Combining asynchronous and synchronous distance learning to simulate a new "blended" classroom

-A first attempt, using Zoom and Moodle-

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ABSTRACT

This paper provides a brief description about and comments on how the present health crisis has affected education, both in general, and specifically with the author's most recent classes, some of which are still ongoing. It also discusses the author's originally gradual, but now sudden, move toward online techniques in teaching. His main goal was to have the completely online classes resemble his previous in-person classes as closely as possible by providing a synchronous component to them.[1]

INTRODUCTION

Tal Frankfurt writes in a Forbes Magazine article (Frankfurt 2020), that, although the new reality caused by the pandemic has wreaked havoc on modern society, the global emergency can bring about advances in technology that had previously not been thought to be possible. While viewing it more from more of a political and economic angle, Sharma (2020) also provides an interesting slant on the situation when he maintains that, rather than changing everything, the pandemic merely is "speeding up trends that were already underway." People are retreating to the relative safety of their homes to "pursue employment, education and entertainment in the immersive world of the online economy."

The present world-wide health crisis we are facing now has galvanized the academic world to search for new solutions in education in order to cope with the pandemic. It has forced many institutions to switch to, or at least consider the possibility of adopting, distance-learning solutions to help ensure a safer environment for students, staff, and faculty.

Here, we want to look at some of the more general ways education is having to evolve in the new reality which has been forced upon us, and–on a more micro level–discuss and give a preliminary evaluation of the methods the author himself has used in this last semester.

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1 (Note: In keeping with the perhaps antiquated, but still followed by some, practice of avoiding the use of the first person singular in order to at least give the appearance of being impersonal, the author will be using the terms "the author" or his initials, DRB, to refer to himself. He does, however, use the first person in the "Thoughts for the Future" section towards the end to reflect the more personal quality of that section.)

SYNCHRONOUS VERSUS ASYNCHRONOUS

With the sudden push towards online education, we often lately hear or read the terms "synchronous" and "asynchronous" being bandied about, leading one to believe that these are new concepts and tied in with technology in some way.

These two words simply mean "at the same time" and "not at the same time", respectively. The title of this section and the very definition of the words appear to portray them as being in opposition to each other, when, in fact, at least with regard to education, they should be viewed as supplementing each other and combining to form a whole.

These terms have become buzzwords, but they are not new concepts in education. Teaching classes has always involved elements of both. Traditional in-person classroom instruction, of course, typifies synchronous activities, but instruction and learning did not end when students walked out of the classroom, or at least it should not have. There has always been homework, review, preparation, and other learning outside of the classroom. This is asynchronous with the time in the classroom. There could also be some synchronicity involved outside of the class meetings. Students also discussed assignments or prepared for classes and exams with one another outside the class. However, such activities–while exhibiting synchronicity with respect to the students' dealings with one another–were asynchronous with their in-person time spent with the teacher in class.

EXAMPLES OF ONLINE OR PARTIALLY-ONLINE MODELS

In this section, we briefly discuss some examples of how institutions are attempting to cope with the changes required in the new reality imposed upon them.

The Hy-Flex Course Model

This model actually predates the pandemic. In the Hy-Flex (**Hy**brid **Flex**ible) model–developed at San Francisco (Edcause 2020)–every class section and learning activity is offered in-person on campus and simultaneously (synchronically) online, and is also recorded to allow for asynchronous participation. Originally, when this method was developed, the flexibility portion was intended to allow students–based on their individual needs–to choose how they wanted to "attend", and also leave them the option of creating the balance of "attendance" formats they feel is most suitable for them. However, in the present circumstances, this flexibility can also apply to the educational institutions themselves by enabling them to maintain educational and research activities "as the circumstances of a given disruption unfold."

The BlendFlex Model

In order to meet the challenges posed in trying to keep students safe during the pandemic, The University of Central Florida (UCF 2020) has developed a variant based on the Hy-Flex Model which they call the BendFlex Model. In this model, students enrolled in a course are divided into groups called cohorts. Because the cohorts have smaller numbers of students, this would make it easier to maintain social distancing in in-class classrooms. For example, if a class were split into three cohorts, one cohort could attend an in-class session while the other two attend remotely either synchronously using Zoom (the technology chosen at UCF) or asynchronously by viewing a recording of the session online. The cohorts would alternate their method of attendance on a regular, scheduled basis.

