

“Technology and Immediacy: A Study in their Co-Existence”

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Abstract

This study examines how students respond to the limits created by the absence of proxemic nonverbal classroom immediacy inherent in technology mediated distance foreign language education classrooms. Through the examination of immediacy, the purpose of this study was to answer the question as to whether traditional (face to face) classes and those taught via interactive television are the same in terms of student satisfaction with the course and its instructor. To do this, two groups of foreign language teacher trainees, one interacting in a live classroom, and one using interactive television, were surveyed after taking the same class whose syllabi, activities, evaluations, and teacher were the same, but whose delivery differed. Respondents' evaluations indicate negligible differences in levels of satisfaction between the two groups. Given the consistent evidence in previous investigations concerning the importance of immediacy in live classrooms, reasons for the minimal differences found in this study are discussed.

Keywords: immediacy, nonverbal, distance education, foreign language education.

Resumen

Este estudio examina cómo responden los estudiantes a los límites creados por la ausencia de inmediatez de proximidad no verbal de aula inherente en las salas de clases de lengua extranjera a distancia mediada por la tecnología. A través del estudio de la inmediatez, el propósito de este estudio fue responder a la interrogante respecto de si las clases tradicionales (cara a cara) y las enseñadas vía televisión interactiva equivalen a lo mismo en términos de satisfacción estudiantil respecto del curso y su instructor. Para hacer esto, se encuestó a dos grupos de profesores-alumnos de lengua extranjera, uno que interactuaba en un aula en vivo, y otro que usaba televisión interactiva, ambos tomando el mismo curso cuyo programa, actividades, evaluaciones, y profesor eran el mismo, pero con diferente forma de entrega. Las evaluaciones de los encuestados indican diferencias leves en los niveles de satisfacción entre los dos grupos. Dada la sólida evidencia proporcionada por las investigaciones previas en relación a la importancia de la inmediatez en las aulas en vivo, se analizan las razones de las diferencias mínimas que se encontraron en este estudio.

Palabras claves: inmediatez, lenguaje no verbal, educación a distancia, educación de lenguaje extranjero.

With the surge of technology in education across Chile and the rest of the world, important questions need to be answered about its efficacy. One need not delve further than a quick navigation of the internet to realize that all of the universities throughout Chile are using technology-mediated resources to meet the growing demand for continuing education. In fields so tied to human communication as language learning and education are, it is necessary to assure ourselves as educators that we are moving in the most pedagogically sound direction.

Face to face interaction in the live classroom has been the principal instructional mode for so many years, that some foreign language teacher educators may question the use of technology mediated instruction that they perceive could potentially limit the social, interactive learning process. Many techno-skeptics cite the Orwellian-propagated idea of the de-humanizing effects of technology without realizing that indeed the advent of technologically based communication has made interaction over distance much more accessible. In fact, early perceptions of computer mediated communication relegated its efficacy to information exchanges and deemed it inappropriate for social and relational interactions (O'Sullivan et al. 463). Still today, modern day educational Luddites¹ mourn the loss of classroom immediacy, or the "verbal and nonverbal behaviors that reduce the physical and/or psychological distance between people" (Mehrabian), when in reality the "impersonal" nature of technology such as interactive television may be more relative than once thought.

In general, immediacy behaviors signal approachability, indicate availability for communication, augment sensory stimulation, reveal interpersonal warmth and closeness (Andersen), and reflect a positive attitude on the part of the sender toward the receiver (Mehrabian). It seems logical then, that immediate interactions would enhance classroom relationships and in turn, student learning. Indeed, the importance of studying immediacy in instructional settings becomes apparent when one considers the research that has demonstrated a consistent, positive relationship between frequency of immediacy

behavior and a myriad of fructuous educational outcomes. For instance, teachers who exhibit immediacy generate more positive student affect (Chesebro 135); increase student affective learning (Plax et al. 43); stimulate greater student state motivation (Christophel 323); receive higher instructional ratings (Abrami et al. 446); raise perceptions of cognitive learning (Richmond et al. 574); enhance retention of course instruction (Messman et al. 184); and promote learning by decreasing student apprehension (Chesebro et al. 59).

