The effect of online learning on communication between instructors and students during Covid-19 pandemic

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Abstract

Purpose – This study aims to explore whether online learning has an effect on communication between instructors and students in a negative way, whether online learning affects students’ productivity levels and to evaluate and suggest ways of improving effective online communication between instructors and students.

Design/methodology/approach – This study used is a quantitative research study which was conducted through a semi-structured online survey through a random sample technique.

Findings – Results revealed that the vast majority agree with the questions of the study. Students still prefer classroom classes over online classes due to many problems they face when taking online classes, such as lack of motivation, understanding of the material, decrease in communication levels between the students and their instructors and their feeling of isolation caused by online classes.

Research limitations/implications – This research studied the impact from students’ perspective only as the sample was selected only from students.

Originality/value – This research reached the students’ point of view in a broader way which will help understanding the issues and provide effective solutions. This research suggested that instructors must communicate with their students and vice versa in more informal channels (instant messages online chat groups, audio calls, private video calls . . . ) in parallel with the formal channels (online platforms, email . . . ). Finally, instructors should encourage students to participate and study more by providing different kind of incentives.

Keywords Communication, Effective communication, Online learning, Productivity, Face-to-face learning, Instructors

Paper type Research paper

1. Introduction

Communication especially in the education sector needs to be studied as communication between instructors and students has the ability to improve the learning experience and to create a positive setup. Communication is simply the transfer of information from one person to another, or group to another. Effective communication is a process of exchanging ideas, thoughts, knowledge and information in such a way as to fulfill the purpose or intent in the best possible way. In other terms, it is nothing more than the sender’s expression of views in a way that the recipient understands best.

The aim of online communication is the same as that of face-to-face communications: bonding; exchanging information; being heard and being understood. Fostering a sense of community in online classes will make the students’ learning experience more meaningful and it can help them stay connected during the course life. When instructors communicate with students, whether in a face-to-face class or an online class, they communicate for the purpose of offering knowledge or having information to gain understanding and develop relationships. Communicating with students in an online environment requires a little more thought and planning than communicating with students in the traditional environment.
because the online environment lacks body language. Instructors have the advantage of using body language and facial expression in a face-to-face class to help them connect and get their message across to their students. When interacting in an online class, instructors do not have the advantage of using body language to help their students communicate. Knowledge of communication weaknesses within online environments can help them decide how to establish timely and appropriate communications, and how to interact effectively with their online students.

1.1 Purpose of the study
This study aims to explore whether online learning has an effect on communication between instructors and students in a negative way, if online learning during Covid-19 pandemic affects students’ productivity levels. As well as, to evaluate and suggest ways of improving effective communication between instructors and students of AUM in online courses. Since this shift to online learning is very new to most students and instructors too, there is a great interest in this topic along the way of experiencing this change especially for students.

1.2 Questions of the study
This study aims to answer the following research questions:

(1) Does online learning have a negative impact on communication between instructors and students?

(2) How communication between instructors and students in educational Institutions can be improved?

(3) What are the problems that students face in online learning and does online learning have a negative effect on students’ participation and their productivity level as a whole?

2. Literature review
This research provides a framework on communication that takes place between instructors and students. However, we will be focusing greatly on the topic of “Online learning and its effect on communication specifically that between instructors and their students” including a review on the following sub-headlines:

2.1 Communication
It is necessary to study communication, since every administrative function and operation requires some sort of direct or indirect communication. The school administrators work with and through other individuals, whether planning and organizing or leading and monitoring. This means that the communication skills of each individual affect personal as well as organizational effectiveness (Brun, 2010; Summers, 2010). It seems fair to conclude that lack of effective communication is one of the most inhibiting forces for organizational effectiveness (Lutgen-Sandvik, 2010).

Communication can be described as the process of transmitting information and popular understanding from one person to another (Keyton, 2011). The word “communication” was derived from the Latin “communis,” meaning “common.” Therefore, “communicating” means “making common,” “making known” or “sharing” and involves verbal, non-verbal and electronic means of human interaction (Velentzas and Borni, 2014). The definition underlines the fact that no communication occurs unless a shared understanding emerges from the exchange of information (Cheney, 2011).
This act of making common and known is done by sharing opinions, ideas or the like. One can have the exchange of thoughts and ideas by gestures, signs, signals, expression or writing. People are said to be in communication when discussing some subject, when talking on their telephone, or when exchanging information via letters. Communication is essentially the exchange of information, whether written or oral (Velentzas and Borni, 2014).

Furthermore, the communication process also draws from many interpersonal skills. They include talking, listening, watching, interviewing, analyzing, interpretation and evaluation. Message recipients must be able to identify the intent of the sender, take into account the context of the message, resolve any misunderstandings, decode the information accurately and decide how to act upon it. Such skills are essential for learning, building healthy relationships, building a sense of community and gaining workplace success (Velentzas and Borni, 2014).

