Virtual Field Experience: Undergraduate Students Teaching Elementary Students at a Distance

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Abstract
Two junior-level university students enrolled at a small, Catholic university in southeastern Pennsylvania taught one music course and one Spanish course to students in grades K-8 at a small parochial school in northeastern Pennsylvania via distance learning (video streaming) technology. There were approximately 10 students in each class. The goals of the project were to determine whether or not it would be beneficial for university students to be educated in distance learning methods, to give the university an alternative means for its students to obtain pre-service teaching experience, and to determine whether or not the learning needs of the K-8 school students would be effectively met by distance learning.

Introduction
The summer prior to beginning the distance learning experience, we met with the elementary school principal to discuss what we would be teaching and were informed that we had freedom to design the curriculum from beginning to end. We were scheduled to meet with combined classes of grades K-1, 2-4, 5-6, and 7-8 every other week. We knew this would present unique challenges since young children are accustomed to being taught by teachers who are in the same room and perceive television screens not as interactive devices but rather news, sitcom, and movie projectors from TV stations and VCR/DVD players. There was a need to quickly become facilitators who could capture student interest and awareness in the subjects we were teaching.

A considerable amount of brainstorming went into creating materials and lesson plans for our classes. After learning how to use the tools offered in Elluminate Live! -- the synchronous multimedia collaboration on-line program which was utilized to facilitate communication between the sites -- we were able to show the students web links that complemented our lessons with pictures, maps, and even music. We were able to store streaming audio files on the university's Internet server so we could transfer music files we wanted to share in the classroom. Every week as we planned each lesson, we reflected on possible troubleshooting we could experience that might inhibit the execution of our lesson. For example, plans were developed for when worksheets were lost or never printed, music did not play, or if only the camera (but no sound) was working. We learned very quickly that being prepared is essential when teaching through the use of technology.

Methods
As the weeks progressed, we established classroom routines students could consistently follow each meeting.

In the music class, the students grew accustomed to beginning the lessons with several minutes of review of material from the previous lesson. We then followed with a song or game that would forecast the focus of that day’s lesson. Brainstorming was always a significant aspect of the beginning of music lessons. It was a great way to test the students’ previous knowledge of the topic and more accurately direct the lesson. We continued with a PowerPoint presentation of notes and images linked to the topic for the day, and each lesson would conclude with a worksheet or activity to test the material the students had mastered during the lesson.

In the Spanish class, we started with a warm-up activity that helped students learn and later review basic greetings in
Spanish. Once mastered, students practiced conversations with one partner, and then volunteers demonstrated for the class. The length and variety of this warm-up correlated with the level and age of each class. After the warm-up, PowerPoint slides presented a themed vocabulary or topic. Students viewed pictures and were encouraged to draw or write to come up with ideas on how they were going to remember this material. They then practiced and reviewed the material through a game that consisted of acting, hand motions, a worksheet, or clues given by the teacher. The classes that steered away from this structure were the cultural lessons for holidays, such as "Christmas and the Wise Men," "Lent in Seville WebQuest," and "Cinco de Mayo." We incorporated teachings and other facets of the Roman Catholic religion into the lessons because the religion has a strong historical and cultural value in the language.) Using bits of information with which the students were already familiar to expand their knowledge and awareness were very successful. Every lesson was adaptable to each class, which was particularly necessary since we were teaching a wide variety of ages.

Discussion

Distance teaching versus traditional teaching. The major difference we encountered with the traditional classroom dealt with how we used technology. We had to rely on its use, rather than creating lessons enriched by technology in the traditional in-person classroom.

Our major frustrations were in the limitations we experienced. We were restricted by how well we could see and hear our classroom, which caused detachment from our students. It took us a long time to get to all of the students, especially those who sat in the back of the classroom. During interactive activities, we could not experience walking around the classroom and observing how effectively students were working in their small groups. We also felt limited to giving small gestures that fit on our screen in order to give clues or feedback. These obstacles hindered our ability to instantly and interactively assess the progress of the class.

