructuring Lebanese

educational programs and more accurately assessing skills (**Harake, 2019; Saunders, Lewis, & Thornhill, 2012**). Given that the present study will not be replicated at a later date, it is classified as having a cross-sectional time horizon (**Saunders, Lewis, & Thornhill, 2012**).

Consequently, the present study presents a number of research dilemmas (**Saunders, Lewis, & Thornhill, 2012**):

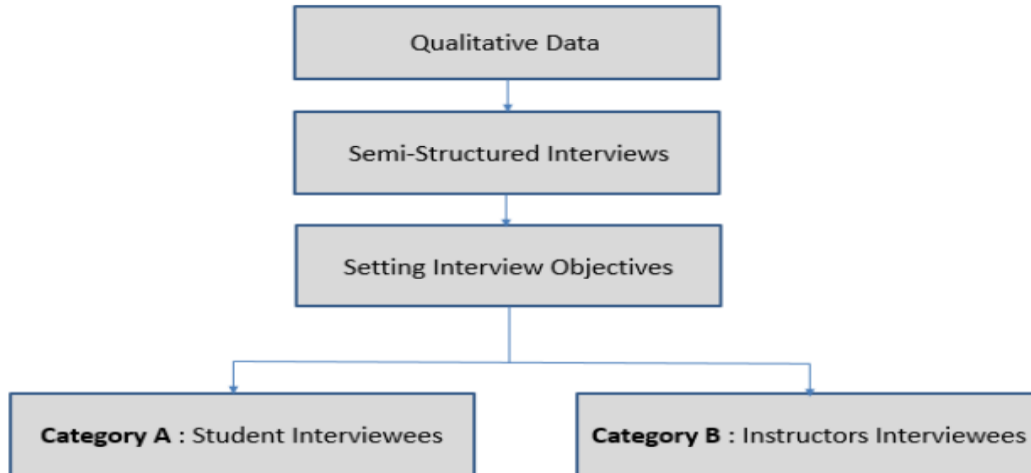
- What will be the composition of the graduated students from the online system entering the job market?
- Will they possess both knowledge and skills, or will they be proficient in only one area?
- How can the applied D.E. system in Lebanon be improved and the results effectively measured?
- To what extent is it important to assess student's skills in addition to their knowledge in the present day?
- How might the current applied D.E. system impact the future workforce if it focuses solely on cultivating skilled individuals?

The present study was conducted with AUL University students, instructors, and professors from various campuses in Lebanon. The minimum sample size for this study was 40 interviewees, divided into two categories as detailed in (Figure 1).

- 1- **Category A** - 30 students from different campuses and majors.
- 2- **Category B** -10 professors with at least five years of experience at AUL University, including one expert in education management and three academic coordinators.

The sample type was simple random, with all participants having an equal chance to be selected. Interviews were conducted by telephone or video calls depending on the interviewee's preferences. The recorded notes and observations of the researcher were shared and validated with all participants. The interview's duration ranged between 35 to 75 minutes, and the interviewees answers were sent to their emails addresses to get their approvals.

Figure 1: Interviewee Categorization¹.



(Source¹: Author)