### 2.2 Effective communication

“Great communication skills will add years to your tenure as a successful teacher.” Dr. Jerry Weast of Montgomery County, Maryland (Weast, 2008). Therefore, effective communication must be a priority not a forgotten thought for great teachers (Hilliard and Newsome, 2013).

Effective communication occurs when a desired effect is the result of intentional or unintentional exchange of information, which is communicated by different individuals and performed in a desired manner. This influence also ensures no distortion of the message during the contact process. Effective communication will achieve the desired effect and uphold the effect, with the potential to improve the message’s effect. Therefore, effective communication serves the purpose it was intended or built for. Possible objectives may be to make change, to encourage action, to create awareness, to educate or to convey some idea or perspective. Good communication means talking and listening (Velentzas and Borni, 2014).

To succeed in their career, instructors need outstanding communication skills. Instructors need listening, interpersonal, written and oral communication skills to promote comprehension of the teaching results and the ability to effectively fulfill their responsibilities. Instructors not only need to carry out technical tasks, they also do need to communicate effectively and efficiently with internal and external customers. Developing effective communication skills is an essential part of the ability for the instructors to succeed. To become a good professional, instructors must possess highly developed levels of communication skills. Developing these skills not only increases the potential of the instructors but will also improve the quality of the teachers created. Advanced communication skills are important in all aspects of the teaching cycle. Instructors must have highly developed oral and writing skills to interact effectively with supervisors, learners and collaborators. Communication skills are becoming increasingly necessary for success in the organizational environment of our time. (Ihmeideh et al., 2010).

To increase communication effectiveness, schools need to gain knowledge of the value of the responsibilities of the sender and receiver and adhere to the active listening skills (Lunenburg, 2010).

### 2.3 Communication and productivity

Institutional productivity is a primary determinant of the degree of performance, quality and effectiveness of an organization. This measures to what degree the desired results or programs are accomplished by the students, instructors, groups and schools (Glomano-Narzoles, 2012). In a particular institution, it partly defines the schooling requirements.

Theorists gave their views on factors that influence organization’s productivity. For Hellriegel et al. (1998) a community that promotes employee involvement; for Heneman and Schwab (1985) participatory management, increasing employee satisfaction amid lower levels of pay for workers; and for Arakawa and Greenberg (2007), constructive leadership and
an approach focused on strengths (Glomo-Narzoles, 2012). However, a successful institution of higher education is one that achieves excellence in its triple functions that are teaching, study, and community involvement (Okello, 2015).

Moreover, several studies reveal that there is significant correlation between institutional productivity and communication climate. For Segumpan (1999), there were positive and important associations between the job performance and the environment of supportive communication, and the environment of defensive communication and empowerment. Pavitt (2000) pointed out that the relationship between member communication and productivity at work exists. Madlock (2008) provided a connection between communication, leadership and job performance of employees and satisfaction with productivity and communication. Clampitt and Downs (1993) related productivity with communication, which varied in nature and magnitude (Glomo-Narzoles, 2012).

Every organization establishes its own departments and regularly improves its work. Such organizations need innovative ethics in their management to ensure productivity in all circumstances, either in good times or in challenging times. Internal communication plays a very important role for a successful organization, as effective internal communication affects the productivity of employees and the performance of the organization (Welch and Jackson, 2007).

Motivational strategies and productivity of instructors are related constructs that affect the quality of education. Quality education is the degree to which education is claimed to be of a high standard, meets basic learning needs and enriches learners’ lives and their overall living experience (Orodho et al., 2013).

Quality education achievement definitely falls on the shoulders of instructors who need adequate motivation to deliver the desired educational productivity. The position of administrators and teachers cannot be downplayed, given that education is one of the key factors that help to bring about rapid social and economic growth in any given country. But concerted efforts are also made by the school administrators through successful and efficient motivational approaches to ensure the effectiveness of teachers in the school system (Getange, 2016).

2.4 Effective communication between instructors and students

The topic of communication in teaching is so generic that it has turned out to be almost oceanic. Currently, the topic of communication skills development is very commonly researched. A teacher in a society is a highly respected individual, and teaching is considered the most important and distinctive profession. How effective instructors are is very much linked to how they communicate. They express ideas, information and expectations in a number of ways: by speaking, by gestures and other body language, and by written words (Duta et al., 2015).

