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Influence of Instructors in Engaging Online Graduate Students in Active Learning in the United States

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Abstract**—**As of 2017, many online learning professionals, institutions, and journals are still wondering how instructors can keep student engaged in the online learning environment to facilitate active learning effectively. The purpose of this qualitative single-case and narrative research is to explore whether online professors understand their role as mentors and facilitators of students' academic success by keeping students engaged in active learning based on personalized experience in the field. Data collection tools that were used in the study included an NVivo 12 Plus qualitative software, an interview protocol, a digital audiotape, an observation sheet, and a transcription. Seven online professors in the United States from LinkedIn and residencies were interviewed for this study. Eleven online teaching techniques from previous research were used as the study framework. Data analysis process, member checking, and key themes were used to achieve saturation. About 85.7% of professors agreed on rubric as the preferred online grading technique. About 57.1% agreed on professors logging in daily, students logging in about 2-5 times weekly, knowing students to increase accountability, email as preferred communication tool, and computer access for adequate online learning. About 42.9% agreed on syllabus for clear class expectations, participation to show what has been learned, and energizing students for creativity.

Keywords**—**Class facilitation, class management, online teaching, online education, pedagogy.

I. Introduction

STUDENT engagement in online education is still an issue of discussion in academia today [1], [2]. Engaging students in active learning is not for grades, but rather, to equip and prepare students for the workplace through exposure to diversity [3]. This means that instructors need to have high teaching effectiveness by knowing their subject matter well and being technology savvy, as well as students having high self-efficacy to learn online [3]. The aim of this qualitative narrative and single-case study is to explore what professors are actually doing to keep students actively engaged in online learning based on online teaching experience. As an Assistant Professor of Information Technology who has taught both online and classroom courses for almost a decade, the role of an instructor toward students is as follows: to facilitate student learning experiences and to equip them with the skills and knowledge to retain course content, to speak publicly about topics; apply knowledge in the workplace, to be able to express their thoughts in writing efficiently, to be able to start a business with it if needed, and to be able to debate as well as defend a position while being open-minded to various and current opinions of the matter. Some online teaching techniques on which student engagement in online learning is based will be discussed further below. From a combination of previous research, the 11 teaching techniques expected from online professors to keep students actively engaged in learning are detailed in the literature review.

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II. Literature Review

A. Professor Login

Online instructors need to be both present and available for frequent as well as direct dialogue [1]. An online instructor should log into the online classroom at least three times daily to interact actively with the students—at least once in the morning, afternoon, and evening to respond to students' questions and concerns. There was an increase in student satisfaction and persistence in online learning whenever instructor interaction with students was high and frequent [4]. If an instructor cannot log in three times daily to monitor the students' concerns and activities, then the online class is not being facilitated effectively and efficiently.

B. The Syllabus

Online learning platform must be thoughtfully designed and implemented ahead of time to include the learning materials required to enhance student learning engagement [1]. A syllabus and the online class calendar must clearly state the topics as well as chapters to be covered, and exactly when each will be covered during the semester. Online syllabi with no or few links (low interactivity) gave a better perception of the instructor than syllabi with high interactivity did [5]. A syllabus should also state professor's personal information, course description and objective, course requirements and grade scale, and a notice that anything is subject to change due to circumstances beyond our control, with very few links, if any, to avoid viewer distraction.

C. Student Login

Students' frequent involvement in online learning increases productivity [1]. Students must be encouraged from the beginning to log into their online class at least twice daily and to use the available online tools such as email, discussion board, announcements, and calendar. Regular online attendance or log in is a good predictor of higher performance [6]. Students should also be required to respond, answer, or ask a question on the discussion board weekly or read class posts and announcements daily for active and engaged learning.

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D. Know the Students

Professor should match students' names to their field of study, the kind of jobs they currently hold, and their career goals. Matching their names to what they do shows that professor cares about them, so creating a special folder in the discussion board for a one-paragraph introduction is important for both instructor and students to reference when necessary. Online students did better in contract and structured learning, but they were more motivated and interested in work related to their needs and interests [7]. Knowing their field of study guides how professor should facilitate the discussion board and announcements, as well as the examples to use in mass email responses. Also, it helps in the kind of questions to ask each student on the discussion board that is relevant to the class topic and encourages class discussion. The kind of job a student holds allows professors to anticipate the kind of question students might ask, and knowing their career goals helps to channel class facilitation toward motivating them to reach their goals.

