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Front Line Strategies for Improving Students Success in Online Education

Abour H. Cherif
The Institute of Innovation, ACS Athens, 129 Aghias Paraskevis, Halandri, Athens, Greece

Gerald Adams*
Columbia College Chicago, 600 S. Michigan Ave. Chicago, Illinois, USA

Jennifer D. Harris
DeVry University, 2450 Crystal Drive, Arlington, USA

Farahnaz Movahedzadeh
Harold Washington College, 30 E. Lake St. Chicago, Illinois, USA

Margaret Martyn
The Chicago School of Professional Psychology, 325 N Wells Street, Chicago, Illinois, USA

Stefanos Gialamas
ACS Athens, American Community Schools of Athens, 129 Aghias Paraskevis, Halandri, Athens, Greece

Abstract

Faculty teaching both onsite and online courses have unique insights into how each modality can be implemented most effectively for student learning. In their online classes where students might be more likely to struggle, these faculty are continually looking for methods and strategies to help their students learn the material more effectively. A survey was conducted with 174 faculty that teach both onsite and online to gather ideas on why online courses often have lower success than onsite courses. While overall results of this survey are provided in "Faculty Perspectives on Narrowing the Success Gap Between Online and Onsite Learning" (Cherif *et al.*, 2019), this study leverages the free responses provided in the survey where faculty provided details on their specific strategies to help their online students. These strategies touched on nearly every aspect of online instruction, including course design, resources for students, student characteristics, teaching strategies, student engagement, and assessments. By sharing these strategies, other faculty can consider what might be impactful for their online classes and students, study the impact and continue to improve online education worldwide.

Keywords: Online learning; Student success; Teaching strategies; Online course design; Assessment.

1. Introduction

The expansion of online course offerings in higher education is undeniable. The proportion of students who take at least one online course in higher education was (in 2014) at the highest point in history at 33.5%. By the end of 2015, the number of students taking at least one online course was up by an additional 3.9%. The value and quality of online education is more debatable. Survey feedback and interviews using a set of questions focusing on *"Why Do Online Students Fail and How to Narrow their Success Gap"* were conducted with a total of 174 faculty members from both two-year and four-year institutions who had taught onsite and online courses. Several questions on that survey were open ended, allowing responding faculty to elaborate on their insights on why online student might struggle and how online education could be improved (Cherif *et al.*, 2017; Cherif *et al.*, 2019).

Based on these open-ended responses, a variety of suggestions were gathered from those on the front line on how online education could be improved. These ideas are presented below, organized by course design, resources for students, student characteristics, professor scheduling and teaching strategies, student engagement strategies, and assessments and plagiarism. Some suggestions would be most applicable to faculty while others are more applicable at the university level. All can help raise the bar of online education and help those students learn and succeed in their educational endeavors.

However, as educators and teachers, we all need to keep in mind learning is an active process that requires involvement and interaction with intended learning materials including reflection, actions, and recreation in new forms and settings. And in doing so, "there are no short cuts for efficient and effective learning which always starts with a proper mindset of both students and teachers (Chew, 2014).

*Corresponding Author

2. Course Design

2.1. Interaction and Flexibility

Course design is an essential component for success in online learning environment. It is a key to eliminating procrastination and other related issues. There should be a strong look at how online courses are designed including weekly structured assignments, and course management. Online "canned courses" with a dull routine - log in, post, do an assignment, post again, repeat each week, have limited the real potential of the online modality in helping faculty to teach effectively and students succeed academically. Among many others, the element of surprise, the unexpected, or thinking out of the norm, need to be part of a structure of online courses and the instructional pedagogy. Second, courses should be designed with a more interactive and flexible structure. The interaction should encourage students and faculty to interact on different aspects of the course material. Flexibility should be encouraged within assignments as well as within the formation of groups. For example, assignments could be tied to analyzing newly released data where students with interests in that area could then work together to consider the potential implications of those data.

2.2. Effective Online Course Design to Assist Students' Success

More than 2/3 of the participants a in recent study (Cherif *et al.*, 2017; Cherif *et al.*, 2019) perceived course design as one of the cornerstones in improving online education. While many of them didn't provide clear ideas on how, and what, they assert that the existing forms of online course designs are not helping and new alternatives must be found. Some ideas can be found in a 2015 article where professors Crews, Wilkinson, and Neill proposed principles for good practice in effective online course design to assist students' success in undergraduate education. They proposed course designs that (1) encourage contact between students and faculty, (2) develop reciprocity and cooperation among students, (3) encourage active learning, (4) emphasize time on task, (5) communicate high expectations, and (6) respect diverse talents and ways of learning.