Instructors need to be mindful of how they interact because communicating effectively will help instructors have a presence in the classroom that motivates students and encourages learning; they might send unintended messages if they do not know things about their own body language; new technologies provide new opportunities to connect with students (Duta et al., 2015). Based on the literature review of Majid et al. (2010) and according to Moore (2007), the teaching and learning process shall not take place without communication. Instructors with strong communication skills can thus create a more positive learning and teaching atmosphere for the students. On the other hand, someone with excellent communication skills has the ability to influence others and positive communication strategies (Guerrero and Floyd, 2006).

For instructors, it is very important to guide students in their learning process; this can be done using three steps in the evaluation process (Lambrechts et al., 2013). The first step, Feed-up: give examples of what is expected during the evaluation; make evaluation criteria explicit
for the students, be transparent about the assessment. The second step, Feed-back: give sufficient feedback to the students, allowing them to learn from their evaluation as much as possible. The third step, Feed-forward: give the students input on how to go further in their learning process.

One study of Jurik et al. (2014) certainly points out the significance of communication between teachers and students, “Verbal teacher-student interactions and student characteristics are meaningful for student learning and motivation.” In this study, authors reviewed how teacher questions and feedback related to individual student traits and gender predict cognitive learning activity and intrinsic learning motivation. A random sample was selected which included 79 high school physics classrooms in Germany and Switzerland. Individual student traits (cognitive abilities, pre-knowledge, self-concept and interest) were checked at the start of the school year to identify five student profiles. Four months after that, a teaching unit was videotaped in the same classrooms. After the teaching unit was videotaped, a questionnaire on cognitive learning activity and intrinsic learning motivation was conducted. The results show that teaching skills should be fostered to improve teachers in asking questions and providing feedback (Jurik et al., 2014).

Another study by Doméndez-Betoret and Gómez-Artiga (2014) examines the relationship among students’ and instructors’ thinking styles, student psychological needs (autonomy, competence and relatedness), and their reports of intrinsic motivation in the psychology degree context. They concluded that psychological need satisfaction has a significant and positive impact on student intrinsic motivation (Duta et al., 2015). On the other hand, Urdan and Schoenfelder (2006) found out that learning success is treated in many studies as a human characteristic or attribute and not as a result of how instructors teach (Shan et al., 2014). Payne et al. (2007) found that more reflective and critical students are more likely to show higher academic success (Komarraju et al., 2011). An empirical study by Yip (2012) supports the idea that variations in academic performance between students are mainly due to their different learning and study strategies; those strategies, in turn, affect the self-effectiveness and efficiency of students (Muliro, 2017).

2.5 Online learning and communication
Like all previous ones, this global catastrophe has shown the consequences, even after a pandemic has dissipated. Many countries have introduced such curfew and lockout protocols from the outset to cope with the Covid-19 pandemic (Alawamleh, 2020). Educational entities have been shut down in Jordan from March 15 to May 30, 2020. Therefore, universities have resorted to continuing lectures online through websites such as Google meet. Obviously, this has an effect on communication as communicating virtually differs from face-to-face communication. In this section we will be discussing the following sub-topics to help us gain a better understanding of the subject.

2.5.1 What is online learning and face-to-face learning? First, most authors define online learning as accessing learning experiences through the use of certain technology (Benson, 2002; Conrad, 2002). Both Benson (2002) and Conrad (2002) define online learning as a more modern form of distance learning that enhances access for learners identified as both non-traditional and ineffective to educational opportunities. Many scholars discuss not only the usability of online learning but also its connectivity, mobility and interactivity (Ally, 2004). Hiltz and Turoff (2005), like Benson (2002), make a clear statement that online learning is a modern form of distance learning, or an updated edition. Like many, these authors believe that there is a relationship between distance education or learning and online learning but appear uncertain in their own descriptive narratives (Moore et al., 2011).

Second, face-to-face learning is one in which instructors and students meet concurrently and in the same location. Sessions are synchronous in the face-to-face learning process. As no communication technology is required for a face-to-face session (Caner, 2012).
2.5.2 The difference between face-to-face learning and online learning. Over the last few years, digital media have improved the teaching and learning experiences and have become a common practice for university students and lecturers. The use of e-learning and of digital media for teaching and learning has grown rapidly in just a few years (Paechter and Maier, 2010). In a comparative study, Dabbagh and Ritland (2005) examined the differences between traditional and online learning environments, arguing that traditional learning environments are bound by the location and presence of the teacher and the students conducted in real time, managed by the instructor, and are linear in teaching methods.

However, the online teaching and learning environments are unbound and dynamic, using evolving information and communication technologies, asynchronous communication and real-time information. Online learning environments involve a variety of educational practices and are often characterized by student-centered, active learning techniques (Keengwe and Kidd, 2010).