E. Attendance and Punctuality

Students are asked to drop the class after four unexcused absences within a semester (requirement by Vice President of Atlanta Christian College, now Point University), determined by weekly quizzes and absence from the discussion board. All absence or lateness on exams or weekly quizzes must be backed up with letter-headed documentation (e.g., doctor's note) before any make-up assignment is given. Attendance was positively correlated with performance in exams and quizzes [8]. This means that motivating students to excel in their exams and quizzes as well as reminding them about due dates may decrease absenteeism and lateness. There was an online student that claimed that she missed her quiz because she was sick for days, but her doctor's documentation said she could return to work immediately, so got a zero. At the end of the semester, she protested, and professor could not reproduce the faxed doctor's note, so professor had to give her a retest. Always keep all doctors' documentation in a file for some semesters after or simply have it emailed for better storage.

F. Class Participation

Students must be encouraged from the beginning to discuss the chapter being taught, how it affects their current job, and how it can be used or improved upon for future goals and careers. It may require that professor make them ask or openly discuss issues on the discussion board weekly to keep them actively engaged in online learning in exchange for grades [3]. Many mothers taught their children this as a strategy for doing well at school in elementary and middle school—to always ask and answer questions as a strategy of staying engaged and active in class.

G. Energizing the Class

In an attempt to eliminate boredom and encourage active learning, the class should be divided into small groups and have each group lead discussion on real business issues weekly. An MBA instructor in International Marketing did this, and he brought to the class American businesspeople interested in marketing their products abroad. Not only did this inspire some students to start a website to sell things abroad, but some professors also recommend it as a learning strategy to implement in an online class. PowerPoint slides to spoon-feed students had no impact on student attendance and decreased student performance [9]. Videos are very important here, especially from foreign or international perspectives, and can be used to ask class groups for their various opinions. According to [1], students can also benefit from live presentations and student-led seminars.

H. Online Tests and Assessments

Students must be given about three days to a week to complete any assignment or quiz. This timeline makes online classes more pleasant and anxiety-free for the students. All exams or quizzes are set to a time, and students must hit submit before the time expires for the exam to the graded or they get a zero. Time-regulated assessments are beneficial to self-regulated learning [10]. Some professors usually give a minute per multiple-choice question. Written assessments are not time-based in minutes but must be submitted before the assigned due date. The Turnitin Report tool has been an effective tool against plagiarism. Students are encouraged to avoid plagiarism when they are aware of the consequences [11] because the Turnitin report can say what percent of their work was copied and posted from the internet or from some database.

I. Grading

Weekly quizzes and exams should make up about half of the grades, while daily logins (reading, giving answers, and asking questions), class participation (discussion board activity), and projects (leading discussion on business issues online or writing a research paper) should make up the other half. Some professors use this as a tool to inform students that knowing the right answers in the exam and weekly quizzes does not mean that one has learned enough to pass the course. Grading must be fair and free from discrimination, which may be based on race, gender, religion, ethnicity, disability, and age [12]. Class profile pictures or names should not influence the type of grade given to students at any time. Grades should solely be based on the quality of work compared to the work of colleagues or the entire class.

J. Online Communication

All or most communication with the instructor must be in an online email for the class. Any question or idea related to the class should be posted on the discussion board for all to see and discuss. The discussion board is also where students can answer each other's questions before the instructor even gets to it. In past research, self-regulated learning has led to higher performance [10]. The calendar must be prepared by the instructor before the semester begins and must show the class timeline in days, weeks, and months that correspond with the syllabus. Announcements are for informing students about any updates or changes. This is one way that an online class is facilitated effectively.

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K. Learning and Computer Centers

Students must also be encouraged and advised to use testing centers, tutoring centers, local libraries, counseling and advising services, and disability services, if necessary, to make their online education a success. Many times, students complain that a power outage in their house was the reason they missed a 3-day or week-long submission. Access to e-learning technologies or e-learning centers can help students perform better because they can pace their learning to meet their personal needs and situation [13]. They also should be informed about other places that may have computers that were not be affected by the power outage. According to [1], students can also organize local meet-ups if the cities where they live or work are close.

According to [2], for students to be successfully engaged in online learning, they have to be comfortable with technology and the class's learning platform. Many students, however, have a digital divide or digital gap issue [3], which can be addressed by learning centers that have access to many computers and are staffed with computer assistants. Students should be encouraged to take advantage of these learning centers, which are usually free, and to build a relationship with the staff there to access technical assistance. The goal is to get students with little or no access to technology to become more comfortable and confident with computers and alleviate the negative effect of the digital divide.