Even though research has suggested that immediacy cues are an important element in effective teaching, relatively little is known about how students respond to the limits created by the absence of proxemic nonverbal classroom immediacy inherent in technology mediated distance foreign language education classrooms. Through the examination of immediacy, the purpose of this study is to answer the question as to whether traditional (face to face) classes and those taught via interactive television fare the same in terms of student satisfaction with the course and its instructor in foreign language education classes. Understanding these learner responses might help teachers involved in distance education classes deal more effectively with immediacy.

Instructional immediacy can be exhibited through both verbal and nonverbal channels. While the *verbal* immediacy messages are equally feasible whether the teacher is in a traditional, face-to-face classroom setting or is teaching via synchronous interactive television, specific *nonverbal* cues are problematic due to the limitations imposed by the absence of physical proximity. Those verbal behaviors that researchers have deemed as indicative of teacher immediacy include sharing personal examples, posing questions, using humor, addressing students by name, praising students, initiating discussion, using inclusive pronouns like "we" rather than "I," conversing off-task, encouraging out-of-class communication, and providing feedback (Gorham 44). Thus, be it from a setting where one is able to meander among desks, or from a simultaneous broadcast beamed in from cyberspace, verbal immediacy is attainable.

However, that is not the case with those specific nonverbal immediacy cues that depend upon physical proximity to carry them out. While some nonverbal immediacy cues like using gestures, displaying relaxed body postures and movements, smiling, and using vocal expressiveness (Gorham 44) are applicable in live classrooms as well as technology mediated ones, others like moving around the room, reducing physical distance between teacher and student, and making physical contact through touch (Gorham 44) are virtually impossible due to the restrictions created by the camera and geographic separation. Eye contact, another nonverbal immediacy cue, poses an interesting dilemma in this study as to a certain extent teachers can achieve it on a group level by gazing into the camera, yet on the other hand, it is not accomplished on an interpersonal level.

Because these nonverbal behaviors are the primary immediacy cues that distinguish the live classrooms from the technology mediated ones, a closer look at the research on these cues may illuminate more clearly the challenges that teachers in technology mediated classrooms who desire immediacy enriched environments may face. For example, research strongly suggests that more immediacy is communicated when people face one another directly (Mehrabian), and that when social interaction occurs in close proximity, the frequency and duration of touch is a valid measure of liking and interpersonal closeness (Andersen et al.). In the classroom context, researchers discovered that if a teacher refrains from touching, in those situations where it is expected, students may experience feelings of rejection and isolation (Hurt et al.). When physical nearness is not possible, direct eye contact can enhance psychological closeness between teachers and students (Andersen). The establishment of eye contact with both the group of students as a whole as well as with individual students not only makes each student more attentive, but impedes the negative feelings that might otherwise exist if eye contact between teacher and student is not maintained (Bishop 50; Breed).

Although previous investigations demonstrate that immediacy is an important element in teaching efficacy, no studies have been done that target how the absence of

specific immediacy behaviors, in particular those whose utilization depends upon physical proximity, impact students' course and teacher evaluations. Thus, this study seeks to identify the differences between the levels of course and teacher satisfaction between two groups of foreign language teacher trainees: those who had the opportunity to interact in close physical proximity with the instructor, and those whose only exchange with the teacher was over interactive television. To make this identification, the same foreign language education course, using the same syllabus, activities, evaluations, and teacher was taught to two different groups, followed up by a formal evaluation that surveyed students' responses.

1. Background to the study

1.1 Changing Demographics

Iowa is a state located in the middle of America's "heartland." From 1990 to 2000, immigrants made up about two thirds of Iowa's population growth. In 1985, just 4.6 percent of Iowa's school children were minorities. In 2000, those numbers jumped to nearly 10%. During the 1990's the number of English Language Learners (ELLs) in Iowan schools increased by 177 percent (Krantz et al.). To meet the educational and linguistic needs of Iowa's rapidly growing immigrant population, the public school system responded by instituting English as a Second Language (ESL) programs from kindergarten through high school, thus creating a huge demand for state certified ESL teachers. For this reason, a distance education program, taking the form of an ESL endorsement, was created by one of Iowa's small state universities and taught via the Iowa Communications Network (ICN).