2.3. A Peer-Pop-up Window within Course Design

Several faculty noted their experience with a peer-pop-up window design in their online course design. This means that when a given student accesses the online course shell, a window pop-up allows them to interact with all the other classmates who are in the course at that time. This gives student the opportunity to communicate with others while they are all within the course, and can discuss any aspect of the course on which they are working. One faculty said that some of her students found this annoying, but the others thought it was very useful and motivated them to often work longer then they originally planned on the course.

2.4. "What", "Where", and "When" Vs. "Why" and "How"

Course designs could be structures in order to give students needed basic information, such as the "What", "Where", and "When." Then assignments and discussions could build on that information, focusing on the relationship between the "Why" and "How." This structure allows students the opportunity to transform knowledge into judgement and action. This could even include assignments or discussions requiring calculations or quantitative analysis to solving problems, requiring students to make and defend necessary assumptions (Cherif, 2011).

3. Resources for Students

3.1. Informing Students of the Credited Status of an Online Course

Since some programs will not accept online courses as requisites or prerequisites (especially for pre-medical or pre-engineering programs), students should be informed in advance whether the course they are taking will be accepted as credit in what they are planning to study, if taken online. For example, research indicates that "competitive law and medical schools may be more hesitant to accept online courses than other disciplines" (Friedman, 2016a), at least so far.

3.2. Effective Access to Student Services and Technical Support

Colleges and universities must ensure that online students have effective access to student services, equaling or surpassing support provided to other students. For example, online students that need to complete a given research assignment, would need access to library services and many times, technical support as well. Effective access would include response to email questions within an hour and phone calls answered by knowledgeable individuals who have additional resources for any challenging questions. Availability of reliable and high-quality technical support is very critical for the success of online students. Furthermore, the support is needed not only for students but also for faculty, academic advisors, academic support staff, librarians, and the IT personnel themselves.

3.3. The Need for Media and Digital Literacy

When it comes to online education, technology is a core component and thus media and digital literacy is needed for not only students, but also faculty and academic leaders. Today, digital literacy can be looked at as the ability to find, access, manage, evaluate, analyze, synthesize, utilize, share, and create new knowledge and content using information technologies and the Internet (DeWitt, 2016). Colleges and universities should consider resources and/or course topics that reinforce the need for students to be skeptical consumers of digital and media information.

Educators need to make the teaching of media literacy a top priority at all levels (Herold, 2016). For students in general and online students in particular, teaching them how to navigate the web, and to discriminate between real and false online information, interpret and evaluate information from a variety of *sources*, see connections in seemingly disparate information to inform their decisions, etc., are as important as teaching math, science, and other academic disciplines. We also need to keep in mind that digitally savvy and digitally literate are two different things. Specifically, The American Library Association's digital-literacy task force offers this definition: "Digital literacy is the ability to use information and communication technologies to find, evaluate, create, and communicate information, requiring both cognitive and technical skills" (Heitin, 2016). Students need proficiency in both, as articulated by Berardi (2017):

> *Our students are tech-savvy digital natives. They know their way around a tablet, smartphone and laptop better than most. More often than not, they know how to do a voice search on an iPad, share selfies on Instagram, play a video game and send a GIF on WhatsApp. But what they lack is the knowledge of how to use these digital tools and technologies to communicate and achieve their learning goals. [In other words], technical proficiency doesn't equal digital literacy. (¶. 3-4)*

3.4. Training on Online Learning Environment

Some faculty recommended having a free course on how to navigate and succeed in the school's online learning environment for students to take as part of the admission process and student recruitment strategies. A course like this could even help reduce students' anxieties, especially for those taking online classes for the first time. Some faculty even suggested that a course or set of courses such as this should be offered for high school senior students free of charge even before graduating from high school.

It has been found that preparing and conducting free workshops on taking and succeeding in the online learning environment that can be offered one or two weeks before registration in each session does greatly assist in the easing the transition of students from onsite to online learning delivery. This is simply because they help students gain the study skills and confidence required for success not only in the online learning environment, but in higher education in all disciplines (King and Thalluri, 2006).

3.5. Discipline-Dependent Digital Training

This would be a short course or training workshop that should be available for both teachers and students in online learning environments highlighting online resources and pitfalls. It should be free of charge, and discipline-dependent. This means students need to take it every time they are scheduled to take a course in a different academic discipline. With such tools available for students, they will not only feel confident in learning, but also feel that a new world of opportunities has opened up for them for ensuring success and increasing productivity.