L. Research Questions

There are 11 research questions used in this study to explore whether professors are actively keeping their students engaged in learning:

1) How often should professors log into class to keep students engaged online?
2) How should professors use the syllabus to keep students engaged online?
3) How often should students log into class to be informed and accountable online?
4) How does the professor knowing students keep students engaged online?
5) How should professors improve student punctuality online?
6) How should professors improve student participation online?
7) How should professors energize student creativity online?
8) Which tests and assessments are recommended for students online?
9) Which grading format is recommended for students online?
10) Which communication tools in an online platform help to keep students engaged?
11) Does the access to computer centers and public libraries help to keep some students engaged online?

III. Relationship and Model

Fig. 1 shows how instructors can get diverse students actively engaged in online learning [3]. It illustrates how diverse students based on race (ethnicity), gender, age, culture, disability, and internet access can achieve engaged active learning in an online environment.

Instructors are supposed to encourage discussions, ideas, and examples that enhance the learning of diverse peoples in their classrooms and communities. Instructors are also advised to show interest in racial and ethnic contributions, appreciate cultural illustrations, let women lead discussions, acknowledge older students and request generational experiences, encourage disability examples and allow varied submission options, and assist students with internet issues to utilize their local libraries.

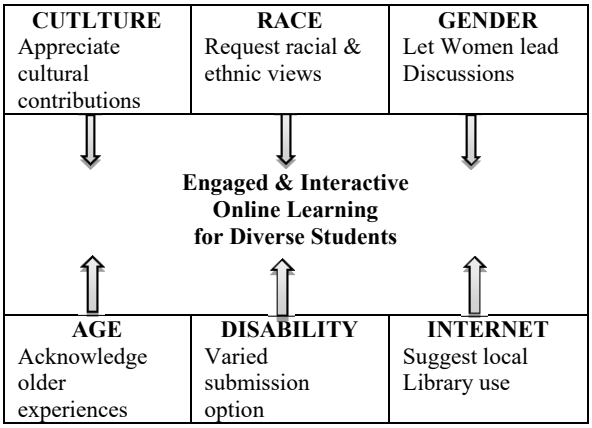


Fig. 1 Model of getting diverse students engaged & interactive in online learning [3]

This qualitative narrative and case study research would like to use this model to see how online instructors in 2019 are keeping diverse students actively engaged through online platform logins, syllabus use, knowing their students, punctuality in submitting work, high attendance, keeping class energized, assessment and grading styles, good communication, and access to the internet.

IV. Methodology

Researcher selected 20 online professors on LinkedIn and requested their connections, but only eight of them are connected with the researcher. Of the eight professors, only four were interested in participating in the study, but three were busy and available weeks later. This left only one professor as a participant from LinkedIn. Researcher then had to rely on the other online professors from residencies around the country and contacted them by phone, text, and email to participate in the study. Researcher had invited 12 online professors, but only six professors from previous residencies agreed to participate, so that brought the total of participants to 7.

Researcher invited six online professors as expert consensus to review the 11 research questions, but only three agreed to review it. One felt that the questions were biased in favor of professors and that students should be the ones to discuss whether they are engaged in learning, but the study was about what professors are doing to keep students engaged. The other two experts approved of the research questions, but one

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wanted me to include a question that involved student accountability and expectation from the professor, which was the updated Question 3. Researcher interviewed a total of seven participants from three different online universities for 11–26 minutes within six days by phone. Saturation was reached at the sixth participant, but researcher continued to interview all 7. I did not need more participants because the study achieved saturation.

In the study, data collection tools that included a digital audiotape, interview protocol, observation sheet, transcription, and NVivo 12 Plus qualitative software were used. For study credibility, both the digital audiotape and observation sheet were used to record participant responses as accurately as possible. To maintain study transferability, the interview protocol had open-ended questions and that participants were allowed to express themselves freely to provide rich and detailed content for accurate analysis and conclusion. For study dependability, the methodology is explained in detail here to show how the decisions and study were conducted. The confirmability of the study was measured by requiring all participants to verify their transcribed responses to the interview protocol as what they had stated in the interview by email (i.e., member checking). The NVivo qualitative software was used to code and segment the data for analysis.

V. Results

In this study, it is assumed that three or more participants out of seven and over 40% of similar response from each participant represents saturation to each research question. Of the 11 research questions, nine (81.8%) had saturated responses, and the other two had varying responses, but response to all questions showed that professors were doing their best or what was needed to keep online students engaged because they believed in active learning for students. NVivo 12 Plus qualitative software was used to code the data.