3.2 Reliability and Validity

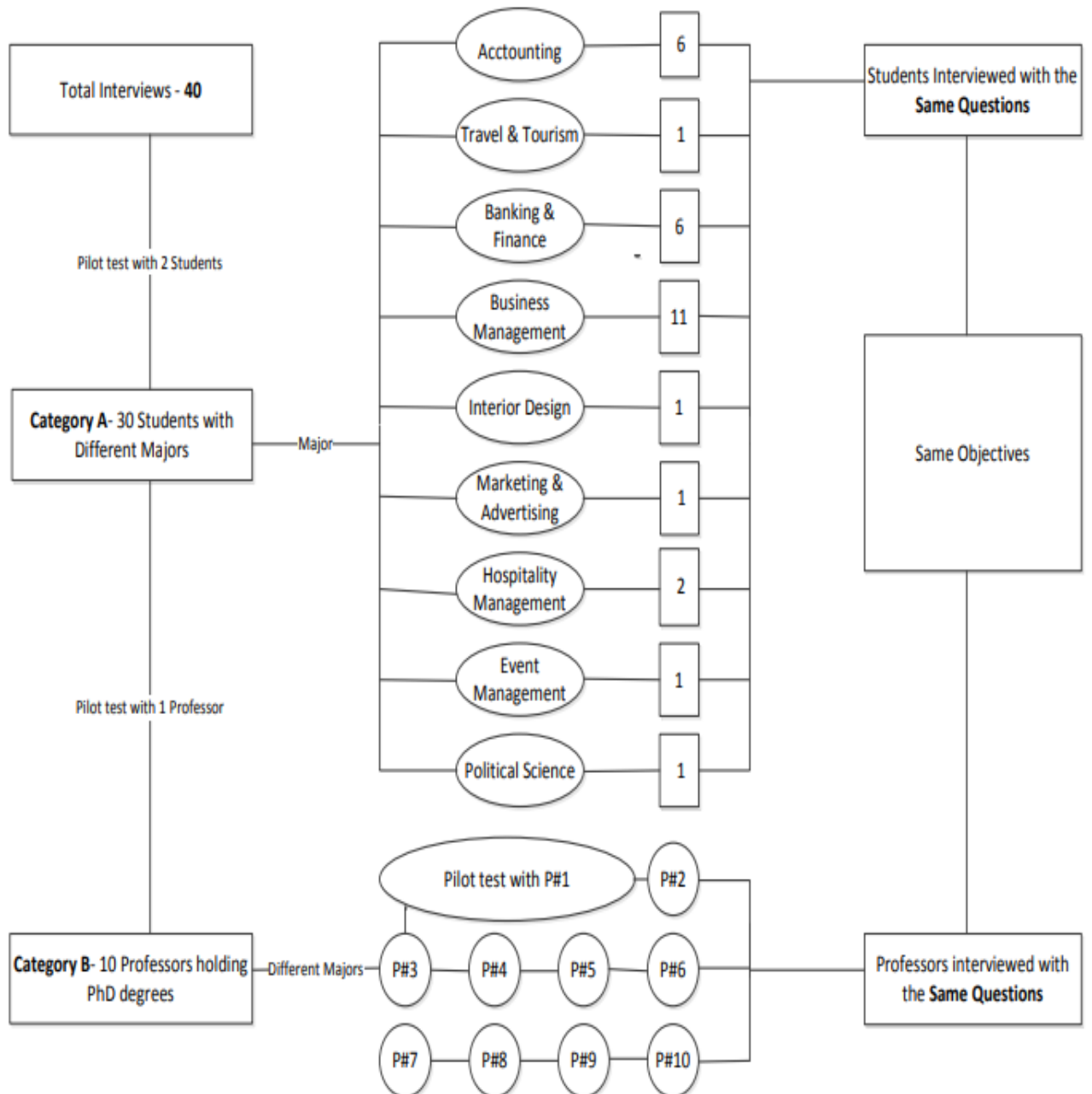
The quality of a qualitative study is crucial, as noted by Golafshani (2003). Eisner (1991) and Stenbacka (2001) both emphasize that the reliability and validity of qualitative research lies in the understanding and interpretation of the data. Patton (2002) adds that validity and reliability must be considered in the design and analysis of the study in order to produce trustworthy results. In this study, the researcher ensured the validity of their observations and analysis through testing and consultation with AUL professors, who evaluated the quality, rigor, and trustworthiness of the work. The results of the student interviews were then shared in the form of figures, charts, and tables (Linclon & Guba, 1985). Overall, the adopted validity of the research paradigm, researcher notes, and analysis was thoroughly evaluated to produce reliable and valid findings.

3.3 Data Collection – Processing and Analysis

In order to achieve the objectives of the study, the researcher developed two sets of semi-structured interview questions, one for instructors and another for AUL students. The gathered data was then entered into excel sheets and analyzed vertically. This allowed for the conversion of qualitative data into percentages, which were presented in bold within the table of interview analysis. This analytical strategy was chosen due to the small number of interviewees in each category (less than 30 people per excel sheet). (Bryman & Bell, 2007; Harake, 2019; Saunders, Lewis, & Thornhill, 2012).

3.3.1 Collection Process

Figure 2: Interviewees profile and distribution².