3.6. Time Allocation for Each Learning Task

It is a fact that today's learners (especially those online) are very busy, and their learning is constrained by a lack of time which could easily lead to procrastination among those who lack self-discipline and time management. Identifying the average needed time to complete each given learning task and providing this information to students in advance, has been found very beneficial for students in planning their workload. Those faculty who used this Time Allocation approach in their online and onsite courses, stated that the strategy was very helped for their students in general, and especially those online. Faculty detected significant behavior change in their students including an increase in on-time submission of assignments and weekly postings, and better grades in course assignments and quizzes (McManamon *et al.*, 2013).

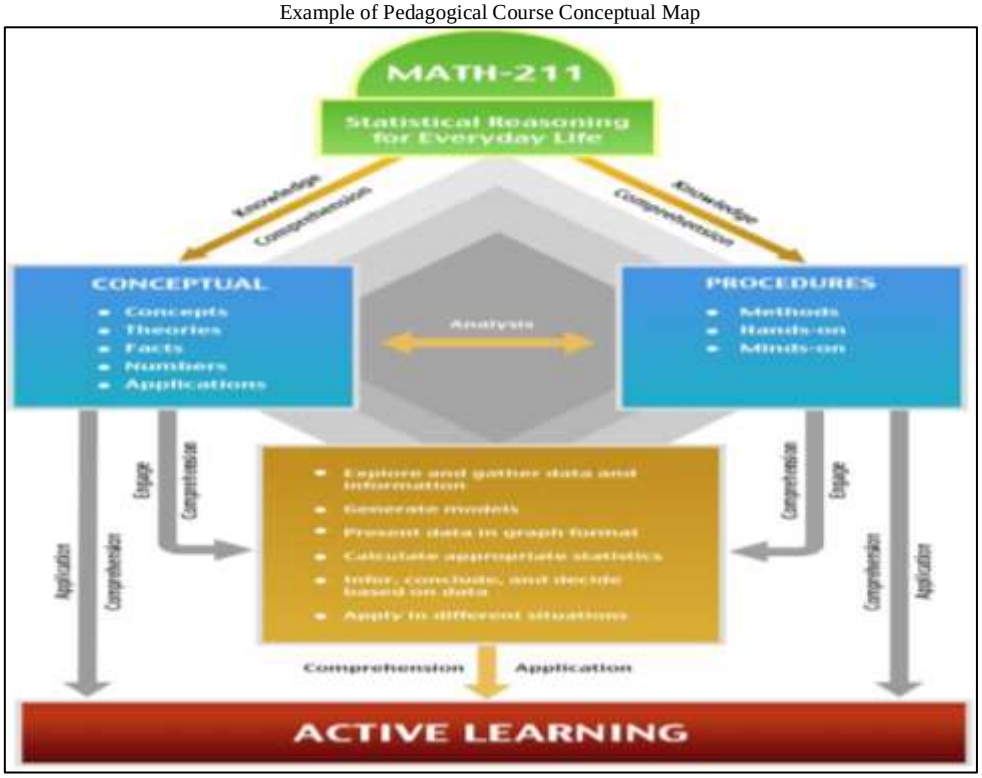
Example of Time Allocation for each Learning Task for a Given Class Meeting

Week	Assignment	Time to Allocate	Total Time
Weeks 3	Reading and Preparation	2.0 hours	12.5hours
	Discussion #1	.5 hours	
	Discussion #2	.5 hours	
	Discussion #3	.5 hours	
	Interactive Learning Activity Week 3: ILA #7 and 8	3.0 hours	
	Homework	2.0 hours	
	Review	2.0 hours	
	Quiz	2.0 hours	

3.7. Pedagogical Course Conceptual Map

Literature has indicated that students who have a pedagogical course conceptual map (such as the one below) in hand before starting a given course have a better chance in successfully completing and passing that course. The pedagogical course conceptual map shows students the conceptual terms (terms they will study), the procedures (how they are going to study them), the relationships between concepts and procedures, as well as how the relationship between the concepts and the procedures will be used to help them engage in learning, apply what they learn, and comprehend what they learn (McManamon *et al.*, 2013). It also helps students to study and prepare for quizzes and exams.

Example of Pedagogical Course Conceptual Map



4. Student Characteristics

4.1. Helping Students to Become Self-Intentional Learners

Online students need to become "self-intentional learners"; goal-oriented, thinking constructively, beating back self-doubt, mastering the management of time and energy, and facing the challenges of today and tomorrow with great confidence. A course and/or a set of workshops can be designed and developed with these goals in mind, and made available for online students free of charge.