There are, however, limitations to this method. A major possible drawback to this model is that it favors lecture-style teaching and not courses that require interaction among students and between the instructor and the students. For example, if there are activities that require interaction in the course, the scheduling would have to be carefully balanced to be fair to all of the cohorts. In a course that is not pure lecture, some content is naturally going to be easier to teach and learn in an in-person context, and the instructor will have to assure that all of the cohorts get an equal share of such content.

This method brings to mind a teaching model used for large-enrollment class employed at the author's university. When he was a graduate student, he taught discussion sessions in an introduction to linguistics class in which hundreds of students were enrolled. Two periods a week, the faculty member in charge of the entire course lectured to all the students in a large lecture hall, and, for one period during the week, the students were broken into smaller discussion sections normally taught by graduate TA's. The lecture sessions of such a class could be handled in the BlendFlex model, but the Q&A and other interaction found in the discussion sections would be difficult to manage.

Another major drawback to this method, is that, regardless of the attempt to maintain social distancing in the smaller in-class sessions, the instructors and students will still be at some risk through in-person attendance.

Online Video Conferencing

Systems for asynchronous online learning, such as the Moodle and Blackboard LMS platforms, have been employed for many years now, but the urgent call for online synchronous instruction has brought other technologies into the limelight, most prominently video-conferencing

platforms such as Zoom, Microsoft Teams, and Cisco's WebEx. Zoom, in particular, has caught the attention of many educators and educational institutions.

CHANGES IN CLASS MANAGEMENT

In early spring of this year, just prior to the beginning of the 2020 academic year, when the universities DRB was teaching at were suddenly faced with the reality that traditional in-person education was just not possible, there was a frantic search for alternate ways to begin the semester. Both universities ended up having to delay the start of classes: one by about two weeks and the other by a somewhat longer period, with the earlier cancelled classes being made up by extending the semester through the summer. This delayed semester is still going on now as this paper is being written.

While a number of his colleagues ended up going the completely asynchronous email route for interacting with students, this had been the supplementary method DRB had used a couple of decades before, and he had gone on to other methods. Even prior to the health crisis, he was already using the Internet to provide a blended class environment (Bogdan 2010, 2011) and was relatively well-positioned to adapt to the new situation.

There were others who decided to try their hand at Moodle, many for the first time. This sudden influx of users led to some serious server outages earlier on–much to the chagrin of those who had been using the platform for many years–but those outages have not occurred recently, either due to an increase in server capacity or a tapering off of users.

Let us now look at a brief comparison of how the author had conducted certain classes before the pandemic with the changes he made once a totally distance-learning format was required. His goal when instituting the online versions of the courses was to make them as similar as possible to the pre-pandemic versions. He had already been using Moodle for mainly asynchronous activities, but now he wanted to try to incorporate Zoom meetings to simulate the synchronous activities which had taken place in the classroom. The resulting mix would not constitute a blended classroom in the traditional sense of in-person and online aspects but rather a blend of synchronicity and asynchronicity, all accomplished online.

Language & Culture Classes

Before:

The two English composition classes, although they were at different universities and at different levels, followed what was essentially the same format in that there were two separate arcs: activities related to the textbook and then the assigned essays and the correction activities associated with them. Homework, preparation for the class, the essays, and the correction

assignments related to the essays were completed outside the classroom, constituting the asynchronous side of the course.

Synchronous "in-class" activities included group activities, such as a game-like vocabulary-building exercise and preparing for and giving presentations on the error-correction assignment, and general class activities, such as going over the homework answers, taking quizzes, and going over the quizzes.

After:

The asynchronous Moodle-based aspects of the classes stayed the same. DRB, however, attempted to simulate the in-person activities as closely as possible, using Zoom, Zoom in combination with Moodle, and, in one case, Moodle in combination with the Line communication app, which allows free voice calls and text messages.

Students, divided into Zoom breakout room groups, worked on the vocabulary-building exercise (distributed through Moodle), with the instructor joining in and leaving the groups to see how they were progressing and to help if necessary. When this activity was completed, everyone left the breakout rooms to rejoin the class as a whole, and then everyone went over the exercise together. Going over the homework also took place in the general meeting environment, with DRB–with varying degrees of success–attempting to get the students to volunteer answers for the various exercises.