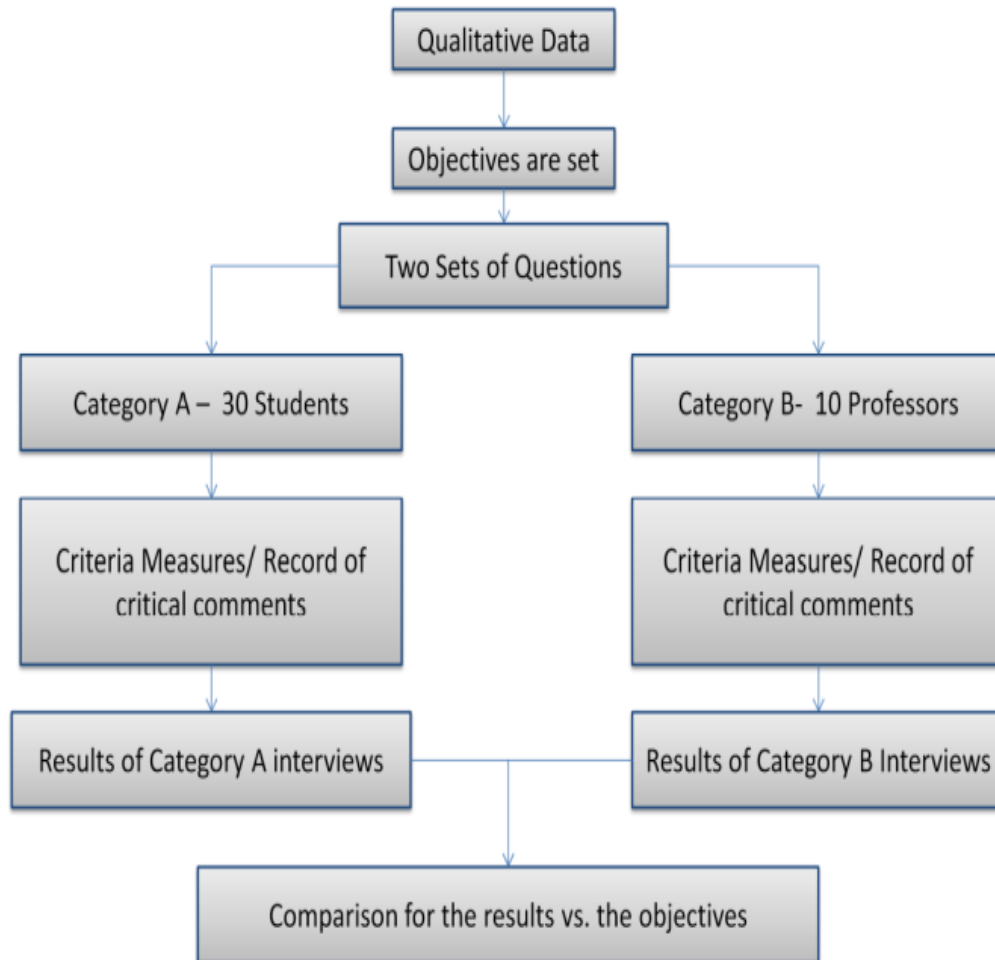


(Source²: Author)

3.4 Analysis Design

The analysis of the interviews was conducted to gather valuable insights from individuals who have experienced the online system at AUL University in Lebanon. The interviewees were able to objectively identify areas of strength and weakness within the system, as well as the impact of certain skills on the academic achievement during online classes. To facilitate this analysis, a vertical approach was taken, with the data first being divided by interviewee categories. This was followed by a horizontal analysis, which provided an overview of the results across the two different groups (Saunders, Lewis, & Thornhill, 2012).

Figure 3: Analysis Design ³.



(Source³: Author)

3.5 Students Interview Questions

Questions for Students – Category A
Theme 1 - General Questions
Since when you started your distance learning at AUL? And what is your major?
After experiencing the D.E. at AUL, what are the differences between the traditional and the online learning you experienced?
What kind of trainings you received to integrate in this new system?
Theme 2- Focus on online tests
4-What kind of exams you had during this period? (Oral, Written, Case study?)
5-Did you face any difficulty during your exams? Please explain in details.
6-Did all the tests represented what you had in class, and reflected the material in hand?
7-What kind of challenges you had during your exams?
8-Was your knowledge enough to pass any of the exams? Or you had to search online for the answers?
9-What kind of skills you needed to well perform during an online exam? Did the exams test your knowledge or your computer skills?
10-Do you believe that you received the same level of knowledge that you usually got in normal classes? Why?
Theme 3- Gaps within The D.E. System
11-Have you experienced an A or B grade without even reading your test? Did any of your colleagues do?
12-Have you ever received less than 75/100 despite your hard work, knowledge and studying your material? If yes , please explain what was the reason in your opinion
13-The duration of your exam was too long or appropriate?
14-Did you choose random answers because of time shortage?
15-Do you think the number of students in class was fair for you and your instructor? Why?