The "Word Frequency Query" of NVivo was used to find the top key themes within the response to each question that was not within the questions themselves and the themes' frequency (count). NVivo's "Text Search Query" was used to find how many participants used each of the top key themes for each question in their response (Query Summary) and the string of words connected to each key theme (Query Word Tree) to get the valuable transcribed verbatim within each response.

Only top key themes that had at least three counts and came from at least three participants were accepted as a saturated response to the questions, except for two questions for which the top count was at least three but came from just two participants. Below is the analysis of the study:

1) How often should professors log into class to keep students engaged online?

Regarding professor login in Table I, 4 of 7 (57.1%) participants used "Least," and 3 of 7 (42.9%) participants used "Daily." Almost all professors agreed that professors should log in daily or almost daily to respond to students, check if students have left a question, grade work, leave announcements, or even send emails or notifications. Regardless of how various cultures defines time, professors should login daily.

TABLE I
Response for Professor Login

Key Theme	Count	Transcribed Verbatim
Least	4	At least daily; at least once a day; at least 4 days a week; at least within 48 hours
Daily	3	At least daily; log in daily; daily or at least within 48 hours

2) How should professors use the syllabus to keep students engaged online?

Regarding syllabus use in Table II, three of seven (42.9%) participants used "Expectations," "Clear," and "Course," respectively. Professors use the syllabus as a contract between them and students to give clear and specific expectations to the students about assignments and due dates on the course page. Also, the syllabus is used to hold students accountable for the quality of their work, as well as making sure students understand the syllabus and how it ties to the workplace. Students with disability and older students should be encouraged to seek assistance if necessary to understand what is required on the syllabus.

TABLE II
Response to Syllabus Use

Key Theme	Count	Transcribed Verbatim
Expectations	4	Clear expectations; understand expectations; expectation aligned to practice; expectations are clear
Clear	3	Clear & specific expectation; clear assignments & due dates; clear to students
Course	3	Aligned to practice of course; hold students responsible for course; posted on course page

3) How often should students log into class to be informed and accountable online?

Regarding student login in Table III, four of seven (57.1%) participants used "Least." Professors expect their students to log in 2–5 times a week. The popular answer was 3 times a week. One professor recommended that students log in on Mondays to see what is expected for the week, on Wednesdays to respond to discussion or read the professor's response to other students, and on Saturdays to complete other assignments. Race, culture, gender, age, disability, or internet access should not be a factor for students not to log in daily or at least three times weekly.

TABLE III
Response to Student Login

Key Theme	Count	Transcribed Verbatim
Least	4	At least 2-3 days; 3 days a week; 4 days a week; 5 time a week

4) How does the professor knowing students keep students engaged online?

In relation to knowing students in class in Table IV, four of seven (57.1%) participants used "Help." Building bi-relationships with students based on familiarity or finding commonalities through many residencies or repeated profile pictures does help to keep students engaged and accountable

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in class. One professor (14.3%) felt that it could compromise student engagement in class because some students feel they can get favors from the professor even when they intentionally miss due dates. Other professors felt that using students' names in discussions or communication and making phone calls to students who are confused about course requirements or are not participating in class can be helpful. Knowing the diversity of students does help with class facilitation and how to guide class discussions.

TABLE IV
RESPONSE TO PROFESSORS KNOWING STUDENTS

Key Theme	Count	Transcribed Verbatim
Help	5	Knowing students help; profile picture help; more residencies help; bi-relationships help; *but could compromise ability to engage*

5) How should professors improve student punctuality online?

This was the first of two questions that had no saturation. In terms of getting students to be punctual with due dates in Table V, only two of seven (28.6%) participants used "Deadlines." Although a one-time grace period may be okay, professors should enforce a deadline and stick to it to prevent students from missing it. Being too lenient with students about deadlines can lead to further lateness of work because students inform other students about what they got away with. Other participants talked about connecting attendance to points, giving friendly reminders and notifications, as well as emailing and messaging to inform students. All students must be punctual in their submissions even if one has to give students with disability other submission options.

TABLE V
RESPONSE TO PUNCTUALITY

Key Theme	Count	Transcribed Verbatim
Deadlines	4	Deadlines have to be enforced; have deadlines & stick to them; prevents missing deadlines;

6) How should professors improve student participation online?