Although we never encountered any major discipline problems, the monitoring teacher at the distance classroom had to address the minor problems that we could not. We were unable to do any necessary disciplining at the far ends of the classroom by simply walking close to two students talking in class, especially when we had a class of thirty-four students with the group of second to fourth graders.

Lesson planning. Since we had the task of planning the curricula for many different levels of students, we had to decide what we wanted to include in our subject matter. We had complete freedom regarding what to choose, which we initially embraced. However, this changed when we realized we had no starting point, no guidance (compared to the way student teachers have with cooperating teachers), and no way to anticipate which lessons would be successful in a virtual classroom. We also needed a grading scale for each class and had to decide in a fair and meaningful way which tasks would be worthy of a particular grade.

Then came what we eventually found to be the more overwhelming task of planning weekly lessons for a classroom of students in a virtual environment. Many frustrations came from this process, a number of which were unexpected. First, we wondered exactly how we were supposed to teach these kids. The distance certainly was an added difficulty. We had to somewhat blindly experiment with activities and tactics that could work with the age group and the virtual environment. We researched content standards in the subjects to give ourselves an idea of what many schools expect of their students in music and Spanish. Ultimately, the lack of experience working with young children in a virtual distance environment presented an early problem.

Once we met our students and got an idea of their personalities and abilities, we wondered how our ideas could be adapted to work well in the virtual classroom. It was frustrating when we would think of fun and innovative lesson ideas just to realize they would be nearly impossible to maneuver successfully from the other side of a television screen. We would try to implement exciting lessons to capture the children’s attention while teaching them in a meaningful way, but we quickly found this kind of planning required a tremendous increase in work. We needed to develop interactive and instructional activities that could be manageable from a distance. Independent small group work was successful with the older students, while the younger students handled whole classroom tasks and teamwork very well. We worked hard to capitalize on these abilities so the students would remain interested in the lessons in a way we could maintain control of the classroom. Unfortunately, even after hours of planning what we thought would be successful lessons, most of the problematic factors were outside of our control in this virtual distance environment.

From the very beginning of the school year, we encountered one problem after another that we had to learn to adapt to, plan around, or simply correct on our own. We soon learned that situations at the distance school could negatively affect great lessons. On many occasions, after writing up lesson plans and constructing worksheets or activity sheets to send to the schools to be handed out to the students, we would arrive at the next lesson only to find those sheets had not been printed out or distributed. On days when the students needed art supplies or notebooks they sometimes arrived without any of the materials we had requested them to have for the lesson. A few times, we waited by the
computer for the distance school to connect for class, sometimes for ten to fifteen minutes. Later we would find out there had been a meeting in our classroom that went over its time, which prevented our lesson from starting. Sometimes the classes simply arrived late which took minutes away from our lessons. In addition, there were school delays or closings due to inclement weather.

Technology

The actual equipment utilized to make the project work was complicated. We viewed our students in class sizes with as many as 34 children on a screen smaller than a standard sheet of paper. Unfortunately, it was almost always difficult to see and hear the students. We sometimes lost connectivity in the middle of a lesson which meant we needed to recapture the students’ attention and get them back on track after the delay. On some days, it could take anywhere from five to twenty minutes simply to get the Internet connection working.

The *Elluminate Live!* program presented a number of its own issues. On the first day of class, the partner school could not open the link to the virtual classroom which instantly eliminated any videos, songs, images, or notes we had planned on incorporating that day. As helpful as the program ended up being, if it did not work on a given day our lessons could completely fall apart. If we wanted the students to view a PowerPoint presentation or watch an online video, we would not be able to show it without *Elluminate Live!*

The next issue presented was audio difficulty. Especially in courses such as Spanish and music which are very much based in auditory learning, audio malfunctions created huge problems for the students. Sometimes the audio would fade in and out at the distance school to the point where the students could not identify what we were trying to tell them. We also frequently could not hear what the students were saying to us which was frustrating on both ends. The most significant audio problem came in the music class when we needed to find a way for the students to listen to audio clips. We tried playing CDs through the computer, unsuccessfully. Next, we attempted to send the files individually, which was also unsuccessful. Finally, we found that by streaming MP3 files on the university server and loading them into the Multimedia Library of *Elluminate Live!*, we could play them through the program for the students.