(Source: Author)

3.6 Professors Interview questions

Questions for Professors – Category B
Theme 1 - General Questions
1-Since when you educate at AUL? Did you have an experience in online teaching methods and techniques?
2-Have you received any kind of training before applying the distance learning at AUL? If yes, what kind of trainings?
3-How much it is important to teach important skills in addition to the knowledge nowadays? Do you think it would be beneficial to find a way that help measuring the students skills and knowledge at the same time? What do you recommend?
Theme 2- The Importance of Student Skills in Online Learning
4-What kind of exams you prepared for your students during this period? (Oral, Written, Case study, or projects?) And which type of tests was the best in terms of defining the student’s achievement? Why?
5-Did you face any difficulty or challenges while preparing your exams?
6-Do you agree that online written exams must be “open book” so the student shouldn’t feel that he/she is cheating while searching for the answers?
7-What kind of challenges your students faced during their exams?
8-Do you usually prepare your exam or you bring the questions from an online source and why?
9-What kind of skills the students need to well perform during his/her test? Linguistic skills, computer skills, communication skills, etc.....
10-Do you believe that the applied online tests at AUL reflected the actual level of the student knowledge? Why?
Theme 3- Gaps within The D.E. System
11-Have you experienced students taking high grades, while they fail when they represent a power point for example?
12-Did any of your students receive a low grade during an online exam despite their knowledge and experience? What was the reason in your opinion? Could be related to their low level of skills?
13-The duration of your exam was too long or appropriate? And how you measure this?
14-Are you satisfied with the applied D.E. system at AUL? What are your recommendations for improvement?
15-Do you think the number of students in class was fair for you and your students? Why?

(Source: Author)

3.7 Vertical Analysis – AUL Students

The below represented the “exploration analysis” (Saunders, Lewis, & Thornhill, 2012) done for each category; the 15 questions were divided into 3 main themes for both the students and the instructors in order to clarify the output of the collected answers. The first phase of analysis was done qualitatively, and then the researcher quantified the qualitative data, so the reader will notice the numbers of students who agreed or disagreed on a certain point within their observations in order to be verified and validated.

Theme 1- General Questions (Appendix 3 – Category A- Questions 1 – 2 – 3) The responses to the first question indicated that a majority of the students studied online for two consecutive years, with some returning to AUL to upgrade their certification. This suggests that AUL University is well-regarded and trusted by its students. Additionally, some students continued their studies directly after completing their bachelor's degree, indicating positive experiences with the online program. The responses to the second question revealed that **53.33%** of the students preferred online classes due to the convenience and flexibility they offered. These students cited time and cost savings, as well as the ability to review material at their own pace through recorded sessions on Google Classroom as major benefits of online learning. In contrast, traditional classes do not offer the same level of flexibility.

The responses to the third question indicated that **46.67%** of the students preferred traditional classes for various reasons. These included issues with power and internet connectivity, poor interaction with professors, and difficulties with communication and discussion due to internet problems. Additionally, some students cited a lack of readiness or training for online learning as factors that made them prefer in-person classes

Theme 2 – Focus on Online Tests (Appendix 3) Category A- Questions 4-5-6-7-8- 9-10) The responses indicated that the students had experienced a range of exam formats, including case studies, multiple choice questions (MCQs), oral interviews, and written assignments. Technical issues such as power outages and poor internet connection were cited as major barriers to online learning and test performance. Additionally, **43.33%** of the students complained that the exam questions were not aligned with the material covered in class, with some stating that the questions were sourced from online materials that differed from their coursework. A total of **26** out of **30** students reported that they had to seek answers online, despite their efforts to prepare for the exams.

Out of the **30** students in category A, only **4** reported that they did not need to seek additional information online to pass exams. The remaining **26** students identified a need for specific skills, such as strong language abilities and effective time management, to excel in online tests. Some students also noted that they found traditional classes more conducive to learning, while others

preferred the flexibility and opportunity for review offered by online courses. A minority of 3 students cited the quality of the professors' online teaching as a factor that influenced their learning experience. Additionally, these 3 students mentioned that shy or communication-challenged individuals may struggle in online classes.

Theme 3 – Gaps within The D.E. System (Appendix 3 – Category A- Questions 11-12-13- 14-15) 3 out of the 30 interviewees reported that they received high grades without much effort, due to the professors using online sources without paraphrasing the questions. In contrast, 23 students stated that they had to work hard to achieve high grades, as the final grade was based on various factors such as participation, assignments, attendance, and presentations, in addition to written tests.