A version for faculty, counselors, college and academic advisers should also be developed and implemented with recognition of mastery through a certificate of completion.

4.2. Evidence of Past Course Success

When deciding whether or not given students are ready to take online classes or enroll in an online program, we should really look at their grades in completed courses rather than their IQ or standardized test scores. A study led by University of Chicago Nobel Prize-winning economist James Heckman, indicated that *"colleges and employers interested in predicting the success of applicants would do better to look at a student's grades, which measure personality traits, like perseverance and attention to detail, more effectively than IQ and SAT tests. The research shows that personality and grades correlate more strongly with later measures of success and happiness than IQ."* (Staley, 2016).

4.3. Consideration of Time Management

Students who have considered how they wiII fit the time necessary to complete a course into their schedule are more Iikely to be successful in that course. Several participants in the study (Cherif *et al.*, 2017; Cherif *et al.*, 2019) mentioned that they distribute a table such as the one below to their students one week before the start of the class. Often more than 70% of the students complete and send the table back before the start of the week. Those who didn't are reminded one day before the start of the course to do so. According to those instructors what is most significant about this strategy is that, they noticed a correlation between those whose Time Available, Time to Study, and Best Time to Communicate, are all within their Time Devoted for the Class, and their academic performances including completion of course assignments, weekly posting, etc. Students whose identified Time Available, Time to Study, and Best Time to Communicate, don't match their identified Time Devoted for the Class often perform worse in the class.

Table

Finding Best Time Devoted Toward an Online Class				
	Day of the Week	**Time of the Day**	**Time Period**	**Addition Info**
Time Devoted for the Class				
Time Often Available				
Time to Study for the Class				
Best Time to Communicate				
Worst Time to Get Hold				

4.4. Recognize the Effort Needed in Online Courses

A useful approach to changing the mistaken perceptions of students who think online courses are easier than onsite courses, is for the faculty to share with their students on the first day or week of the class how much time, energy, and effort, the faculty spend on preparing and teaching online courses in comparison to onsite courses. Then use this fact as a starting point to note that students in the online learning environment need to devote more time, energy, and effort as well in order for them to succeed in an online learning environment. Emphasize that it is false to believe that online courses are easier than onsite courses. In addition, encouraging newly enrolled online students to talk with students who have already successfully completed at least 2-3 online courses, has been found to be very successful in helping student succeed in online courses.

4.5. Have Necessary Digital Skills

Universities need to identify those digital skills that are needed for success in their online learning communities, including the overall online platform and any software or hardware required by courses in different programs. Students need to have both the hardware necessary, a computer with sufficient speed and storage, reliable internet access, and now how to use them mechanically, cognitively, and pedagogically. If students are required to use cloud technology to store and retrieve their work and information, they need to know not only how to use the selected cloud but also how to trouble-shoot any difficulties they might encounter during the academic semester.

4.6. Be an Intentional Learner

College students in general, and online students in particular need to know the main purpose of higher education which is "to help college students become intentional learners who can adapt to new environments, integrate knowledge from different sources, and continue learning throughout their lives" (AACA, 2002; Prensky, 2010). Intentional learners are those individuals that look for the reasons behind the information and even strive to see new connections across fields of study and concepts. Further, these learners see their own understanding as a starting point and then build on that information through additional research and discussions with others in various fields.

All these learned habits help students to develop the skills, abilities, and attitude in "figuring out the right thing to do, getting it done, doing it with other, doing it creatively, and constantly doing it better" with care and passion (Prensky, 2010).

5. Professors: Scheduling, Training, Teaching Strategies

5.1. Teaching the Same Course Onsite and Online at the Same Semester

When possible**,** require faculty who teach onsite also teach the same course(s) online in the same semester. This approach has been found to be very productive and successful for both students online and onsite. But most of all it has been found to be very useful for faculty to use what they encounter and learn in their onsite classes to enhance their online classes and vice versa.

For example, Professor Matthew, who is also a medical doctor teaches Human Anatomy and Physiology to nursing students both onsite and online. At the beginning of each semester he informs his online students with his onsite teaching schedules for both the lectures and the lab parts of the same course. He also arranges for his onsite lectures and lab sessions to be recorded and directly aired for his online students who would like to join them digitally especially during the lab parts. In every lab session, he selects one group of students in his onsite class and arranges them in a way that they will be exposed clearly and directly to a camera while they are conducting their lab assignment; not only what they are doing but also the way they interact with each other and the type of conversation they have related to the lab among the members of the group. Dr. Matthew found out that those online students who took the opportunities and joined his onsite classes and lab digitally performed much better academically then those online students who didn't. Dr. Matthew believes that the technology is available and everyone can do this.