1.2 The Technology

The ICN is 3,300 miles of fiber optic lines with about 780 remote locations that serve the state through interactive video and advanced telecommunication services. The Network allows users such as hospitals, state and federal government, libraries, schools, and higher education to communicate via interactive, high quality, full-motion video;

high speed internet connections; and telephones (Iowa Communications Network). While originating at one site, the system has the capability of broadcasting into any number of remote sites. With just a push of a button on an individual's microphone at any site, a student can immediately exchange ideas with the speaker (whether it be the teacher or a fellow student), and this exchange is broadcast to the entire group.

1.3 The Participants

The 29 participants in this study were students of two sections of a summer course entitled, "Cultural Aspects of Language," a program requirement of the university for state certification in ESL that was taught over the ICN through the Continuing Education Program. One of the sections was composed of students who already had an undergraduate teaching degree and who were working toward their Masters in TESOL, while the other section was made up of students seeking an endorsement, a specific certification to teach ESL for teachers who are already licensed to teach in another subject area. Because of the low supply/high demand situation of ESL teachers in Iowa, roughly two thirds of the 29 participants were already teaching ELLs in sheltered or pull-out ESL programs. The students ranged in age from 25 to around 60 with teaching experience varying from 2 to over 30 years. There was only one male.

2. Procedures

Both sections of the course, "Cultural Aspects of Language" used the same syllabus, texts, and activities, and were taught by the same professor. The main difference between the two sections was that for the first one, comprised of 16 students, the professor traveled to the three remote sites throughout the duration of the four week, three hour a day class. That is to say, for the first week, she originated her class from one site, broadcasting to the other two. The second week she taught from another site and so on. Thus, this group interacted with physical proximity that enabled the professor to use all of the verbal and nonverbal

immediacy cues defined previously. However, even though the researcher will refer to this group as being in a "live" or "face to face" learning environment, there was a considerable amount of time that each of the three sites participated in the class via interactive television. The second group of the same course, who the author will refer to as "technology mediated," was composed of 13 students at five different sites. The professor originated from the university site, never meeting any of the students in person throughout the duration of the experience. In other words, the nonverbal immediacy cues that depend upon physical proximity were absent.

A learner-centered methodology was implemented throughout the two classes. Students often worked in small groups and dyads on specific tasks and activities designed and facilitated by the instructor. While the small groups were used to encourage conversation and debate, whole group interaction was usually reserved for giving instructions and reporting back. Individuals also reflected on suggested topics through a dialogue journal which each often shared with the group as a whole. Teacher-frontedness was avoided. Students were expected to do extensive readings outside of class, maintain a vocabulary log, and take responsibility for presenting (in pairs) at least one chapter from the text.

At the end of each course, the office of Continuing Education at the University sent each student an official evaluation form which they were invited to complete and return to the University.

2.1 The Survey

The official evaluation form used by the Continuing Education office contains two sections. In the first, there are 8 Likert type items ranging from 1 (low) to 7 (high). Table 1 lists them in order. Students are instructed to circle the number that most closely indicates their level of satisfaction with the contents of each statement.

3. Results

Table 1 contains the average responses of the two groups of students on the course evaluation survey. The numbers

represent the average level of respondent satisfaction by class to each item. The highest score possible was 7; the lowest, 1. The first column contains the questions; the second reveals the responses of the students who participated in face to face interactions

with the teacher; the third presents the data of the students who received training only by interactive television; and the last column shows the difference in averages between the two groups.

Questions	Live Class Responses	Technology Mediated Responses	Average Difference
1. Overall opinion of the course	6.75	6.2	0.55
2. Purposes and objectives were made clear	6.5	6.6	0.1*
3. Objectives of the course were met	6.75	6.4	0.35
4. Course emphasis was what was expected	6.75	5.6	1.15
5. Amount of material covered was appropriate	6.0	6.2	0.2*
6. Convenience/Accessibility of classroom	6.75	6.4	0.35
7. Presentations were interesting	6.63	6.2	0.43
8. Overall assessment of the instructor	7.0	6.4	0.6

Table 1: Course Evaluation Form Average Responses by Class

*Instances where difference favored the off-site responses.