24 students reported receiving grades below 75/100 despite their efforts, while four students did not experience this issue. Most of the students who struggled to achieve high grades mentioned that it occurred during their first semester of online participation, which will be further addressed in the horizontal analysis. Additionally, 17 students indicated that the exam time was inadequate, particularly for multiple choice and case study questions. The remaining students did not have issues with submitting their work on time. In terms of class size, 11 students believed it was appropriate, with 3 coming from the French section where class sizes tend to be smaller. However, 19 students complained about overcrowded classes, which hindered their learning and communication with instructors.

3.8 Horizontal Analysis – Category A – Students interviews

After conducting a vertical analysis of the data from both categories, the following conclusions can be drawn from the horizontal analysis:

1. **100%** of the students reported not receiving proper training prior to starting online classes.
2. **50%** of the students mentioned receiving an instructional email and video that explained the necessary apps and how to download them.
3. Regardless of whether the students considered this email and video as "training," it is clear that they had little understanding of what an online program entailed.
4. The university management should ensure that students understand that instructional videos are considered training and can be viewed as many times as necessary to successfully join and adapt to the new system.
5. Students complained about the types of questions on written exams, specifically multiple-choice questions, and were aware that their instructors were using online sources for tests.
6. Students also expressed frustration with the allotted time for exams, feeling that it was insufficient in relation to the number of questions.

7. They identified a lack of important skills for successful online performance, including language skills, computer skills, and time management skills. Some students reported difficulty understanding all the questions, while others had to skip questions in order to submit their exams on time.
8. The students' dissatisfaction with online classes appeared to be linked to skill gaps and negative experiences.
9. The interviews revealed that students are motivated to study online due to the ability to work or have greater flexibility in reviewing for exams.
10. Some students reported that they found traditional classes more conducive to learning, possibly due to factors such as internet connection issues, difficulty maintaining focus for extended periods of time, or large class sizes.

After verifying the researcher's notes and observations, the importance of linguistic, critical thinking, and computer skills on academic performance was demonstrated through the provided figure. The results were further validated through consultation with AUL professors and academic coordinators, using a set of critical questions from the research methodology. The "Academic Results of AUL Students" figure reflects the varying levels of student achievement based on their knowledge and skills.

3.9 Vertical Exploratory Analysis – AUL Professors

The ten professors had no experience in online teaching methods. **50%** of the professors stated that they received training via instructive videos and e-mails to help them prepare for the online teaching method adopted by the University of AUL. **20%** of the professors declared that they did not receive any kind of trainings **30%** received the instructive videos, but did not consider it as training. **90%** of the professors stated that it is very important to teach skills nowadays. **10%** preferred to consider the systematic thinking as the base of teaching than the student will be able to find the necessary knowledge and skills.

The professors recommended:

- To create a simulation learning environment and adopting new systems and defined applications for online testing.
- To change the applied online tests.
- Teach the systematic thinking skills in addition to other skills.
- Include the skills evaluation within the online system.
- Enhance the teamwork and provide a new learning experience.
- Prepare efficient training workshops for the students and ameliorate the follow-up process during their training courses.

80% of the tests given online were about MCQ's and true or false. However, the professors tended to give many assignments for the students in order to better evaluate their levels of achievements. Furthermore **90 %** of the professors adopted online sources to prepare the exams as it was recommended by the university management. **80%** of the professors had no problem preparing their online written exams. Only **20 %** faced a difficulty at the beginning of this new system. **60%** of the professors did not agree that the online exams are an open book exam and it should not be this way. **40%** of the professors stated that online exams are open book exams, and the professors must have the knowledge of how they should prepare the exam's questions. **90%** of the professors stated that the challenges were related to technical skills.

20% of the professors stated that in addition to the technical problems, the students were facing difficulties related to the economic crises and financial position. **30 %** of the professors stated that in addition to the internet connection problem and the power intermittent, the students lacked important skills in the online distance learning which affected their performance. **60%** of the professors declared that they adopt online tests or questions from test banks and other online sources. **40%** of the professors stated that they prepare their own exams relying on the books in hands because they consider the students are smart enough to find the answers online All the professors discussed the importance of computer skills, in addition to linguistic skills, time management skills, communication skills and critical thinking skills. **80%** stated that the online tests did not reflect the actual level of knowledge of the students. **10%** stated that I was depending on the professor's skills and abilities while preparing the exams. **10%** stated that the sometimes it reflected the actual level of knowledge and sometimes, it did not.

90 % of the professors experienced students taking high grades in their written exams and fail when they represent a project or a power point presentation.

10% did not experience this situation mentioned above.