TABLE VI
RESPONSE TO STUDENT PARTICIPATION

Key Theme	Count	Transcribed Verbatim
Response	3	Minimum response per week or lose points; response should show what they learned; show what acceptable response is

In getting students to participate in Table VI, three of seven (42.9%) participants used "Response." Some professors felt that professors should show students what an acceptable response is in discussions or in response to other students and that responses should show what students have learned about the subject matter. Other professors felt that participation should be tied to grades and that there should be a minimum amount of response per week or students will lose points. Other interesting participant responses included showing interest in students to find commonality and adequate professor feedback. Class participation is an excellent opportunity for professors to understand the diversity of the class and request contributions that enlightens others about each diversity.

7) How should professors energize student creativity online?

When it comes to energizing student creativity in Table VII, three of seven (42.9%) participants used "Assignments." Many professors felt that creating authentic assignments outside of the textbook that require students to think or that are based on what they find very interesting can make students energized and creative. Some felt that assignments should be open and personalized to students' interests, career path, or current employment, and others felt assignments could be linked to current events that requires their professional views or work experiences.

TABLE VII
RESPONSE TO ENERGIZING STUDENTS

Key Theme	Count	Transcribed Verbatim
Assignments	5	Authentic assignments; interesting assignments; assignment that requires thought

8) What tests and assessments are recommended for students online?

This is the second and last question that did not achieve saturation. Professors legitimately had various ideas on their favorite test and assessment format in Table VIII. In the study, two of seven (28.6%) participants used "Choice," "Multiple," and "Quizzes," respectively. Most of the professors preferred short essays, timed weekly quizzes with 15–20 questions, and timed multiple-choice questions. Other suggestions were homework with textbooks, discussion forums, research papers, authentic questions about how things are done at the student's job, and filling-the-blank questions. Older students, mothers with infants, and those with disability should be accommodated here.

TABLE VIII
RESPONSE TO TESTS & ASSESSMENTS

Key Theme	Count	Transcribed Verbatim
Choice	3	Essay & multiple choice; Timed multiple choice; Multiple choice & short essays are best
Multiple	3	Essay & multiple choice; Timed multiple choice; Multiple choice & short essays are best
Quizzes	3	Weekly timed quizzes; Quizzes with 15-20 question; *Quizzes can be memorized or forgotten*

9) What grading format is recommended for students online?

This question was the most saturated because it had the most consensus among the professors. In terms of grading format in Table IX, six of seven (85.7%) participants used "Rubric," and four of seven (57.1%) participants used "Individual." Many professors preferred rubrics as one of the best methods of grading research papers as well as short essays, and individual grading or points were preferred for grading essays and multiple choice. Other interesting responses included group collaboration and feedback (peer-to-peer grading) good for support. Older students, mothers with infants, and those with disability should be accommodated here.

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TABLE IX
RESPONSE TO GRADING FORMAT

Key Theme	Count	Transcribed Verbatim
Rubric	6	Prefer rubric; individual grade & rubric; rubric used for research paper; rubric good; rubric one of the best
Individual	4	Individual grading is preferred; individual grading is good; individual point for essay & multiple choice

10) What communication tools in an online platform help keep students engaged?

For communication tools in Table X, four of seven (57.1%) participants used "Email", three out of the four participants (75%) favored email, but 25% of them did not. Many professors felt that email was the recommended form of communication with students because many learning platforms have announcements, messaging, and email accessible by the students through their own email. One professor said that he preferred messaging and phoning students instead of using email, and another basically refused social media as a form of communicating with students because it seemed very unserious. Other professors talked about Skype and Zoom, posting a reminder on the course page each week, online chat, cell phones, and Google number. Older students, those with low technology experience or internet issues, and those with disability should be accommodated here.

TABLE X
RESPONSE TO COMMUNICATION TOOLS

Key Theme	Count	Transcribed Verbatim
Email	6	Use announcements & email; access through email; messaging goes to email; email to communicate change; on email & course page; *messaging & phone, but not email.*

11) Does access to computer centers and public libraries help keep some students engaged online?

TABLE XI
RESPONSE TO COMPUTER CENTER / PUBLIC LIBRARY

Key Theme	Count	Transcribed Verbatim
Helps	4	For quietness in learning; for richer educational experience; technology essential for online education; helps students succeed
Yes	4	For student with low income or unemployment; students with no internet connection; students have their own access or hand-held devices

Regarding access to public computers in Table XI, three of seven (42.9%) participants used "Helps," while four of seven (57.1%) participants used "Yes." Many professors felt access to public computers gave students a richer educational experience, especially students with little income or no employment. It also provided a quiet place to study away from a noisy or crowded home or a home with internet connectivity issues. Others felt that this access does not guarantee that students will be successful despite technology being essential for online education, because many unsuccessful students have internet connectivity in their handheld devices. Those without internet access should be encouraged to go to the local library.