The data in Table 1 demonstrates that the average responses by class show a minimal difference in students' feelings of satisfaction toward the course and the overall evaluation of the teacher. In fact, only item 4 had a difference between the two groups of over a point (on a 1 to 7 scale). Although the overall differences were so slight as to be insignificant, it is interesting to note that in 6 of the 8 items, the difference in the average responses of the groups favored the students that had face to face interaction with the teacher, while 2 of the 8 items indicated higher satisfaction on the part of the group who was taught exclusively by interactive television.

4. Discussion

As mentioned earlier, research suggests that immediate teachers are not only evaluated more highly, but their courses also receive higher scores in student satisfaction. If a healthy portion of immediacy is generated by behaviors associated with physical proximity, it would seem logical that technologically mediated courses, where geographic distance

separates the teacher from the student, would fare less in student evaluations of the course and the teacher than those classes where the teacher interacted in a live environment. In the technologically mediated class in this study, the professor was unable to wander among the students as she taught, look encouragingly into the eyes of a student struggling with a difficult concept, reach out and touch a student on the shoulder in passing, or even shake a student's hand upon meeting them for the first time. Why is it then, that the differences in student satisfaction toward the course and its instructor between the live classroom and the technology mediated one were negligible?

First, one must consider the notion of interaction. Moore proposed three distinct types of interaction in distance education: 1) *learner-content*, where students examine and process the course information presented during the educational experience; 2) *learner- learner*, where communication occurs between two or more students in the class whether it be in small groups or interpersonally; and 3) *learner-instructor*, which includes in-class interaction as well as

out-of-class advising, Emailing, and telephone conversation. Moore postulated that distance was a pedagogical phenomenon rather than a function of geographic separation, which he claimed exists in face to face as well as distance classes.

The classes involved in this study were planned to foster the interaction among the students at each site through small group activities and dyadic exchanges. There was also an emphasis on making learners more autonomous by having course expectations that included intensive interaction on the part of the individual with the two principle texts and supplementary material. Although learner-instructor interaction was highly encouraged during the class, the focus was taken off of the teacher as the principle player. Both groups of students took equal advantage of using other means of communication outside the classroom to interact with the teacher, like Email and the telephone. Because so much of the interaction placed the teacher on the periphery and the key players were the students themselves, students in both classes may have had their immediacy needs met in alternative ways.

Another factor that may have contributed to the results found in this study is that all of the students were adults with previous teaching degrees. Their maturity and finely-honed study skills make them much less teacher-dependent than other student populations. Sampson (104) states, "All learning requires a degree of motivation, self-discipline, and independence on behalf of the learner, but these aspects are arguably more pertinent in the case of distance learning, where the student is largely self-directed and unsupervised, and expected to be more autonomous." Most of the previous investigations cited in this study were carried out in live classrooms where the variables of motivation, self-discipline and independence may not be as crucial to success. Distance learners, by the nature of the educational medium they have chosen, are much more aware of their own responsibility in learning, morphing the role of the teacher to more of a facilitator than provider of affective approachability.

Coinciding with the minimal teacher dependence are the different expectations students in technology mediated classrooms

have concerning immediacy. Booth-Butterfield and Noguchi (289) stated, "Students' perceptions of teachers' behaviors relate to their expectancies for the learning environment, and these expectancies impact ratings of teachers' behaviors." Although nonverbal immediacy has consistently proven positive for classroom interaction, students still have their own expectancies of teachers' behaviors generated from within their understanding of the limits of technology. Distance education students understand when they enroll that their learning environment is different, and therefore will not create false expectations for teacher nonverbal behavior.