80% of the professors stated that some of their students received low grades in their exams despite their knowledge and work experience, and it was mainly related to two main problems: the limitation of resources (internet, and power) and the lack of important skills especially time management and computer skills. **90%** of the professors declared that the exam time was appropriate to the questions asked. However, **10%** of the professors stated that the number of questions was not appropriate, and they used to give 200 questions in 60 minutes sometimes. **70%** of the professors were satisfied about the applied online system; however, they stated before that the student's knowledge was not efficiently measured. **30%** of the professors were not satisfied and recommended the adoption of e-learning at least in **20 %** of the program, in addition they proposed to invest in new platforms, or to make the exams on campus .It is very important to mention that **50 %** of the professors who considered the system as successful also recommended to change the applied online testing methods, and invest in useful platforms. **70%** of the professors

considered that the student number in class is not fair for both the learner and the instructors. 30% only considered it was fair for them and the students.

4- Horizontal Analysis – Category B – Professors Interviews

After conducting the vertical analysis and quantifying the qualitative data that was gathered through the semi-structured interviews, the researcher concluded the following;

1-The professors experienced the online teaching for the first time and they had no previous experience in this teaching method.

2-AUL Professors were aware that the student skills affected their achievement levels within the written online tests, and they preferred to keep on performing what is called “interviews or oral test “after the exam.

3-Their recommendations mainly were about investing in new platforms that can be more efficient and effective to measure the student’s knowledge level.

4-In addition, they considered that the students had real challenges and difficulties during that period of time (year 2020- 2021). However, the collaboration between the university management, the professors and the students were great and ensured the continuity of the academic year despite the economic crisis and the pandemic situation.

5-The resources provided to the professors during that period were limited and insufficient.

6-AUL professors were not satisfied about the online test exams results and stated that it does not reflect the actual level of knowledge of each student.

7-AUL professors were aware of the consequences of applying such education system for a long period of time and they were knowledgeable about its impact on the future workforce. Thus, this year the University management along with the professors requested to make the exams on campus instead of making online tests.

8-The professors considered that the number of students in class affected not only the communication during the sessions, but also it affected the type of questions they prepared for their online tests. So, when the number of students was 70 or 80 in class, it would have been hectic for the professor to correct 80 cases studies or projects.

9- The professors considered that the important skills that each student needs nowadays are:

-Communication skills.

-Computer skills.

-Linguistic skills.

-Critical thinking skills.

-Time management skills.

10- The professors agreed that teaching and assessing important skills is mandatory, and it would be considered as a competitive advantage for both the students and the university to implement it within the online education system.

5 - Results

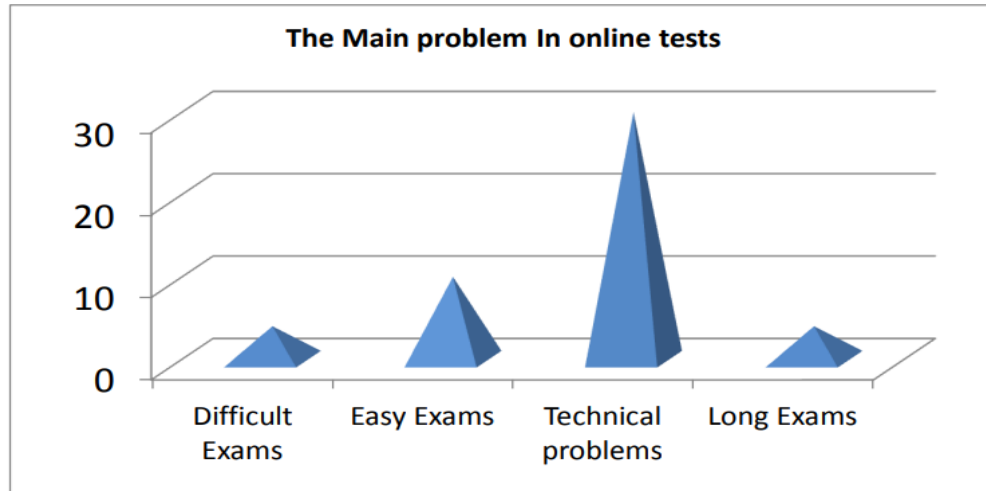
5.1 Discussion- AUL Case Study

The above vertical and horizontal analysis done for both interviewees categories were forcing an active and a quick corrective action in relation with the online testing technique; the type of question, the exam time and the most important is the skills assessment independently of the general grade. The students expressed their need to acquire those skills in order to find jobs or be able to manage their own small businesses as entrepreneurs. On the other hand, the University management did its best to handle this unforeseen situation with the limited resources they had. In addition, the online system is a new method that was implemented without the appropriate preparation for the students, professors, and other stakeholders in Lebanon. Thus, the research done in this particular topic was important and needed to improve the current educational system.