In another example, a survey participant noted that she brings the questions and concerns from her onsite class to the online class, asking for student input from each group. Since online students are sometimes more reluctant to bring up concerns, bringing those from the onsite class starts the process in the online course. As the course continues, she has found that online students start to take the initiative and post concerns and suggestions solutions on their own.

5.2. Student Performance-Based Instruction

Student performance-based instruction is an approach that allows instructors the flexibly to adapt their teaching approach throughout an academic term, based on students' performance. Students take weekly quizzes with mixed types of questions for students to demonstrate their understanding and mastery of the learning concepts and skills. Based on students' performances, the instructor reviews the outcomes and makes the needed modifications to his or her instructional strategies. A few interviewed faculty members have been using this instructional methodology for years in various forms have found it very helpful for their online classrooms.

5.3. Using Research-Based Findings in Online Learning

Online faculty should be encouraged to actively seek research-based findings to improve online teaching and learning in general and in their own discipline. These findings can also be used by universities to transform those research-based principles into actionable learning goals and apply them in program and course design and development, as well as in implementing and evaluating those programs and courses.

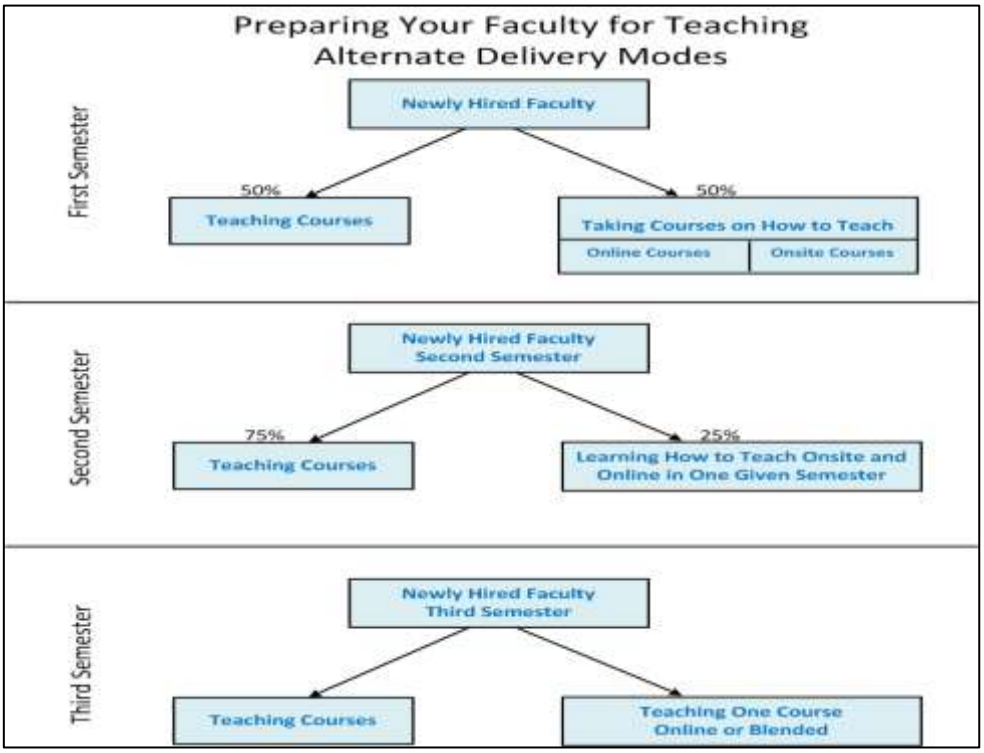
5.4. Blending Academic Expertise and IT Experience

Faculty in general and online instructors in particular need to be experts both in their academic specialty, and in the use of instructional technology. It is not enough to know how to use technology to facilitate weekly discussions, respond to students' academic questions, or edit the weekly lecture. Today's online faculty need to be confident about their mastery of instructional technology and their ability to overcome setbacks that they and their students might encounter in dealing with technology. In this way, faculty can effectively and efficiently help their students to learn through technology.