VI. DISCUSSIONS

According to this study, most online professors believe in keeping their students actively engaged and are doing whatever they can to provide a high-quality education for their students. At least 57.1% of professors log into their online classes daily or at least 4 times weekly to engage students and provide academic services, expect students to log into class 2–5 times a week to view updates, respond to other students and the professors, ask questions, or submit work, know students well through residencies or profile pictures to form a connection that facilitates learning; use communication tools such as emails, announcements, messaging, and notifications to inform students of updates and feedback; and encourage students to use accessible public computers in case of inability to access the internet at home.

About 85.7% of professors believe that a rubric is one of the best ways to grade students, especially in research papers and short essays, but also feel that individual grading is best for multiple choice. Around 42.9% of professors use their syllabus to give clear and specific expectations to students and put it on the course page, use grades and efficient communication to enforce student participation; and use open and unstructured assignments that are related to students' work or experiences to energize creativity in students to provoke adequate thought process. About 28.6% of professors agree that grades and reminders are helpful in encouraging student punctuality to meet deadlines and multiple choice, quizzes, as well as short essays are good for student assessment.

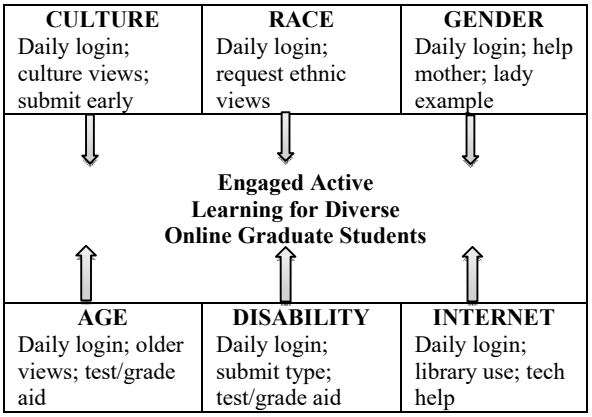


Fig. 2 Model of enhancing engaged active learning for diverse graduate students in online environment

The updated model for engaged active learning for diverse graduate students in an online environment is shown in Fig. 2. Both professors and students should be encouraged to log into their online classroom daily just like they do for their emails and social media. Class participation, energizing the class, and knowing students is essential to sharing varying cultural, gender, racial, age, and disability views about any subject matter. Assignment submission before due date and understanding the syllabus should be mandatory for all types of student.

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Accommodating nursing mothers and aged students as well as students with disability with assessment, grading, submission type, and time management is essential for academic success. Student with low technology exposure or low internet access should be encouraged to use their local libraries for assistance in using various applications, software, and online education platforms.

VII. Limitations

The research method could have been quantitative, but a qualitative narrative and single-case study was preferred because professors' views on how to keep students engaged were needed for this study based on online teaching experience. It could have been a different type of qualitative study, such as a phenomenology research (determining a participant's experience), ethnography research (explaining a situation from participants' environment), or ground theory research (to develop a theory from data), but a narrative and single-case study was chosen to explore the effectiveness and efficiency of how well professors engage students in online education based on a personalized experience in the field.

The participants in the study could have been students, as suggested by one of the experts who were asked to give their perspective in a consensus, but this study was based on how professors were doing their job. However, students' perspective may be great for future research. Readers of this study may arrive at a different conclusion if they sampled a different group of professors, but the participants in this study are credible professors who have been teaching online for many years.

A larger sample could have been used in quantitative research, but qualitative research is based on saturation, and saturation was achieved. Also, triangulation could have been done by reviewing the policies of the institutions where the professors work and how much support institutions gave professors in online student engagement.

VIII. Conclusion

In summary, online teaching should accomplish as much as classroom teaching in terms of engaged active learning, even if residencies are needed to make it a blended or hybrid course. Despite the fact that many online students are working or are career people, they must be encouraged to use the discussion board for questions and answers as well as use class emails to interact with both professors and students. The online teaching techniques discussed and others should be sufficient for any online professor to maintain a high level of student engagement toward mentoring and facilitating online students to become successful in academia and the workplace.

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