Finally, there is the possibility that the absence of specific nonverbal immediacy cues can be compensated for by other types of behavior that indicate approachability and closeness. Among those nonverbally transmitted cues that researchers have deemed as indicative of immediacy that would be impossible to manifest due to physical distance and camera restrictions include moving around the room, getting closer to students, and to some degree, touching. However, there are other nonverbal cues that are not affected by the use of technologically mediated communication that could be used to enhance closeness on the part of the teacher toward the student. These include behaviors like eye contact, gestures, relaxed body position, smiling, and vocal expressiveness, not to mention all of the verbal immediacy behaviors that effective teachers employ. That is to say, a teacher's smile may be just as affectively inviting as her touch upon a student's shoulder.

5. Conclusion and limitations

Just as the live classroom is limited in its ability to reach multitudinous audiences simultaneously, synchronous video technology including interactive television, has its own fetters. Among these are the obvious restrictions that the lack of teacher-student physical proximity brings. The question for this study was whether these limitations affect students' satisfaction with the course and its instructor. The results of this investigation indicate that there are minimal differences in the satisfaction

expressed by adult foreign language teacher trainees in technology mediated environments and live classrooms concerning their course and its instructor. Even though previous investigations in live classroom settings consistently demonstrated that nonverbal immediacy cues resulted in various positive educational outcomes, the responses to the participants in the two separate classes in this study showed that the nonverbal cues that technology mediated instruction restrict are not mitigating factors in the evaluations of students toward their course and their instructor.

Although this study was successful in producing evidence about the role of specific nonverbal immediate behaviors on students' course evaluations, its limitations must be noted. One of the serious concerns that the teacher of the technology mediated class had from the beginning of the course was the isolation of three individuals who worked alone at each of their sites, creating the need for using telephones to carry out their class activities. This impediment to learner-learner interaction may have also had an effect on these students evaluation of the course and instructor, since so much of the methodology implemented necessitated cooperation among learners.

Also, because only a small group of learners in a specific foreign language education class was examined, these data cannot be generalized to represent student responses in other settings or groups. Learners in the same or different learning situations could have different reactions.

Further studies in this area might also want to consider the differences between two groups of learners who are participating in classes that are *purely* technologically mediated and live. In this study, the group the author refers to as "live" indeed received a considerable amount of instruction via interactive television in that the teacher could only be at one of the three sites at a time.

6. Pedagogical implications

Given the consistent results of previous research concerning the pivotal role of verbal and nonverbal immediacy in achieving student satisfaction in traditional classrooms, and considering the steps taken by the teacher of the classes in this study to

limit the negative effects due to the absence of nonverbal immediacy behaviors that geographic separation bring, teachers of interactive, technology-mediated classes may want to consider two important elements in their planning and delivery. One of the crucial parts in planning for a televised teacher "performance" is to eliminate the tendency to become as one of my colleagues so aptly described, a "talking head." Literature propagating learner-centered approaches to teaching abounds within the field of applied linguistics and language teaching education, but nowhere is this concept as important as in technology-mediated, distance education. When teachers focus on facilitating group dynamics rather than being at the center, they are able to provide efficient classroom routines and smooth transitions, organize instructional tasks logically, and understand how to group students accordingly, whether individually, in dyads, small groups, or as a whole to encourage specific types of learning (Scarcella & Oxford). As more learner-learner interaction and learner-material interaction is encouraged, attention and responsibility for learning shifts from the "talking head" on the television screen to the individual learner.

This learner-centered shift, however, although it does remove the teacher from the center of the interaction, does not totally eliminate the important role the teacher must play. In facilitating learner-centered, technology-mediated classrooms, those verbal and nonverbal immediacy behaviors that are possible had best be considered by the affectively-minded teacher. Albeit touch and physical proximity foster close human relations, a smile and a kind word go a long way in signaling approachability, indicating availability for communication and revealing interpersonal warmth and closeness.

According to David Wright, of the *Boston Phoenix*, the term *Luddite* dates back to the early 19th century, the dawn of the Industrial Revolution, when a group of English radicals fought vigorously against the technology of the time. The original Luddites (named for their legendary leader Ned Ludd) were weavers disturbed by the new textile factories that threatened their livelihood.

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