When working with digital technology, students are willing to try anything and everything possible without the fear of breaking its hardware of software. Indeed, that is how many of them learned how to use and how to fix it. Early enough, they realize and understand, when it comes to technology, as one said "often, the way to get better is to have setbacks, and these setbacks cause us to build technology skills" (Oblinger, 2007). However, some students may still struggle with the specific technology used in a course. Instructors need to be sufficiently comfortable to address the most commonly raised concerns.

5.5. Preparing Faculty to Teach in an Online Environment

It was suggested in a previous study (Cherif *et al.*, 2014; Cherif *et al.*, 2019) that in the first semester newly hired faculty should be asked to teach only 50% of the customary teaching load. The other 50% of their accountabilities should be used to take two courses: one on how to teach online courses and one on how to teach blended-learning courses. In the following semester, 75% of the faculty accountability should be in teaching courses, and the other 25 % should be in taking a course on how to teach courses of different modalities in the same semester. In the following semesters, each faculty should teach in more than one modality in a given semester at least once a year (Cherif *et al.*, 2014).



(Cherif *et al.*, 2014)

6. Engaged Teaching

6.1. Student's Engagement Tools and Mechanisms

Develop, implement, and apply early engagement mechanisms and tools simply because early engagement has proven to enhance student satisfaction and success. This strategy would also include contacting online students who have not joined the course in the first few days to ensure they are aware of their enrollment and how to access the course. Faculty and instructors should have a set of well proven engagement strategies, tasks, activities and techniques that they could use when encountering certain situations and circumstances.

6.2. Guided-learning Approach in Online Learning Environment

A guided learning approach allows online instructors more autonomy to create individualized assessment for students and/or for each course. With more directed assessments, faculty can provide online students with more individualized feedback and guidance, improving student engagement in the class. These faculty believe that well designed, customized, effective, and efficient tests could help them measure what their student have actually learned. In addition, these assessment tools can provide real data that helps instructors make a final decision not only on their students learning and success, but also on their own courses and instructional approaches and strategies.

6.3. Integrating Occasional Onsite Components with Online Courses and Programs

Fully online courses and programs with occasional onsite components have become popular in higher education. The most successful online courses in the areas of nursing, sciences, engineering, and related fields are those which also have hands-on experience by offering primarily online courses but with a component onsite (e.g., on campus) as well. This is simply because there are certain techniques that cannot be seen clearly even on video. There is great benefit to practice these skills and also see how others conduct them to learn from their success and failure. In addition, for these types of skills, having a professor critiquing up close is an added advantage for being there in person. University of Texas—Tyler's hybrid family nurse practitioner program, is a good example. Another example is University of Central Florida, the Masters and Doctorate of Nursing Practice tracks (Friedman, 2016b); these are among the online programs with hands-on experience offered at specific time and locations; where all the students come for face-to-face hands-on learning experiences.

6.4. Tasks of Collaboration with Peers Online

Research has shown that online assignments whose completion requires some form of collaboration with peers help boost learning compared with environments that have no components of collaboration (Hart, 2016). It has been found to increase the level of academic quality while reducing the level of frustration, anxiety, and academic dishonesty. Furthermore, collaborative learning approaches help motivate students to develop the sense of responsibility, learn how to integrate knowledge from different sources, and see connections in seemingly disparate pieces of information to inform their decisions and actions.

This approach is consistent with learning as a social event, built on relationships, reciprocity and trust, even when it's personalized. This means that in order for students to acquire meaningful understanding and lasting mastery, students need a degree of social interaction with their peers, their teachers, or the world around them. In fact, Vogt (2016) argued "meeting the individual needs of a student actually requires and depends upon a strong degree of social interaction."

6.5. Faculty Communications With Students

While today, faculty communicate with their students more than ever before, and most of the communication is in written forms, all of these written materials communicate messages about the course and its conduct. The importance of effective and personal written communication is even more important in online education. As Weimer (2016) articulated:

> *But beyond this explicit information are other, more subtle messages. They are conveyed not as much by what we say as by how we say it. Without the benefit of tone, facial expressions, and other nonverbal cues, written communication creates new challenges for establishing a positive learning environment. Several parameters guide our written communication with students. We need to be polite, and most of us are. We need to be professional, and most of us don't have a problem with that either. But we also a need to be personable. There's all sorts of evidence that creating personal connections with students has a positive effect on learning experiences, but how much thought do we give to making those connections in writing? (p, 2-3)*

Each time an online instructor replies to a student's email, post, or submission, the message encompasses information far beyond the course objectives. The communication informs students about the instructor's level of care to their question. If the instructor replies in a timely manner, acknowledges any personal situations in a professional manner, and fully addresses the student's questions or concerns, the student is more likely to feel validated as a student and more motivated in the course.