2.5.3 The benefits of online learning. There are a large number of studies that consider statistically significant positive effects for student learning outcomes in the online format, as opposed to conventional face-to-face format. Some of the positive learning outcomes include improved learning as measured by test scores, student engagement with the course material, enhanced understanding of learning and the online environment, a stronger sense of community among students and reduced withdrawal or failure (Nguyen, 2015).

Online learning often appeals to a large number of students, as it offers versatility in participation, accessibility and convenience. Furthermore, online learning will continue to be an integral part of higher education (Croxton, 2014). “Whether or not you’re keen on using technology for learning, the fact is that it’s here to stay. Technology has become an essential way to handle the education, training, and retraining needs of an expanding knowledge society” (Berge, 2007).

2.5.3.1 Convenience. It cites the convenience attribute as the prime value of online learning. Students are in circumstances where they choose the convenience of online learning over the facetime provided by the brick and mortar classrooms. The ease of online learning enables direct communication between instructors and peers in the cyber class (Fedynich, 2013).

2.5.3.2 Participation. Ease of participation is an aspect of the appeal of virtual classrooms. One of the many versatile aspects of cyber learning is the willingness of the students to participate in a mixed learning environment, either asynchronously or synchronously. Online education can take several forms, from blogs to mailing lists to courses management systems such as Blackboard. Students can participate in chat rooms in real time or asynchronously by posting to newsletters or forums (Morrison et al., 2019). By being equipped with all those forms of communication, students are given the easier route of communication with either the instructor or other students in the class. For communication purposes, the playing field is set, and everyone in the class can participate.

According to Garnham and Kaleta (2002), “Introverts, who are quiet in the face-to-face class, really participate online.” Kupczynski et al. (2008) found that student participation increased in the asynchronous environment, as there is time to “post messages, read and respond to messages, reflect on responses, revise interpretations, and modify original assumptions and perceptions...” but in a face-to-face class this would not be the case (Fedynich, 2013).

2.5.3.3 Cost-effectiveness for the university. Universities now understand the benefits of holding online classes, as the student population continues to grow. Combined with lower online student withdrawal rates, universities found that online learning is very cost-effective and efficient in many ways before online learning came to be possible (Steen, 2008). More students prefer to enroll and take online courses, as this decreases the student and university’s opportunity cost of an education (Dziuban et al., 2005). As more classes are delivered online, enrollment is growing, thereby adding more money to the university’s bottom line.
Classroom distribution is an environment that can be simplified as more students participate in online courses. Demand for classrooms continues to decline, as space is not required as often as usual, thus reducing utility costs and maintaining them. “Online programs have little or no cost to educational facilities, transportation and associated staff,” Cavanaugh said. “The importance of distance education also grows when considering the wide range of online courses available” (Cavanaugh, 2009). It is good news in these days for budget cuts, in fact cuts in both the private and public sectors, along with decreasing enrollment for some universities.

2.5.4 The problems of online learning. To date, online learning seems to have lots of benefits for everyone involved. While online learning is having a positive impact, problems need to be brought to light. Such drawbacks will prove to be considerable obstacles if fully understood, expected and planned. One study carried out by Boling et al. (2012) found that most of their study participants viewed online courses as individualizing learning and limiting interaction with others. Students described feeling isolated from their teachers, from the content of the course and from their classmates. Participants in these courses explained how their online interactions were text-based lectures and several reading and writing assignments completed. Many of those tasks limited the ability of the students to develop a higher level of cognitive abilities and imaginative thinking. For example, one student, John, stated, “Most of our topics are generically produced as part of the course curriculum, and so it is usually very simplistic in what is being asked or what is being given information-wise.” Another student, Pamela, commented that her course consisted of “Just reading and reading and reading until it fell out my ears, and then you had to repeat it back in a persuasive way” (Boling et al., 2012). Vonderwell (2003) described problems with students not engaging in conversation with each other and considered the online atmosphere to be impersonal. One student commented: “It is not like a person to person interaction. It’s more like computer to computer interaction” (Kear, 2010).

In addition, McConnell (2006) identified issues related to interpersonal aspects of online communication. Often the students felt alone, overshadowed by other members, or reluctant to publicly share their ideas. Murphy et al. (2001) drew up a series of case studies, in which early adopters of online learning communication explored their practice and experiences. Low engagement and interactivity, along with other problems caused by lack of immediacy and non-verbal clues, were a major concern. Some students perceived the medium as “faceless,” and there could be misunderstandings. The tone could turn unpleasant, leading even to “flame wars.” These problems were particularly off-putting to the students who were new to online learning (Kear, 2010).