When we would find one solution, another problem was on the horizon. How do we find available audio clips to use in the lessons? What if we have a file not in the MP3 format we want to send? How well will the files actually play at the partner school? We found this process could be quite an involved one that we could not handle on our own. We worked out a system where we would download free public MP3 files from a variety of educational websites, burn them onto a CD, bring the CD to a technician, who would then convert the file to MP3, stream it onto the university server, making it available for our classroom use. This had to be done every time we needed to send an audio file through the program. This was one area where technical assistance was necessary.

After all of this had been done, the process was still not perfect. Because the Internet has a delay when sending information, when we sent the audio file to the partner school it took several seconds, sometimes as long as a minute or two, for the clip to play in the classroom. We could not control when the clips started or finished. The delay also made it very difficult to complete some activities, particularly with the younger children, because there was a distinct time gap
between when we finished talking and when they actually heard us. If we needed them to follow along with us or provide modeling, they could only follow the timing they were viewing, which was actually seconds after we were performing the action. It was very confusing at times, but we had no choice but to accept the delay and hope the children could follow along.

From all of these difficulties, we learned one tremendous lesson that will serve us well for the rest of our teaching careers: Anything can ruin a great lesson, but nothing could ruin one that is well-planned. We had to plan, essentially, for everything to go wrong. We had to expect things might not be done because we had no choice but to work around such problems. We had to anticipate any and every technical problem and devise a contingency for fixing it or adapting to it. We had to maintain the direction of the lesson in any way possible, even when equipment or software was not functioning. Sometimes problems still cropped up we had not imagined and our ability to think quickly was tested. It was our job to fix these situations in a way that did not sacrifice the students' learning experience.

The Dynamic of the Virtual Classroom

From the first day of class, we immediately realized teaching children from a distance was going to be very different from teaching them in a traditional classroom. We knew we were going to encounter problems we would not have met had we been in the room with the students. However, the greatest challenge was battling the environment of detachment in the distance classroom.

The first issue that arose was a very consistent barrier throughout the school year: We had trouble communicating clearly with the students. We had difficulty hearing and seeing the students. It was frustrating, both for us and for the students, to have to repeat ourselves several times and sometimes still not be heard. The children would be confused when we called them by the wrong name, but we would actually find ourselves at times unable to distinguish one child from another.

On the long list of fears many new teachers have, that of not capturing the students’ attention in an exciting yet meaningful way is always included. How does a student teacher handle a classroom of staring eyes and blank stares? Unfortunately, during this experience the response from the students during the school year was not always an enthusiastic one. The younger children always seemed amused by the picture of the teacher on the screen, but the difficulty was keeping them involved in activities without actually being present. The more challenging group, however, was the older students. They were not as fascinated by the distance equipment, and were often completely disinterested in lessons. Unfortunately, there was less we could do from a distance to pull students into a lesson. We could not just walk towards a student to get his/her attention and draw misbehaving or daydreaming students back into the classroom. Sometimes, we had to remind the students that although we were not in the room with them, we could still see and hear them talking to their classmates during lessons. It seemed as if the older students saw our classes differently because the picture of the teacher on the screen did not have the same effect (with discipline, specifically) as the teacher in the classroom.

Another obstacle we had to overcome in the distance education classroom was a degree of helplessness. Just as this was a problem to face in planning, it definitely complicated the environment in which we were teaching. All of the help the classroom teachers gave us was absolutely indispensable and many of the lessons we taught would have been impossible without the support of the teachers at the partner school. However, it was very difficult having to share responsibility for our lessons with teachers at the partner school. As humbling as it was to realize that we could not do everything ourselves because of the distance, it was a great lesson in working with fellow teachers to construct the most successful lessons possible.