DRB made the quizzes–which he had either composed on or uploaded to Moodle–available for the students to take for specific time periods during the Zoom meeting, and, while the quizzes were automatically graded and the correct responses shown to the students once they had completed them, he went over the answers "in class" with the students, again trying to get the students to volunteer to read the question and provide the correct answer.

The group correcting activity had previously taken place entirely in class, but the instructor had to finagle this a bit to produce both a synchronous and asynchronous feel to it. The interaction among the students in their groups took the form of Moodle forums, which are, by nature, asynchronous, but DRB had the groups start the forums in class, and the students used the Line app to talk to each other (synchronously) while posting to the forum. They later completed the preparations for their presentations outside of the class, ideally using the forums for this. The presentations themselves were given to the class as a whole during subsequent Zoom meetings. The activity, therefore, went from synchronous to asynchronous, and then back to synchronous.

Line was chosen for the students to talk with one another because they were all already using it, and trying to create specified breakout rooms on the fly for a class of 34 proved to be too

cumbersome on Zoom. There is a way to preassign participants to breakout rooms, but it would have required DRB using the students' actual email addresses and he was concerned about privacy issues.

Computer Classes

Before:

Although the content was quite different, the two ICT classes ran in a similar manner to each other. The ultimate goal of the classes was to produce group projects either in the form of interactive webpages or instructional videos, but class meetings during the first half of the semester often consisted of the instructor giving examples and the students working–starting in class and afterwards on their own–on completing individual assignments. The in-class activities on the part of the students were designed to allow the instructor to observe the students progress in completing the assignment. There was a lot of interaction during the activities. The students computers were lined up next to each other on tables, and they were able to view each other's progress and help each other out. Typically, DRB was continually making the rounds around the room. By the time the group projects started, there was much less class time devoted to the instructor giving mini lectures on techniques and more of him showing the students how the various groups could solve the problems they were encountering in their projects. These explanations were done either with individual groups or students at their computer(s), or for the class as a whole with the projector.

Moodle was used extensively in these classes. Explanations of different techniques both in coding and in content production work were made available to the students either in text or video content on the LMS. Students also evaluated the projects of other students in groups using Moodle. The explanatory materials and examples given on Moodle usually began as a synchronous activity because DRB would open up the materials in class and go over them as the students were accessing them. The asynchronicity came in when the students were able to access the material already covered by the instructor after class when working on their projects. Another asynchronous use of Moodle came in prior iterations of the courses. Earlier on, students submitted their assignments through Moodle, but, as time went on, DRB found in-class submission of material using the Airdrop function of Macs and iPhones to be a much more efficient way to get the material from the students. When Moodle was used by the students to evaluate each other, they did this in the classroom as a quasi-synchronous activity.

After:

The ICT class for this past term was originally intended to be the one in which the students use the iMacs in the small MacLab he administers to create educational video material, but, as the

lock-down in place meant that the lab could not be used, which in turn meant that only students with Macs or iDevices would have access to the applications needed, the content was switched that of the web design course. It had been reasoned that, because students typically have their own computers, they should have been able to produce the source code in HTML, CSS, and JavaScript with any text editor and view the results on a browser. Every computer should have this capability.

Unfortunately, however, we did not see the same uniformity that we had when everyone was using the same environment in the MacLab, and there were all sorts of hiccups in getting the webpages done. Also, creating and embedding audio and video files turned out to be a major issue, at least with some of the students. A more uniform environment for scripting and dealing with audio/video content will be needed in the future.

Seminar-style Classes

Before:

The other two classes discussed here were similar to each other in that they were research supervision seminars and typically involved only one or two students per session. The instructor normally met on a regular basis with the advisees to go over their progress, provide corrections and suggestions in what they had done, and to give advice on how to proceed and sources to consult. Moodle was used for distribution of materials and submission of student-produced content. In recent years, with at least some of the students, the fairly new collaboration function of Apple's Pages provided an effective distance-learning technique allowing DRB to view the student's material and make corrections to it with the student observing these corrections/suggestions "live" as they were being input. There were, therefore, at least some distance-learning characteristics in most of the courses prior to this semester.