Brown and Liedholm (2002) found in a study evaluating student learning outcomes in a microeconomics course that students in the online format performed substantially worse on tests than students in the conventional format while they had better GPA and ACT scores. For complicated questions this disparity was most pronounced, and less pronounced for simple questions. One potential reason was that half of the online students reported spending less than three hours a week and none claimed to spend more than seven hours a week, while half of the students attended each class in the conventional format, at least three hours a week. Another study also found differences in time devoted to class or active involvement resulting in differential outcomes (Hiltz et al., 2000).

2.5.5 Motivation and learning online. Schunk (2008) defined motivation as “The process whereby goal-directed activity is instigated and sustained.” Motivation can influence what we learn, how we learn and when we choose to learn (Hartnett et al., 2011). Research shows that motivated learners are more likely to participate in challenging activities, participate actively, enjoy and adopt a deep learning approach and exhibit increased performance, persistence and creativity (Schunk and Zimmerman, 2012). Contemporary views link motivation to cognitive and affective processes of individuals, such as thoughts, beliefs and objectives, and emphasize...
the interactive relationship between the learner and the learning environment (Brophy, 2010). Studies that explore motivation online learning contexts are relatively limited both in number and scope (Artino, 2007; Bekele, 2010). Existing research has tended to take a limited view of motivation that does not recognize the complexity and dynamic interplay of underlying factors and influences the motivation to learn (Brophy, 2010).

Motivation was more often seen as a personal trait that remains fairly constant across contexts and circumstances (Hartnett et al., 2011). Many studies have focused on identifying lists of traits of successful online learners (Wighting et al., 2008; Yukselturk and Bulut, 2007) and indicate that intrinsic motivation is a common characteristic (Shroff et al., 2007; Styer, 2007). Findings from comparative studies between online students and on-campus students also suggest that online students are more intrinsically motivated across the board than their on-campus counterparts at both undergraduate and postgraduate level (Rovai et al., 2007; Shroff and Vogel, 2009; Wighting, 2008; Hartnett, 2016). Although intrinsic motivation can influence initial engagement as well as retention in online study, research that treats intrinsic and extrinsic motivation as two separate subjects can provide an overly simplistic view of both contextual effects and motivation itself (Hartnett et al., 2011).

Viewing motivation exclusively as an outcome of the learning environment or as an attribute for learners does not consider that individuals may be motivated in any given setting and time to a greater or lesser extent, often in various ways (Turner and Patrick, 2008). Few online learning studies have recognized this contemporary “person in context” as a view of motivation and have done so only in a restricted manner (Shroff et al., 2007; Xie et al., 2006). These factors together point to the need to reconsider the motivation for learning in technology-mediated environments (Urdan and Schoenfelder, 2006).

2.5.6 The effect of online learning on communication. Online learning can also include communication mediated by a computer. According to Hung et al. (2010), shy students appear to be more interested in online settings than in conventional settings. In Web-based learning, it is necessary to build opportunities for interactions and communication between students and their instructors. Similarly, active students could make the most of online forums, which might offer opportunities to engage fellow students and professors with deeper dialogue and insightful questions as a technique. Asking questions is a way of getting deeper into the subject and making the topic more comprehensible. Additionally, students should take advantage of opportunities to collaborate with other online students to avoid burn-out or lack of interest while learning online, use motivation and support to remain motivated. Efficiency and efficiency of communication in online learning are an important aspect to overcoming the constraints of online communication (Hung et al., 2010).

Also, a research conducted by Kinash et al. (2015) established that student attendance does not seem to decrease when online lectures are given, and whether they experience lectures live or online does not seem to affect the student achievement. Many scholars have argued that face-to-face and online formats are only comparable when used for instructive information which can be offered as a lecture. Students need learning tools, and intellectually rich spaces for conversation, debate and deductive questioning. Moreover, the proposition that such educational activities are better conducted face to face was strongly endorsed. Meanwhile, educational researchers have also identified digital scholarship as a disruptive innovation, enabling creativity and renewal in learning and teaching experiences (Kinash et al., 2015).

Bangert (2006) identified four factors related to student satisfaction in online courses, including interaction and communication between students and faculty; time spent on task; active and engaged learning; and cooperation between classmates (Gray and DiLoreto, 2016). Another research correlated the expectations of students about a sense of community and instructor presence in online courses with asynchronous audio feedback (Ice, 2007). They compared their findings based on receiving text-based feedback rather than audio input from the students. Students showed greater satisfaction with embedded asynchronous audio
feedback as opposed to text feedback only (Ice, 2007). Students found that audio feedback was more effective because the slight gap in communication was simpler, their instructors were more worried about it, and they were three times more likely to adapt the material or recommend improvements to this form of feedback (Cavanaugh and Song, 2014).

2.5.7 The effect of student engagement on the online learning environment. Student engagement has been described as the level of interest demonstrated by students, how they interact with others in the course, and their motivation to learn about the topics (Briggs, 2015).