Finally, as professor Jennifer H. Waldeck, who specialized in the study the role of communication in teaching and learning, wrote: "In reality, communication is a learned verbal and nonverbal skill that all of us must continually refine. When we interact with our students purposefully, we maximize the chances that our content expertise will make a positive difference in terms of their learning" (Waldeck, 2016).

6.6. Students Interactions with Peers

Interaction (student-student and student-faculty) is the second most important element and essential component for success in an online learning environment. Student-faculty interaction, whether formal or informal, has a positive effect on students' satisfaction. This benefit within the college education experience can be seen academically, intellectually, personally, and socially. As Endo and Harpel (1982) showed:

The frequency, content, and quality (as measured by satisfaction) of student-faculty interaction affected several value-related outcomes and mediated the effects of college environments. However, Lacy (1978) found that frequency and nature of peer interactions had even greater overall effects on these outcomes. It may well be that faculty influence only goes so far... While the frequency of informal student-faculty interaction had a greater impact on educational outcomes than frequency of formal student-faculty interaction, the outcomes most affected were those categorized as intellectual outcomes as opposed to personal/social outcomes. Faculty may be strong models for intellectual growth, but peers may be the primary models for personal/social and value-related outcomes (p. 133).

Furthermore, we should be aware of the fact that today's students feel comfortable connecting and socializing in ways that previous generations would never consider. Unlike previous generations, which generally relied on a hierarchical method of learning, today's learners take a more lateral approach to learning, valuing what they learn from peers and nontraditional sources (Oblinger, 2007).

Generation Z "refers to young people who were born between 1996 and 2014. This generation stands out from the previous generations – millennials and generation X – for a ton of reasons, many of which we're going to address below" (Robertson, 2018). Because they are digital native, technologically advanced, computer savvy, and kneeing how to use a smartphone from an early age they visualization learners and communicators who perceive information visually. With their unique ability in using the internet and technologies most of them are able to start earning money at a much earlier age than their own parents, most individuals of generation Zers are independent, self-confident and autonomous with way less need to rely on parents as pervious teen generations did. (Afshin, 2019; Robertson, 2018).

7. Assessments/Plagiarism

7.1. Concept Maps and Illustrations

Faculty and instructors need to be creative on how to ask questions on exams and to focus more on analysis, evaluation, applying, and creating. For example, ask students to use illustrations, analogies, metaphors, concept maps, etc. to demonstrate their understanding and mastery of learned concepts (Cherif, 2011). Students can also be asked to include applications and inferences as a part of weekly postings, quizzes, exams, and reports.

Faculty mentioned that this generation is more visual and kinesthetic than previous generations. "They interpret images with ease and develop images with ease" (Graves and Landor-Ngemi, 2007). To capitalize on this trait, a few faculty have found concept maps to be very useful as a tool to see whether or not the online students are able to connect learned concepts to each other. Instructors can ask each student to transfer his or her understanding into concept maps to show in each one of them how learned informed and concepts are related or could be made related in informative sense. Students will submit their concept maps electronically, then the teacher re-distributes them randomly among the students and ask each student to analyze their classmate's concept maps and provide constructive feedback. This technique could also be successfully used as a peer-assessment strategy as well.

Furthermore, Professor Honeycutt (2016) has suggested a similar learning or assessment activity called "Focus with Drawing." She wrote:

Prompt your students to draw a process, create a diagram, or illustrate a main point from the course material. A drawing might include creating a mind map of the main points of the course material so you can see how students organize information, a graph of a set of data points collected from a survey, or their interpretation of what's happening in the story or what a character might be feeling. Here are a few examples:

• Draw the cycle of how blood flows through the heart.
• Diagram the bones of the hand.
• Draw a comic strip illustrating the main character's journey.
• Color code the map to show the boundaries between counties.
• Draw the perfect phone and diagram the features.