5.2 Evaluation of Findings

The below figure shows the results of some critical questions posed in our interviews concerning the most common problem that affected the students results and if they skipped some questions within their online exams. In addition, we asked about the reason that made them skip those questions. Most of the answers were related to the power intermittent and the poor Internet connection to the extent that made them dissatisfied towards the exam duration.

Figure 4: The findings related to students’ dissatisfaction.



(Source⁴: Author)

5.2.1 Evaluation of Hypothesis

The Hypotheses that were proven right or wrong within this study with refer to the students and professors’ interviews answers and analysis;

H1- As referring to (Figure 3) the students gathered in one classroom had different levels and backgrounds.

H2- The online exams whether oral or written did not reflect the actual level of knowledge for the students for the reasons discussed above within the researcher’s vertical and horizontal analysis.

H3- This hypothesis was proven wrong as the online exams whether oral or written do not reflect the actual level of the student Knowledge only. It reflected both the skills and knowledge.

H4- The online exams reflected the skills and knowledge of the students, based on the vertical analysis done for the student’s interviewees.

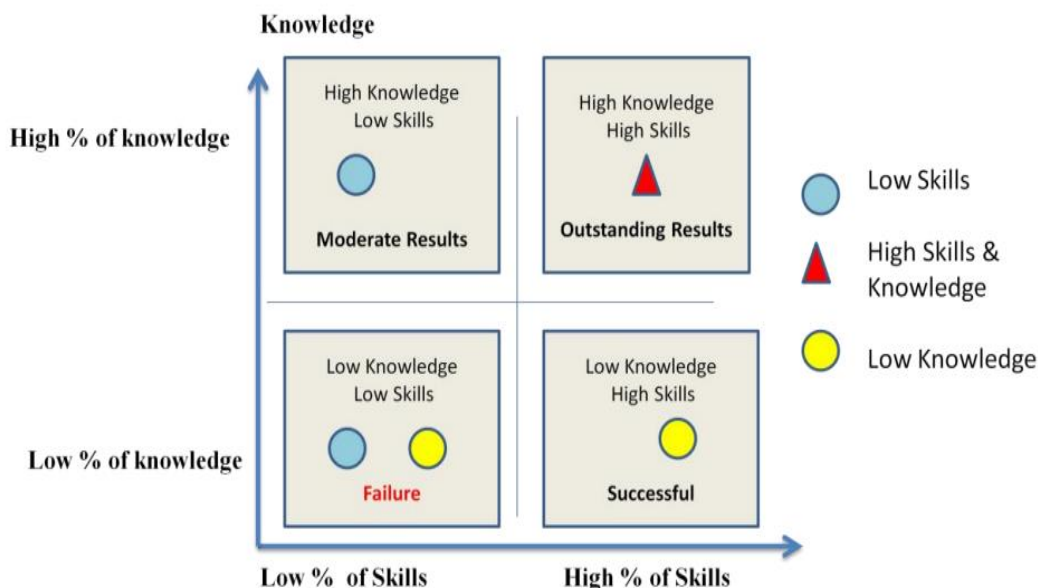
H5- This hypothesis was proven wrong because the exams did not reflect the student skills only.

H6- The online teaching programs in H.E.I must include teaching important skills and its assessment as per the professors and the students.

H7- Online teaching programs are about student self-initiative and self-motivation as most of the students who complained about the online classes stated that they were at their ease at home and it was challenging to stay focused or motivated all the time.

In Addition to the above findings , we shared the below figure that resume the result attained by the students who had great linguistic skills and computer skills verses the students who reported that they faced problems with understanding the English language or using their computers to conduct online tests .The below information was validated by AUL professors and students.

Figure 5: Academic results of AUL students within the online system.



(Source⁵: Author)

6- Proposition of The Learning Leverage Ratio

6.1 Proposed Definition Learning Leverage Ratio

An education key performance indicator presenting a ratio that signifies and compares the level of knowledge and skills for the graduated students (Author).