There are several affective factors related to student engagement which include attitude, personality, motivation, effort, and self-confidence. Jaggars and Xu (2016) found that in online courses the level of interaction within the course parameters was positively associated with the grades of the students. Through evaluating the level of student interest and taking into account these affective factors, instructors will organize lessons and events more effectively that will enable students to participate more actively in their learning and course work (Jennings and Angelo, 2006; Mandernach, 2011). When students are motivated to do well in their classes, engaged or invested in their desire to learn, and able to devote the effort their teachers expect, they are more likely to participate in their education. The course engagement extends beyond the traditional methods of measuring instructional effectiveness to include student mastery of course learning goals, retention and student satisfaction perceptions, whereas “Consideration of the impact of instructional activities on student engagement provides a more complete picture of the teaching-learning dynamic.” Measuring student engagement levels helps instructors to adapt their instructional practices in response to changes in the motivation, participation and attitude of students toward their course and educational pursuits (Mandernach, 2011).

2.6 Summary of literature
The development of good communication skills is an important part of the instructors’ ability to succeed. Instructors have to have highly defined levels of communication skills to succeed. Effective communication plays a very important role in effective teaching, since effective communication affects instructors’ productivity and instructor and student efficiency. How effective instructors are is closely linked to the way they interact. We communicate thoughts, knowledge and desires in a number of ways: through speech, gestures, and other body language, and written words. Instructors with good communication skills will therefore create a more productive environment of learning and teaching for the students.

Most scholars define online learning as accessing learning experiences through the use of certain technology. Online learning appeals to a large number of students because it offers flexibility in participation, easy access and convenience. However for most studies, students identified issues related to the interpersonal aspects of online communication. Often the students felt alone, overshadowed by other members, or reluctant to publicly share their ideas. Another big issue was poor engagement and interactivity, along with other issues created by a lack of immediacy and nonverbal signals. Several students viewed the medium as “faceless,” so there may be misunderstandings and the tone could turn negative.

3. Methodology
This study is a quantitative research study through semi-structured survey which was conducted online due to the pandemic of the Covid-19 which resulted in having lockdown and everyone have to stay at home; instead of distributing physical copies to the students inside the campus. A descriptive research design is applied by using the semi-structured online survey for the purpose of collecting data on the effect of online learning on communication.
3.1 Data collection

Prior to developing measurement instruments for the research model, the literature was searched for scales that were already developed to study the impact of online learning on students and instructors. After a check on the existing validated instruments, some of the constructs involved in this research have been employed in previous studies and scales were presented for these constructs. However, none of the existing scales was accurately appropriate for the research model: The Effect of Online Learning on Communication between Instructors and Students. Therefore, new scales had to be developed for these constructs. Following the standard scale development process advocated in literature (Churchill, 1979) and based on the stages of measurement scale creation and validation suggested, Devellis (2016) multi-item scale is developed and validated the impact of Online learning on communication between instructors and students.

A sample of 133 students from the American University of Madaba are used, and it is safe to say that they can be representative of the whole population selected. Simple random sampling method is applied as the sampling technique for the study because it is the most straight-forward and convenient method. As mentioned before, the instrument of data collection is an online survey. Creation of appropriate survey items stems from previous literature. Some of our survey items can be selected from the existing scales from prior studies. Further, some items may be developed from discussions on the relevant topics from different pieces of literature (Lewis et al., 2005).

Regarding the sampling technique, the research used probabilistic sampling; given that positivism is concerned with reducing bias as much as possible, probability-based sampling approach was deemed the most appropriate. This avoids sampling bias or selectively recruiting participants. Moreover, the specific sampling technique used was simple random sampling which means in every item of the population has equal probability of being chosen (Sharma, 2017).

4. Analysis, results and discussion

This section contains the analysis of the data collected from the online survey titled “Online learning and its effect on communication,” which was distributed to the students of the American University of Madaba. The data will be presented in pie charts, figures and tables. Also, this section will discuss the analyzed data and whether or not the data agrees with our research questions.

4.1 Presentation of survey results

The survey started with basic (demographic) questions for the students to answer (Table 1).

Questions related to the topic of this study include “How satisfied are you with taking your courses online?” Out of 133 students, 19 were “Very satisfied” (14.3%), 44 were “Satisfied” (33.1%), 39 were “Neutral” (29.3%), 23 were “Unsatisfied” (17.3%), and 8 were “Very unsatisfied” (6.0%) (see Figure 1).

The majority of the students who answered the survey were “Satisfied” with taking their courses online with a total of 44 out of 133 (33.1%).

Followed by “Which do you prefer taking, classroom or online classes?” Results were out of 133 students, 104 preferred classroom classes (78.2%), and 29 preferred online classes (21.8%) (see Figure 2).