After:

One class was the senior research supervision course. It was carried out through a combination of Moodle with Skype (rather than Zoom) because it was a one-on-one experience, and the instructor was used to using Skype for that type of communication. There were two other reasons for choosing Skype over Zoom. As noted, it was a one-on-one class, which required active student communication. Also this is a student who already had a Skype account and had used it with DRB in the past. The student had taken the two ICT classes with him previously, and so was familiar with the Apple software and also used an iPad quite extensively. Therefore, it was decided to go with the Pages word processing program in the collaboration mode even though the student would not have access to the MacLab. As with previous classes, co-editing in this collaboration mode worked out quite well, especially when done in the context of a Skype call, which allowed for

oral communication while the editing was occurring. Again, this was made possible because the student was an avid iPad user, and DRB had long experience with the Apple ecosystem.

Although the graduate course was also a one-on-one supervision course and could have easily been conducted using Skype in the same way as the senior research class, Zoom was used for the synchronous activities in concert with Moodle for the mixed synchronous/asynchronous whole.

The reason behind this choice was that the graduate student had already signed up with Zoom for his other classes, and it seemed as an unnecessary burden to require him to use a different application just for this class. As it was only one student, there was no concern about promoting and facilitating student interaction and it was carried out fairly close to what a normal class would be. The graduate student always enabled his video from the start of the course without being asked to do so, and this format fairly closely emulated the in-person graduate classes the instructor had conducted throughout the years, although having a student present their material using a projector in front of a "live audience" in the classroom had allowed for more spirited interaction in the previous in-class versions.

SOME OBSERVATIONS AND CONCERNS

Video meetings

One major thing missing from the classroom situation was not being able to see the faces of the students to get that visual feedback. A common thread in discussions about teaching in Japan–especially language classes, which require substantial student participation–is how difficult it is to get Japanese students to volunteer in class, that you often have to pick on them to get them to speak, and that, even when you do choose someone, they might not respond. While this is a generalization, the author has often found it challenging to elicit the same sort of response that he had seen in classes he had taught or attended in both the US and Poland. In the past in-person classes, DRB often had to resort to proactive eye contact to "guilt" students into responding.

In some cases with the classes taught this past term, there were students (at least some) who took very noteworthy initiative in actively participating and/or even in getting other students to participate in both the live Zoom meetings and the asynchronous activities for the course. However, there were also other instances in which trying to get interaction during a Zoom meeting was like the proverbial "pulling of teeth." Because, during the Zoom video meetings, the students did not activate their own videocameras, there was no opportunity make any eye contact and use it to "pressure/encourage" them to speak.

While he did not manage to test this in any measurable manner, DRB did get the sense that the students were more likely to actively respond and participate in the smaller Zoom breakout

rooms, even when he joined in. To some extent, this actually mirrors the typical behavior he has noticed in his previous in-person classes; the smaller the audience, the less inhibition.

From the standpoint of encouraging more active participation and interaction on the part of the students, it would seem to be much better to have everyone's video activated–if possible–in order to more closely emulate an actual classroom situation, but, for right now, it is unclear whether there are privacy concerns to take into consideration when the students are in their homes or other off-site locations. Even the instructor has to be careful what is showing in the background. For the most part, DRB broadcasted from his office at the university, but there were a couple of occasions which required him to be at home, and he had to make every effort to keep his location private, even going to the extreme of covering possibly reflective surfaces with a towel.

On the whole, however, if privacy and bandwidth concerns could be met, having a class-like meeting where everyone could see each other should enhance the learning experience. Communication includes non-verbal communication. The "thumbs up" and "applause" reaction emojis can not completely replace in-person interaction. Such devices might be useful in lecture-style classes, but not for classes which depend on interpersonal communication.

Zoom Breakout Rooms

A common element of the author's past in-person classes was a heavy reliance on group (including pairs, of course) work during the class, whether it be language/culture related or a computer class. With Moodle, he was able to promote peer-generated activities through forums or even wikis (Bogdan 2010 & 2011), but this interaction among students only took place outside the classroom, and asynchroniously.

One thing that makes Zoom quite attractive for education is the ability to create and use so-called breakout rooms during the "class". As the name suggests, participants in a Zoom class meeting can break out into smaller groups in order to allow group work or group discussions during the class. The instructor can join in or keep tabs on the rooms as needed.

Nolen (2020), in her instructions for using this feature, suggests that "using breakout rooms requires some setup beforehand, but that "they are easy to use during a class session." Actually, DRB felt the reverse to be true. You do need to enable breakout room use for your account on the Zoom website, but that was essentially just a "one-time" flipping of a switch.