Alternatively, you can show an existing illustration or drawing and ask students to relate it to the course material, diagram it, or analyze parts of it. (p. 6-7)

7.2. Instructional Techniques, Strategies, and Approaches

Independently, four faculty (in our pervious study) have been using the following approaches successfully in their online classes. From the first week, on a specific day and time, their students agree to meet for 3-4 hours twice a semester to join a live conference call and/or video call. When the day and the time are identified and agreed upon, every student should sign and commit himself or herself to be there. Students were also told that there would be two grades which each student could get; one for attending, and one for the learning activities based on student's academic performance and reciprocal communication with peers and instructor. Specifically:

- One of these four faculty, in a graduate economics course, has been giving students reading assignments in advance for the students to read and come to a live conference call meeting ready to discuss and answer questions. Every student will be asked three random questions from the reading materials. Since the students are called on randomly and don't know what question(s) will be asked, this instructor recognizes that each student's responses are from their own understanding of the subject matter as well as their ability to analyze and infer based on what they understood from the learning materials. Also, a given student doesn't have time to seek the answer online nor to communicate with other students for help.
- Another faculty who teaches an undergraduate world history course, uses the same approach but in a different way. This faculty gives two midterms exams. After each midterm exam, the students meet for a 2-3 hour, pre-scheduled conference call or video call. The faculty calls on the students randomly to answer questions, one question from the midterm exam and one question not on the midterm exam, but taken from what has been covered in the class so far. Again, the instructor believes that their responses are from their own thoughts and ability to analyze the learning materials. It also provides evidence for the instructor to assess whether the student did the required work or just found answers online.
- A third example is from an instructor who teaches a graduate criminal justice course. The instructor distributes a number of criminal justice cases to all the students to read, understand and analyze. Students are informed in advance that they will be called on randomly to discuss and answer questions about two random cases. During the live, open conference call or video call, the faculty calls on students randomly to disagree with the decision of a given case and to appeal the decision by providing concrete and informative supportive arguments for an appeal.

- Another faculty who teaches an undergraduate science, technology, and society course, adopted pop-up question in the course. She informed each student individually that their question will be sent within a set timeframe. The instructor is informed automatically when the student accesses the question, and the student has 2 hours to answer the question. This instructor does this twice a semester with each student. She noticed that the second time around, the students are more prepared, responsible, and provide better quality of demonstrating their understanding of a learned concept. She thinks that students keep this type of perseverance throughout the semester.

All four of these instructors believe that this type of approach has helped their students to be responsible learners, but most of all they felt that the students began taking learning matters seriously which was reflected in the quality of their own weekly posting and academic performance in quizzes and exams.

7.3. Assessment for Balancing Conceptual and Objective Teaching Methods

One math instructor who has been teaching both online and onsite statistics courses has been using assessment to build student confidence in mastering basic concepts, as well as a teaching and evaluation tool. What he finds very useful for his online students is balancing conceptual and objective teaching methods by:

- decreasing value of skill and drill mathematics
- increasing value in open-ended questions and interpretation of math problems
- using individual learning assignments (ILA) as a hook to engage and inspire individual students.
- integrating and using real-world problems, real-world situations, and applicable/discussion

This faculty also feels that both procrastination and cheating have reduced significantly in his online classes.

7.4. Project-Based Learning in Online Learning Environments

Some faculty find value in the use of project-based learning in online learning environments in the same way as using it in onsite learning. This strategy incorporates learning within interactions among peers, teachers, community, and the world around them. In turn, the approach helps students develop a richer, deeper, more personally-meaningful set of outcomes Movahedzadeh *et al.* (2012) ; Vogt (2016). However, since today's students prefer to work on things that matter and make a difference (Oblinger, 2007), faculty need to select and design PBL activities on and around topics that are relevant to both students and the communities in which they live.

8. Conclusion

Online programs and courses have many similarities and challenges. Mitigating those challenges for online students is the goals of many universities and faculty. The ideas presented in this paper can start the conversation among faculty at many universities as they consider which of these or which combination of these will be most effective for their group of students in their disciplines. As universities have already experienced, there is no one strategies that makes online courses successful in all disciplines and programs.

By starting and continuing this conversation with these ideas, the entire field can move forward for students. These ideas can be tried, tweaked, and tested in the future. New horizons may develop and continuing to develop lists of ideas and strategies can help all faculty and universities stay focused on striving to provide their students the best combination of strategies. In this way, online courses and programs will continue their growth, allowing quality educational opportunities for more and more individuals worldwide.

Educators, faculty, and instructors need to remember the power of simplifying things by focusing on what is important for students to learn and communicate it in a way students can understand. Education is the greatest and most effective equalizer in a given society; regardless of geographical location, economic and social status, race, culture, and/or gender, it is here in education that one can see a chance for a better order of things. It is the key to accessing opportunity and getting ahead by giving young people a leg up on life (Prensky, 2010). Online education when it is done right, has made opportunities such as these more universally accessible. Creating more effective online teaching strategies for all instructors improves the educational opportunities for student around the world.

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