The majority of the students who answered the survey preferred Classroom classes with a total of 104 out of 133 (78.2%) (Table 2).

Additionally, “How has your understanding of the material being taught changed when it shifted from a classroom course to an online course?” Out of 133 students, 49 students
answered with “It has not changed” (36.8%), 69 students answered with “It has gotten worse” (51.9%) and 15 students answered with “It has improved” (11.3%) (see Figure 3).

The majority of the students who answered the survey voted that their understanding of the course material has gotten worse with a total of 69 out of 133 (51.9%).
Followed by “Has taking classes online encouraged your desire to participate more?” Out of 133 students, 51 voted Yes (38.3%), and 82 voted No (61.7%) (see Figure 4).

The majority of the students who answered the survey voted No on the fact that online classes did not encourage participation with a total of 82 out of 133 (61.7%).

Table 3 summarized the results for questions that were answered with the SA, A, N, D, SD scale:

And to follow that “According to your experience, do you think your productivity as a student has increased?” And, out of 133 students, 50 voted Yes (37.6%), and 83 voted No (62.4%).

Figure 5: “According to your experience, do you think your productivity as a student has increased?”

The majority of the students who answered the survey voted No on the fact that their productivity has increased with a total of 83 out of 133 (62.4%).

Since the majority voted “No”, the following is some of the students’ opinions on the matter: (Table 4)

Additionally, “Do you think your instructors are being cooperative and more understanding of the hardships we are currently facing as students?” Out of 133 students, 95 voted Yes (71.4%), and 38 voted No (28.6%) (see Figure 6).
The majority of the students who answered the survey voted yes on the fact that their instructors are being understanding and cooperative with their students with a total of 95 out of 133 (71.4%).

Lastly “In your opinion, how do you think communication can be improved between students and their instructors through online classes?”

A lot of the students shared similar opinions; some students agree that teachers must hold a Google meet for students as a replacement for office hours. The first Student answered: “Have office hours available where you can talk one on one with the instructor online.” Other students agree that communicating more with teachers outside of lectures through social media sites can be very helpful. The second student suggested: “Communicate with more modern ways than email (such as WhatsApp), giving less assignments per course to give us time to actually get connected to our instructors, for example I have on average 14
### Table 3.

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<thead>
<tr>
<th>Questions</th>
<th>Scale</th>
<th>N = 133</th>
<th>Percentage (%)</th>
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</thead>
<tbody>
<tr>
<td>I believe that online classes have negatively affected communication</td>
<td>Strongly agree 32</td>
<td>24.06</td>
<td></td>
</tr>
<tr>
<td>between my instructor and I</td>
<td>Agree 34</td>
<td>25.56</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Neutral 29</td>
<td>21.80</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Disagree 32</td>
<td>24.06</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Strongly disagree 6</td>
<td>4.51</td>
<td></td>
</tr>
<tr>
<td>I am learning better now that I am taking my classes online</td>
<td>Strongly agree 4</td>
<td>3.01</td>
<td></td>
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<tr>
<td></td>
<td>Agree 19</td>
<td>14.29</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Neutral 50</td>
<td>37.59</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Disagree 38</td>
<td>28.57</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Strongly disagree 22</td>
<td>16.54</td>
<td></td>
</tr>
<tr>
<td>Interacting with my instructor has become harder in online classes</td>
<td>Strongly disagree 13</td>
<td>9.77</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Agree 44</td>
<td>33.08</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Neutral 32</td>
<td>24.06</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Disagree 29</td>
<td>21.80</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Strongly disagree 15</td>
<td>11.28</td>
<td></td>
</tr>
<tr>
<td>I feel more isolated now that I am taking online classes</td>
<td>Strongly agree 40</td>
<td>30.08</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Agree 51</td>
<td>38.35</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Neutral 24</td>
<td>18.05</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Disagree 15</td>
<td>11.28</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Strongly disagree 3</td>
<td>2.26</td>
<td></td>
</tr>
<tr>
<td>Do you agree that AUM has continued its educational program online</td>
<td>Strongly agree 46</td>
<td>34.59</td>
<td></td>
</tr>
<tr>
<td>successfully?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Agree 55</td>
<td>41.35</td>
<td></td>
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<tr>
<td></td>
<td>Neutral 25</td>
<td>18.80</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Disagree 5</td>
<td>3.76</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Strongly disagree 2</td>
<td>1.50</td>
<td></td>
</tr>
</tbody>
</table>

**Figure 5.**

“According to your experience, do you think your productivity as a student has increased?”
assignments weekly that rangers from lab reports to take home exams, and I spend on average an unhealthy 6 h a day behind my laptop screen, and it’s barely enough to finish everything.” A few students agreed on communicating with teachers via e-mail. As the third Student said: “If a student is looking for further information from the instructors, they can always contact them through emails.”