6.2 Application Framework- Discussion

As it is well known, the graduated students get a GPA index on their official transcripts after their graduation. However, a student with a high GPA whether graduated from AUL University or any other university in the world can be only a knowledgeable student who lacks or even fails when it comes to the involvement of important skills as highlighted in the literature review and discussed with the interviewed professors. As the scholastic achievement do not separate the skills level from the knowledge gained level. The Learning Leverage Ratio is a proposed indicator that can be added to the student’s certificate and / or their official transcript as an index of the student’s knowledge and skills achievements. The aim of this inclusion is to help the graduated students prove their

abilities and proficiencies in order to find jobs after their graduation. As within the current highly competitive market the Lebanese students are struggling to work and become productive. It is an essential point to share with the readers that this indicator cannot be calculated for the students during their apprenticeship process. It is only proposed to be an index of skills and knowledge levels after their academic success or graduation. Consequently, if we consider that the passing grade at X University is 60/100, this means that the students who receive less than 60/100 either in their knowledge tests or in their skills tests are not successful and are not included within this study. In other words, this ratio could be calculated for the students who already succeeded in their courses and doesn't impact the internal appraisal system of the students. Consequently, this indicator is proposed as an accurate evidence of student's categorization (knowledgeable, skillful or both).

6.3 Calculation Method

Learning Leverage Ratio = “Percentage of students’ knowledge” over “Percentage of students’ Skills”.

Explanation: The student knowledge grade over 100 divided by the student skills grade over 100. The L.L.R. must be within 0.60 as a minimum and 1.6 as a maximum, noting that none of the percentages used can be less than 0.60 or 60/100 because then we will be calculating the ratio for the students who did not succeed in their courses. First example: X student got 95/100 on his/her knowledge assessment and got 85/100 on his/her skills assessment. So, his/her learning leverage = $0.95/0.85 = 1.11$, so the LLR is ($0.60 < 1.11 < 1.6$), meaning that the student knowledge is high and his level of skills is acceptable. The result of X student is highly satisfactory.

The Learning Leverage Ratio indicator (L.L.R.)

Rule #1: LLR must not be less than 0.60; otherwise the student is failing either in his/her knowledge or in his/her skills.

Table 1: LLR Contextual Framework.

LLR Ratio Condition	Indication
$0.60 < LLR < 1$	Student is more skillful than knowledgeable; result is considered satisfactory
$LLR = 1$	The knowledge level is equal to the skills level
$1 < LLR < 1.6$	Student is more knowledgeable than skillful; result is satisfactory
$LLR > 1.6$	Student is much more knowledgeable than skillful, and he/she must acquire more skills

(Source⁶: Author)

Rule #2: when the learning leverage is equal to 1, it means that the student knowledge and skills are in the same level.

Rule #3: When the learning leverage is below 0.60, it means the student failed the course because the passing grade is 60/100.

Rule #4: When the learning leverage is higher than 0.60 but less than 1, it means that the student is skillful more than knowledgeable, however he/she succeeded the course.

Rule #5: When the learning leverage is above 1.0, it means the student succeeded and he/she is more knowledgeable than skillful.

Why 0.60 is the minimum?

Because the researcher considered that the passing grade is 60/100. In case the passing grade in another education institution is 70/100 the minimum accepted level would become simply 0.70.

Why 1.6 is the maximum?

Because the highest grade that a student can achieve as a result of his/her knowledge gained is 98/100, or 0.98. So the maximum is calculated as follows $0.98/0.60 = 1.6$ In case the highest grade for the knowledge achievement at another education institution is 100/100, the maximum of the ratio will become 1.66. On the other hand, if the maximum grade is 95/100 or 0.95 the maximum will be calculated as follows: $0.95/0.60 = 1.58$. Since the results are ranging between 1.58 and 1.66 which is approximately equal to 1.6, the researcher proposes the adoption of 1.6 as the maximum level.

7- Conclusion

The Proposition of the LLR indicator was shared as a solution to the gap found within the online system and the adopted online written tests at AUL University. It is important to restate that this proposition cannot be generalized yet unless tested by other researchers within different institutions. It is also mandatory to mention that the figures shared within this study reflect only the case study of AUL University.

The two research questions shared at the beginning of the study were answered as follows:

“How can we measure the student’s knowledge and skills using a key indicator that marks the level of a graduate student?”

We can measure the student skills separately from the inert knowledge through the adoption of the L.L.R. ratio proposition.

“Why it is an urgent matter to teach skills within the H.E.I. Lebanese programs besides the inert knowledge?”

The online learning system is different from the traditional education system as it involves the technological advancements usage on its basis. Thus, students must gain an acceptable level of computer and linguistic skills to be able to achieve better results. As the inert knowledge gaining without skills is not sufficient within the competitive job market nowadays.

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