During an ongoing session, you could automatically (randomly) assign participants to whatever number of breakout rooms you desired. This in-class set-up part was quite easy. What was time-consuming was the "jumping around" among the rooms to check on the groups' progress. You have to enter the breakout room dialog window and then join a particular group.

If you want to switch to another group, you need to first "leave" the group you are in, which throws you out of that dialog window and back to the main meeting screen. Then you go through the same steps of opening up the dialog window again and then join a different group. There did not seem to be way to simply switch directly between groups, and all of this takes time. Also, you have to make sure you are leaving the breakout room and not the entire session. Perhaps there is an easier way to accomplish this, but with an in-person class, it was much quicker to just wander around the room and talk with individual groups.

THOUGHTS FOR THE FUTURE

The observations in the section above mention certain issues that came up in conducting the off-site courses this time around. Various methodologies and changes need to be considered for future classes. I am of the opinion that the closer distance-learning resembles in-person learning, the easier it will be to adjust to it.

Video to encourage more interaction and participation

This was a big issue. Not ever being able to see the faces of the students I was supposedly "teaching" inhibited not only me but, I believe, also the students. Had they been able to view each other and had known that they themselves were being watched, the all-important non-verbal communication side of interaction would have come into play.

I would have also found it useful to be able to see the students as they were taking quizzes on Moodle. I made these synchronous activities so that the students could take them during a specified period of time while we were having a "live" Zoom meeting. While I generally trust the students to have listened to my admonitions about treating this as an actual test and that they were not to consult anything else–such as their textbook or the Internet–while taking the test, being able to see them while they were taking it would have lent a more realistic in-class feeling.

I need to check with the powers-that-be at the universities to see what the policies are with regard to having the students turn on their video cameras. If there are no privacy or bandwidth issues, I would prefer to amplify an atmosphere resembling an in-class test.

Collaboration in a word-processing environment

One feasible method not readily evident in the literature relating to distance learning is the possibility of employing a composition collaboration function such as the collaboration feature in Apple’s Pages word processor. You can see changes being made in real-time–as the instructor and students actively cooperate with one another–and you could also use something simple such as Voice over Internet Protocol (VoIP), or even the telephone, to discuss what is going on, although

this is not strictly necessary. In the senior research seminar, we used Skype to supplement the process, but the video was not at all needed during this process. This method can be very useful in smaller, supervised seminar-style classes where a lot of editing is needed.

Zoom, does have a chat function, but even when used during a live session, it is in reality asynchronous, although the time lag can be very short. You have to actually push out, or send, what you have written once you have input it. The collaboration function in the word processing program, on the other hand, is a real-time process during which the collaborators witness the inputting and changes as they are going on, adding a greater immediacy and sense of interaction to the process.

One problem with this sort of teaching method is that everyone needs to be on the same page. They need to be using the same word processing program in order to invoke the collaboration function. However, while it may be true that very few of the author's students have Mac computers, many (and–in the author's experience in recent years–a probable majority), do have iPhones, and, even if they do not and if the online version of Apple's Pages also allows collaboration, the students and instructors might not be forced into the Apple hardware ecosystem at all. Although an Apple account may be needed to take advantage of this function, anyone can open an account up at no cost or commitment, so that should not be so much of a hardship. And, of course, there are other word-processing alternatives available.

Latitude in participant names

This was a major bone of contention. It would be very helpful if Moodle would allow the teacher in an individual course to make their own rosters of participants. The two universities had different ways of registering participants in Moodle, and dealing with names in Japanese (for one of the schools) made things quite difficult. Also, the university emails were used for registration purposes, and it was quite a concern that everyone's email address (including DRB's) would be visible to everyone else–even if it is the university one–because such information, especially in the case of students, should be handled with care.

In addition, sorting by email address does not always give the desired results. At one university (or at least in that particular faculty), the order of the email addresses often does not jibe with the order the students are placed in the rosters and grading sheets the university provides, and this discrepancy can easily lead to an instructor making mistakes in grading and other forms of evaluation.

CONCLUSION

It looks as though the pandemic and the far-reaching effects it can have on education will be with us for at least some time, and we need to continue looking into ways of adjusting to this reality. Online teaching and limits imposed on what has been traditional in-class instruction are here to stay for the foreseeable future. However, as noted earlier, these trends were already underway and are just being speeded up. We can adjust to meet the challenges.

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