Meeting In-Person

After a full school year of music and Spanish instruction from a distance, we were all looking forward to the final class before summer break. We decided the perfect way to bring the year to a close was to meet in person the students we had been teaching for months. The students were so excited to know we were coming but their anticipation could not compare to ours.

As soon as we arrived at the school to teach everything felt different. We introduced ourselves to all of the teachers who had helped us. We arranged the classroom exactly how we wanted to best fit our lesson. We made and brought our own manipulatives and displays to keep the students involved. The best part of the experience was the response we got from the students.

All along, it was the connection with the students that was missing and that connection came immediately when we set foot in the classroom with them. The children all popped their heads into the room as they walked by waiting for their turn to meet us. The bond between student and teacher came so much more easily when we were actually together. The students responded to us, to our lessons, and to our personalities in a way they had not at a virtual distance.
Ideas we had all year about some of our students were reversed. We managed in a single lesson to open up students who had barely spoken all year, connect with students who had appeared unreceptive to our teaching styles, and capture the attention of students who had seemed disinterested for months. The older students with whom we had had such a difficult time connecting, were receptive and excited to finally have a class with us in person. The enthusiasm the younger children had for the picture of the teacher on the screen was transformed into interest in our lessons.

It was reassuring that after months of feeling detached from our students, we really had an opportunity that allowed us to connect with them in person. The distance education was a substitute for a school that would have had no other option for Spanish and music, but ultimately we realized how important it will be for student teaching and future careers to work hard at establishing a relationship with our students. Children will always learn more from teachers who they can trust to be caring, knowledgeable, and patient. We learned from this experience to never underestimate the instructional potential of a connection with our students.

This experience was more than just a research project. We have kept our materials and look forward to repeating and adjusting some of the lessons in the future. The preparation for the classes was a bit more difficult since we had more frequent encounters with technology mishaps. However, it entailed making our own informed decisions and meeting our student and teacher objectives. Originally, we felt intimidated by the possibility of running a class that could end before the full 45-minute periods. What would we do with the remaining five minutes of class if we do not want to start anything new and have already completed our lesson plan? After a few over-planned classes, not only did we have a better sense of time estimation but we also created contingency plans for short classes.

Gaining teaching experience through distance learning was a great way to get us started as pre-student teachers. Obviously, we did not have a typical class schedule or setting, but the obstacles we encountered helped us become more creative and prepared us for our future in the traditional classroom. As with any teaching experience, we gained confidence and ease as we became comfortable with our class structure. Most importantly, we learned while the students learned.

Limitations

Because we were inexperienced teachers, we had to primarily rely on applying what we had learned from our education coursework at the university, our observations of experienced teachers, and our own instinct and creativity. We also had to recognize which activities truly promoted learning and think quickly when lessons needed some instant editing.

The most difficult part of the planning process was determining what we wanted our students to accomplish. We had endless ideas but not nearly enough time with each class. Seeing each class only every other week limited the amount of material taught and mastered by the students. This affected our lesson planning. To compensate for our limited instructional time, we learned to choose interrelated topics mastered by the majority of the class through review activities.

Discussion

Looking back on this experience, we offer three ‘words of advice’ for teachers taking on distance education. First, it is important to make sure everyone involved is on the same page. Do not let technical support make decisions without informing you. Do not make decisions without informing the partner school. Too many problems can arise when someone is left uninformed.

Next, do what you can to make the classroom feel like your own. It will be more fun and more meaningful if you feel like you are the one directing the lessons, not just the teachers in the classroom.

Finally, distance learning should be geared towards more mature students. Many young students are not independent learners yet and thus need to listen to someone whom they perceive as real – someone physically in front of them. Perhaps this would be more successful as reinforcement for a high school traditional class or for independent college students.
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