On one hand, other students believe that it is the instructors’ job to ensure that the students are focusing, and they understand what is being taught. Student4: “Lectures have to open the discussion more, students only ask questions that they do not understand what about the lecturers start asking students or let them read the slide or participate, so they can make sure that students are with them and concentrating with them, students will understand the course in this way.” On the other hand, a few students believe that it’s the students’ job to communicate by participating more in lectures.

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Table 4.
Students’ opinions about online learning

<table>
<thead>
<tr>
<th>Opinions of students who voted yes</th>
<th>Opinions of students who voted No</th>
</tr>
</thead>
<tbody>
<tr>
<td>“Being at home helps me focus on my studies and read more”</td>
<td>“I have become lazier and not in the mood to study”</td>
</tr>
<tr>
<td>“We have more time to work on our projects”</td>
<td>“I’m giving my bare minimum effort to study, and mostly cheat on exams and quizzes”</td>
</tr>
<tr>
<td>“When you attempt an exam you quickly forget the material but when you do an assignment the learning aspect is more effective because students put all their effort”</td>
<td>“To me, I understand more in classroom courses because my major needs to be explained directly, otherwise it will be hard”</td>
</tr>
<tr>
<td>“There’s no way it would increase with all those assignments being given to us! Each course requires 2 assignments and 1 project at least”</td>
<td>“For some courses no, there are subjects such as statistics, Math etc. Need more concentration and the students have to be updated with such courses but when students face issues during the online session it will end up not understanding a word, as we all know such subjects requires keeping up with the lectures”</td>
</tr>
</tbody>
</table>

“Online classroom demotivates, especially with what’s happening around us. Classroom classes engages student to feel more productive”

“I do not feel very productive as I only work for high marks instead of understanding the material”

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Figure 6.
“Do you think your instructors are being cooperative and more understanding of the hardships we are currently facing as students?”
4.2 Discussion of survey results
To begin with, while some students were satisfied with taking their courses online. However, the majority still prefer taking their classes in a classroom instead. Half of the students also explained that their understanding of the material being taught online has gotten worse with a percentage this corroborates with a study conducted by Brown and Liedholm (2002) to evaluate student learning outcomes in an online course, they found that students in the online format of that course performed substantially worse on tests than students in the conventional format of that same course.

Second, majority of students agree that online learning have a negative impact on communication between instructors and students and the majority agree that interacting with their teachers have become harder as well.

Third, the majority of the students do not feel encouraged to participate while taking courses online, their productivity has not increased while taking their courses online and their understanding of the material has become worse. Our findings agree with Boling et al. (2012), which revealed that most participants of their study viewed that online courses individualize learning, and limit interaction with others. Students reported feeling disconnected with their instructors, the course content, and their fellow classmates.

Lastly, a large number of students feel more isolated now that they are taking their classes online This goes with McConnell (2006) who revealed that a huge problem with online learning was that students feel more isolated, dominated by others, and anxious about presenting their ideas publicly (Kear, 2010).

5. Conclusion
To summarize, the study aimed to explore whether online learning has an effect on communication between instructors and students in a negative way, if online learning affects students’ productivity levels. As well as, to evaluate and suggest ways of improving effective communication between instructors and students in online courses. The data was collected by using an online survey which was distributed to a random sample of 133 students from The American University of Madaba (AUM). As mentioned in the results above, the analyzed data and the information received from the students all agree with the questions of the study. The majority still prefer classroom classes over online classes due to the many problems they face when taking online classes, some of which include: their lack of motivation and understanding of the material, the decrease in communication levels between the students and their instructors, and their increased feeling of isolation caused by online classes. This study found that online learning indeed has a negative impact on communication and its effectiveness between instructors and students.

6. Recommendations
In Web-based learning, it is necessary to build opportunities for interactions and communication between students and their instructors. Likewise, effective students could make the most of message boards, which might offer opportunities to engage fellow students and instructors with deeper dialogue and insightful questions as a technique. Asking questions is a way of moving deeper into the subject and going deeper makes the subject more comprehensible.

We recommend and encourage that instructors try their best to keep in touch with their students through online office hours, as well as reach out to each student in their class
individually if there is a sudden decrease in performance. It is best if instructors communicate with their students and vice versa in a more informal way like through WhatsApp groups, Messenger calls, private video call meetings and so on.

Instructors should encourage students to participate and study more by providing incentives, at the end of the day every student wants to gain good grades and without the motivation for it is hard to achieve, this can be fulfilled by giving extra marks through short quizzes.

References


Further reading


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